Leadership, Safety Culture, and their Role in Preventing Medical Errors

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Chapter One: Introduction to Leadership and Safety Culture in Preventing Medical Errors

Patient Safety Culture (PSC) refers to the collective values, beliefs, and behavioral norms within healthcare organizations that prioritize patient safety as a core operational principle. It reflects how safety is perceived, enacted, and sustained across all organizational levels, from executive leadership to frontline healthcare providers. A strong PSC fosters shared responsibility for minimizing harm and promoting safe clinical practices. It extends beyond preventing individual mistakes to creating systems that encourage learning, transparency, and continuous improvement. Importantly, PSC promotes a non-punitive environment in which healthcare professionals feel empowered to report errors and near misses without fear of blame. This approach strengthens institutional learning and risk management capacity (Macedo et al., 2020; Eliyana et al., 2020).

The importance of PSC becomes evident when examining the prevalence of medical errors in healthcare systems worldwide. Medical errors are among the leading causes of preventable morbidity and mortality, often resulting from systemic weaknesses rather than isolated human failure. A well-developed safety culture helps identify latent system flaws and organizational vulnerabilities before they result in harm. By encouraging open dialogue and structured reporting mechanisms, PSC enables healthcare organizations to detect recurring patterns of risk and implement corrective strategies. This systemic orientation shifts focus from blame to improvement and supports sustainable patient protection initiatives (Querstret et al., 2020; Newman et al., 2020).

PSC directly influences patient outcomes by shaping how care is delivered within healthcare institutions. When safety is embedded into daily practice, healthcare teams are more likely to adhere to evidence-based protocols and standardized procedures. This consistency reduces variability in care and lowers the likelihood of adverse events. Moreover, a positive safety culture enhances interdisciplinary collaboration, ensuring that communication breakdowns—common contributors to medical errors—are minimized. Improved teamwork fosters coordinated responses to clinical risks and strengthens accountability. Ultimately, patients benefit through reduced complications, shorter hospital stays, and

improved satisfaction with care delivery (Darling-Hammond et al., 2020; Reynolds et al., 2022).

Historically, the concept of patient safety gained international recognition following pivotal healthcare reform discussions in the late twentieth century. Prior to this shift, errors were commonly viewed as individual failings rather than consequences of flawed systems. The transition toward systems-based thinking marked a transformative moment in healthcare governance. Recognizing that most errors stem from process weaknesses encouraged organizations to redesign workflows and implement structured safeguards. This paradigm shift laid the foundation for modern PSC frameworks and emphasized prevention through proactive risk management strategies rather than reactive disciplinary measures (Shin & Shin, 2020; Jerg-Bretzke et al., 2020).

Over time, healthcare organizations have advanced from simple procedural improvements toward comprehensive cultural transformation. Initial safety efforts focused on implementing standardized checklists and protocols; however, research revealed that sustainable improvement required deeper organizational change. Contemporary PSC frameworks now emphasize psychological safety, shared accountability, and resilience. Models such as high-reliability organization principles highlight anticipation of failure and continuous vigilance. These strategies reinforce the idea that safety must be embedded into organizational identity rather than treated as a temporary initiative. As a result, PSC has evolved into a strategic priority across healthcare systems globally (Nyanyiwa et al., 2022; Tajalli et al., 2021).

Leadership plays a foundational role in cultivating and sustaining PSC within healthcare organizations. Leaders establish expectations, allocate resources, and model behaviors that signal the importance of safety. When leaders demonstrate visible commitment to safety initiatives, staff are more likely to internalize safety values. Transformational leadership styles, in particular, encourage engagement, empowerment, and open communication. Leaders who prioritize safety rounds, structured feedback sessions, and transparent performance reporting contribute significantly to a positive safety climate. Their actions influence how policies are implemented and how staff perceive organizational support (Uwannah et al., 2021; Kim & Sim, 2020).

Regulatory and accreditation bodies have also strengthened PSC by integrating safety standards into healthcare governance frameworks. International organizations have developed structured tools to assess and monitor safety culture within institutions. These tools provide measurable indicators of communication quality, reporting systems, and leadership engagement. By linking accreditation status to safety performance, regulators incentivize organizations to invest in safety improvement programs. Standardized policies promote consistency across healthcare settings and reinforce accountability mechanisms. Consequently, PSC has transitioned from a voluntary initiative to a regulatory expectation within many healthcare systems (Xing et al., 2021; Spagnoli et al., 2020).

Despite notable progress, healthcare organizations continue to face barriers in fully embedding PSC. Resistance to organizational change, hierarchical communication structures, and limited financial resources can hinder safety initiatives. Additionally, cultural norms in some institutions may discourage transparent reporting due to fear of reputational damage or punitive action. Addressing these challenges requires sustained leadership commitment and inclusive participation from all professional groups. Emerging innovations, including digital monitoring systems and predictive analytics, are supporting earlier detection of potential risks and facilitating data-driven decision-making (Zarrin et al., 2020; Yun et al., 2020).

A defining feature of PSC is the establishment of a non-punitive reporting environment. When healthcare workers trust that reported errors will be analyzed constructively rather than used for disciplinary action, reporting frequency increases significantly. This transparency provides organizations with valuable insights into operational vulnerabilities. Learning from near misses becomes as important as learning from adverse events, allowing proactive intervention before harm occurs. A just culture balances accountability with fairness, distinguishing between human error, risky behavior, and reckless conduct. Such differentiation promotes learning while maintaining professional responsibility (Macedo et al., 2020; Querstret et al., 2020).

Teamwork and communication are central components of PSC. Multidisciplinary collaboration reduces fragmentation of care and improves clinical coordination. Structured communication tools, such as standardized handoff protocols, enhance clarity during transitions of care. Research consistently demonstrates that communication breakdowns are major contributors to preventable harm. Therefore, fostering respectful dialogue and psychological safety strengthens collective vigilance. When team members feel comfortable questioning decisions or clarifying uncertainties, the likelihood of critical oversights decreases substantially (Newman et al., 2020; Darling-Hammond et al., 2020).

PSC also contributes to workforce well-being and professional satisfaction. Healthcare professionals working in supportive safety environments report higher morale and stronger organizational commitment. Reduced burnout and stress levels are associated with fewer cognitive errors and improved clinical judgment. By prioritizing staff well-being alongside patient safety, organizations create a mutually reinforcing cycle of positive outcomes. Institutions that integrate leadership support with safety initiatives observe improvements not only in patient metrics but also in employee retention and engagement (Reynolds et al., 2022; Kim & Sim, 2020).

The integration of PSC into organizational strategy requires continuous education and training. Safety-oriented training programs enhance awareness of risk factors and encourage proactive problem-solving. Simulation exercises and reflective learning sessions allow teams to practice crisis management without compromising patient safety. These initiatives strengthen institutional resilience and reinforce shared responsibility. Leadership involvement in training further demonstrates commitment and encourages widespread participation. Sustained professional development is therefore essential to embedding safety principles into everyday practice (Uwannah et al., 2021; Tajalli et al., 2021).

Measurement and evaluation are critical for assessing PSC effectiveness. Surveys and performance indicators provide insight into staff perceptions, reporting behaviors, and organizational climate. Data-driven evaluation enables targeted interventions and continuous quality improvement. Transparent dissemination of results fosters accountability and motivates improvement efforts. Organizations that systematically measure safety culture are better positioned to identify trends and allocate resources strategically. Continuous monitoring reinforces safety as an ongoing priority rather than a temporary project (Xing et al., 2021; Spagnoli et al., 2020).

Technological advancements have further strengthened PSC by enhancing surveillance and risk detection capabilities. Electronic health records, automated alert systems, and predictive analytics enable early identification of clinical deterioration and medication discrepancies. These tools complement human vigilance and reduce reliance on memory-based processes. However, technology must be integrated thoughtfully to avoid new sources of error. When aligned with strong leadership and safety culture principles, digital innovations significantly enhance patient protection mechanisms (Zarrin et al., 2020; Yun et al., 2020).

In summary, Patient Safety Culture represents a foundational pillar in preventing medical errors and improving healthcare outcomes. Its development requires committed leadership, regulatory support, interdisciplinary collaboration, and continuous learning. By shifting from blame-oriented models to system-based improvement frameworks, healthcare organizations can proactively mitigate risks. Sustained investment in PSC fosters transparency, accountability, and resilience across care settings. Ultimately, cultivating a robust safety culture ensures that patient well-being remains the central focus of healthcare delivery and organizational decision-making (Eliyana et al., 2020; Jerg-Bretzke et al., 2020).

Chapter Two: Theoretical Foundations of Leadership and Safety Culture

Leadership constitutes a central determinant in shaping and sustaining patient safety culture (PSC) within healthcare organizations. Leaders influence priorities, allocate resources, and establish policies that signal the institutional importance of safety. Their visible engagement in safety rounds, responsiveness to staff concerns, and participation in quality initiatives reinforce collective commitment to harm reduction. Transformational leadership, characterized by vision, empowerment, and support, strengthens staff engagement and safety compliance. Moreover, fostering psychological safety enables healthcare professionals to voice concerns without fear of retaliation, thereby enhancing organizational learning. Leadership accountability and presence remain essential for embedding safety into daily practice and sustaining long-term improvement in healthcare systems (Siyal et al., 2020; World Alliance for Patient Safety, 2021).

Effective communication represents a foundational pillar in the development of a robust PSC. Clear, structured, and transparent information exchange reduces ambiguity and enhances clinical decision-making. Communication failures are consistently associated with adverse events, particularly during transitions of care. The implementation of structured tools such as SBAR improves clarity during handoffs and critical discussions, minimizing the risk of omissions or misunderstandings. Regular safety huddles and interdisciplinary briefings further support collaborative problem-solving. However, entrenched hierarchies may inhibit open dialogue, especially among junior staff. Addressing these barriers through assertiveness training and inclusive leadership strengthens mutual trust and promotes a climate in which all voices contribute to patient protection (Yuniati & Sitinjak, 2022; Adel et al., 2021).

Teamwork is integral to safe healthcare delivery, given the inherently collaborative nature of clinical environments. A strong PSC depends on interdisciplinary coordination, shared goals, and mutual respect among healthcare professionals. Clearly defined roles and responsibilities reduce duplication and prevent gaps in care. Simulation-based team training enhances preparedness for high-risk scenarios and improves coordination under pressure. Interprofessional education initiatives further deepen understanding of complementary expertise, thereby minimizing conflict and role ambiguity. Nevertheless, challenges such as cultural diversity, time constraints, and communication breakdowns can undermine collaboration. Strategic team-building interventions and structured feedback mechanisms are therefore necessary to sustain effective teamwork within a safety-oriented framework (Brown et al., 2019; Ramos et al., 2020).

A learning-oriented environment is essential for maintaining sustainable improvements in PSC. Organizations that treat errors as opportunities for system enhancement rather than personal failure cultivate resilience and adaptability. Continuous professional development programs, workshops, and simulation exercises equip staff with updated knowledge and practical competencies. Encouraging inquiry and reflective practice promotes innovation and strengthens risk awareness. Leadership commitment to allocating time and resources

for education further reinforces the importance of learning. By embedding continuous improvement into organizational routines, healthcare institutions enhance their capacity to anticipate and mitigate emerging risks while reinforcing professional accountability (Zwedberg et al., 2021; Segev, 2019).

Transitioning from a blame culture to a learning culture represents a pivotal theoretical shift in patient safety advancement. In blame-oriented systems, fear of punishment discourages reporting and conceals systemic vulnerabilities. Conversely, a learning culture emphasizes root cause analysis and preventive redesign. Non-punitive reporting systems encourage transparency and enable organizations to gather meaningful data on near misses and adverse events. Leadership plays a transformative role by modeling fairness, curiosity, and constructive feedback. Institutions that adopt learning-oriented approaches demonstrate higher reporting rates and improved proactive risk management, ultimately enhancing patient safety outcomes (Holland, 2019; Lee et al., 2020).

Transparency functions as a core ethical and operational principle within PSC. Open disclosure of safety concerns and adverse events fosters trust among healthcare professionals and patients alike. Transparent communication enables identification of recurrent patterns and systemic weaknesses, supporting preventive interventions. Furthermore, candid dialogue with patients and families strengthens organizational credibility and ethical integrity. Achieving transparency requires supportive leadership, clear procedural guidelines, and accessible reporting systems. When transparency becomes embedded in organizational norms, collaborative problem-solving is enhanced, and accountability mechanisms are strengthened, reinforcing a culture committed to patient welfare (Khosravi et al., 2021; Syahrina & Mutya, 2023).

Accountability ensures that safety responsibilities are shared collectively across organizational levels. It involves clarifying expectations, monitoring performance, and providing constructive feedback. Effective accountability frameworks balance individual responsibility with recognition of systemic influences on performance. Leadership accountability is particularly influential, as leaders must exemplify ethical conduct, respond promptly to safety concerns, and allocate resources for improvement initiatives. Team-based accountability further promotes collective ownership of safety objectives. When accountability mechanisms are aligned with non-punitive principles, healthcare organizations cultivate trust while sustaining high performance standards (Fernández-Salinero & Topa, 2020; Zurman et al., 2019).

The integration of leadership, communication, teamwork, and learning processes forms the theoretical backbone of PSC. These components operate synergistically, reinforcing each other to create a cohesive and resilient safety framework. Leadership establishes expectations and structures that facilitate open communication. Effective communication strengthens teamwork, while collaborative practice supports organizational learning. A dynamic learning culture, in turn, informs leadership strategies and policy refinement. Continuous assessment of these interrelated elements enables healthcare institutions to identify performance gaps and implement targeted interventions. Aligning these foundational dimensions enhances error prevention capacity and promotes sustained patient safety improvement (Kim et al., 2021; Chang et al., 2020).

Chapter Three: Safety Culture as a Mechanism for Preventing Medical Errors

Patient Safety Culture (PSC) establishes a structured and proactive framework for identifying, analyzing, and preventing medical errors before patient harm occurs. In healthcare organizations where PSC is embedded into daily practice, staff members are encouraged to report mistakes and near-misses openly without hesitation. This

transparency allows institutions to detect recurring patterns, recognize latent system weaknesses, and implement corrective strategies systematically. Regular team discussions of reported events enhance shared learning and collective accountability across departments. By examining aggregated data over time, healthcare leaders can refine policies, redesign workflows, and strengthen safeguards against preventable risks. Through structured monitoring and continuous feedback, PSC transforms isolated incidents into organizational learning opportunities that reduce harm and improve reliability of care delivery (Afota et al., 2021; Even, 2020).

A core principle of PSC is its emphasis on systemic reform rather than attributing blame to individuals. Medical errors frequently emerge from complex system failures such as unclear procedures, workflow inefficiencies, or inadequate communication channels. By applying structured root cause analysis, healthcare organizations can uncover underlying structural deficiencies and redesign processes accordingly. Reviewing incident reports collectively enables institutions to standardize protocols, improve equipment usability, and clarify professional responsibilities. This systemic orientation promotes accountability while protecting staff from punitive responses that discourage reporting. When the focus shifts toward improving processes instead of penalizing individuals, healthcare environments become safer and more resilient. Addressing root causes comprehensively enhances long-term reliability and reduces the recurrence of preventable incidents across clinical settings (Jiang et al., 2019; Baris et al., 2023).

Non-punitive reporting systems form the operational backbone of effective PSC initiatives. Healthcare professionals are significantly more likely to disclose incidents when they trust that their reports will lead to constructive improvement rather than disciplinary consequences. Increased reporting frequency provides richer datasets for identifying safety trends and anticipating potential risks. These insights enable organizations to adjust staffing models, refine clinical workflows, and enhance targeted training programs. Removing fear from reporting processes strengthens trust between frontline staff and leadership while promoting shared responsibility for patient safety. Research consistently demonstrates that institutions with non-punitive environments achieve higher levels of transparency and measurable reductions in preventable adverse events. Such systems reinforce a culture where learning and improvement take precedence over blame and punishment (Moghadari-Koosha et al., 2020; Ismail, 2021).

Near-miss reporting represents an essential yet often underutilized component of PSC. Although near-misses do not result in actual patient harm, they expose vulnerabilities that could escalate into serious adverse events if left unaddressed. Identifying issues such as medication labeling confusion, equipment malfunctions, or documentation inconsistencies allows organizations to intervene proactively. Encouraging staff to report these close calls cultivates vigilance and reinforces shared accountability for preventing harm. Early identification of system weaknesses enables targeted modifications before patients are affected. Institutions that integrate near-miss analysis into routine safety reviews strengthen their capacity for anticipatory risk management. By transforming potential hazards into learning opportunities, PSC enhances organizational preparedness and fosters sustainable improvement in patient protection mechanisms (Liu et al., 2019; Cherkasov et al., 2019).

Effective communication functions as a critical safeguard within PSC frameworks. Miscommunication among healthcare professionals remains one of the most common contributors to preventable clinical errors. Standardized handoff protocols, structured briefings, and interdisciplinary safety huddles enhance clarity and reduce ambiguity during patient transitions. Tools such as SBAR facilitate concise and accurate exchanges of clinical information, minimizing omissions and misunderstandings. Multidisciplinary dialogue

ensures that potential risks are identified early and addressed collaboratively. Clear communication strengthens teamwork and reduces fragmentation of care across departments. When communication systems are structured and consistently applied, error rates decline significantly. PSC initiatives that prioritize communication improvement directly enhance patient safety outcomes and operational reliability within healthcare institutions (Dedahanov et al., 2019; Cinar, 2019).

Leadership commitment is fundamental to sustaining PSC and reducing medical errors. Leaders who visibly prioritize safety allocate appropriate resources to reporting systems, training programs, and quality improvement initiatives. Participation in safety rounds and open acknowledgment of staff contributions reinforce institutional dedication to harm reduction. Consistent leadership engagement increases staff confidence in reporting mechanisms and strengthens overall participation in safety initiatives. When leaders respond constructively to disclosed concerns, trust and psychological safety are enhanced across the organization. Embedding safety principles into strategic planning ensures that prevention efforts are sustained rather than temporary. Strong leadership presence signals that patient safety is not optional but central to organizational identity and performance (Ghafouri et al., 2022; Gupta et al., 2019).

Continuous monitoring and evaluation of reported incidents strengthen PSC effectiveness. Systematic tracking of safety data enables healthcare organizations to measure the impact of implemented interventions over time. Trend analysis reveals recurring vulnerabilities that require targeted corrective measures. Transparent sharing of safety performance metrics with staff reinforces collective responsibility and supports accountability. Data-driven decision-making ensures that improvement strategies are evidence-based and sustainable. By regularly reviewing performance indicators, institutions maintain vigilance and adapt to evolving clinical risks. Continuous evaluation prevents complacency and ensures that safety remains an active organizational priority. Through structured monitoring, PSC transforms reactive responses into proactive and measurable improvement processes (Afota et al., 2021; Even, 2020).

Workflow redesign constitutes another essential preventive mechanism supported by PSC. Root cause investigations often reveal inefficiencies in task sequencing, communication flow, or resource allocation. By restructuring workflows and clarifying responsibilities, healthcare institutions reduce variability and enhance consistency in patient care delivery. Standardization minimizes confusion, decreases cognitive overload, and strengthens procedural reliability. Adjustments such as simplifying documentation processes or reorganizing medication storage systems can significantly reduce error likelihood. PSC encourages organizations to treat operational design as a safety determinant rather than a purely administrative concern. Continuous refinement of processes reinforces accountability and ensures safer environments for both patients and providers (Jiang et al., 2019; Baris et al., 2023).

Psychological safety underpins the success of reporting systems within PSC environments. Staff members must feel secure in expressing concerns, questioning decisions, and disclosing incidents without fear of retaliation. Fear-based cultures suppress reporting and conceal systemic weaknesses, thereby increasing risk exposure. Creating an atmosphere of fairness and openness strengthens disclosure rates and enhances early detection of hazards. Leadership responsiveness to reported concerns further reinforces trust and professional confidence. Psychological safety promotes shared responsibility and collective vigilance across teams. When healthcare professionals believe that their voices are valued, engagement in safety initiatives increases significantly. This cultural foundation strengthens

long-term error prevention and organizational resilience (Moghadari-Koosha et al., 2020; Ismail, 2021).

Multidisciplinary collaboration enhances PSC's capacity to prevent medical errors. When healthcare teams review reported incidents collectively, they gain diverse perspectives on root causes and potential solutions. Structured debriefings encourage reflective learning and foster interprofessional accountability. Collaboration across clinical disciplines strengthens communication channels and minimizes fragmentation in patient care. Shared ownership of safety goals enhances motivation and reinforces preventive behaviors. PSC initiatives that prioritize teamwork ensure that safety improvements are integrated across departments rather than isolated within specific units. Collaborative engagement thus supports sustained institutional improvement and reduces the likelihood of recurring adverse events (Dedahanov et al., 2019; Ghafouri et al., 2022).

Proactive risk assessment complements error reporting within PSC frameworks. Analyzing aggregated incident data allows healthcare organizations to identify high-risk areas requiring preventive intervention. Safety dashboards and performance reviews provide real-time insights into compliance levels and emerging vulnerabilities. Early identification of risks enables targeted policy adjustments and resource allocation. Integrating predictive analysis with reporting systems strengthens institutional readiness and minimizes reactive responses. PSC encourages continuous risk scanning rather than episodic evaluation. Through structured risk assessment, healthcare institutions enhance resilience and strengthen long-term patient protection strategies (Afota et al., 2021; Gupta et al., 2019).

Education and targeted training initiatives further reinforce PSC mechanisms for error prevention. Reviewing reported incidents during workshops enhances situational awareness and supports reflective learning. Simulation-based exercises enable staff to practice crisis management without compromising patient safety. Continuous professional development ensures that healthcare workers remain informed about updated safety protocols and emerging risks. Training programs that integrate real case analyses promote deeper understanding of systemic vulnerabilities. By linking learning activities to reported safety data, institutions strengthen practical competence and reinforce preventive behaviors. Sustained educational investment supports long-term cultural transformation and continuous quality improvement (Liu et al., 2019; Cherkasov et al., 2019).

Feedback loops are critical for maintaining engagement in reporting systems. When healthcare professionals observe tangible improvements resulting from their disclosures, trust in safety processes increases. Transparent communication about implemented corrective actions reinforces accountability and motivates continued reporting. Feedback demonstrates that leadership values staff contributions and takes safety concerns seriously. Without visible outcomes, reporting systems risk disengagement and skepticism. Structured follow-up processes ensure that reported incidents translate into measurable improvements. By closing the communication loop, PSC sustains participation and strengthens long-term preventive capacity (Ismail, 2021; Even, 2020).

Collectively, PSC transforms healthcare organizations from reactive systems into proactive, learning-oriented institutions. Through non-punitive reporting, leadership engagement, structured communication, and systemic redesign, institutions build resilient safety infrastructures. Continuous evaluation, collaboration, and education reinforce preventive mechanisms and reduce medical errors sustainably. By embedding safety principles into strategic priorities and daily practice, organizations enhance accountability and strengthen patient protection. PSC thus functions as an integrated mechanism for minimizing harm while promoting excellence in healthcare delivery (Ghafouri et al., 2022; Baris et al., 2023).

Chapter Five: Overcoming Barriers and Strengthening Patient Safety Culture

Resistance to change remains one of the most significant barriers to establishing and sustaining a strong patient safety culture (PSC). Healthcare professionals may fear punishment, reputational harm, or negative performance evaluations when reporting errors, resulting in underreporting and lost learning opportunities. Deeply rooted organizational hierarchies and traditional practices further complicate the adoption of new safety initiatives. This resistance often stems from mistrust in leadership intentions and skepticism regarding the effectiveness of proposed changes. Overcoming this barrier requires fostering psychological safety and engaging staff in collaborative decision-making processes. Transparent communication and inclusive leadership strategies can gradually shift attitudes and encourage acceptance of safety reforms, paving the way for meaningful cultural transformation (Durrah et al., 2019; Olatunji et al., 2020).

A punitive approach to error management significantly inhibits the development of PSC. When healthcare workers fear disciplinary consequences or legal repercussions, they are less likely to report incidents openly. This culture of silence prevents organizations from identifying systemic weaknesses and implementing preventive strategies. Transitioning to a non-punitive, learning-oriented framework is therefore essential. Emphasizing just culture principles helps staff understand that errors are opportunities for system improvement rather than grounds for blame. Educational workshops and leadership modeling reinforce this shift toward constructive accountability. By replacing punishment with learning, organizations strengthen transparency and cultivate trust, which are essential for sustaining patient safety improvements (Çingöl et al., 2020; Pålsson et al., 2022).

Long-standing cultural norms and ingrained routines frequently hinder the adoption of new patient safety practices. Staff may resist unfamiliar technologies or protocols, preferring established methods despite their limitations. This reluctance is often exacerbated by inadequate communication regarding the rationale behind proposed changes. Without clear explanations of benefits and expected outcomes, skepticism grows and adoption slows. Addressing these challenges requires targeted education, leadership advocacy, and demonstration of measurable improvements through pilot programs. Showcasing successful outcomes builds credibility and encourages broader acceptance of innovations. Overcoming entrenched habits is essential for fostering adaptability and ensuring that PSC initiatives translate into sustained organizational progress (Jansen et al., 2020; Molazem et al., 2022).

Communication barriers within multidisciplinary teams present additional challenges to PSC implementation. Differences in professional roles, communication styles, and hierarchical structures can create misunderstandings and silence concerns. For example, junior staff may hesitate to question senior clinicians despite recognizing potential risks. Such dynamics undermine safety efforts and prevent early intervention. Implementing structured communication frameworks standardizes information exchange and reduces ambiguity. Team training initiatives that emphasize mutual respect and assertive dialogue help dismantle hierarchical barriers. By fostering open discussion and shared accountability, healthcare organizations strengthen collaboration and create an environment conducive to safety advancement (Mostafa et al., 2021; Razmerita et al., 2020).

Teamwork challenges often arise from competing priorities and differing perspectives among healthcare professionals. While diversity of expertise enriches care delivery, it can also generate tension and misalignment. Heavy workloads and time pressures further limit opportunities for meaningful collaboration. Structured team-building activities and conflict

resolution training can mitigate these challenges. Regular interdisciplinary meetings encourage shared decision-making and clarify responsibilities. Establishing common safety goals promotes cohesion and collective accountability. Aligning objectives across disciplines enhances coordination and strengthens PSC foundations within complex healthcare environments (Echebiri et al., 2020; Yun, 2019).

Staffing shortages represent a critical obstacle to sustaining PSC. Overburdened healthcare workers often experience fatigue and burnout, increasing the likelihood of errors. Insufficient staffing compromises safety checks and delays care delivery. Addressing this issue requires comprehensive workforce planning, recruitment strategies, and retention initiatives. Investments in professional development and supportive leadership improve morale and reduce turnover. Short-term solutions such as temporary staffing may provide relief, but sustainable staffing levels are necessary for long-term cultural stability. Ensuring adequate human resources allows professionals to focus on delivering safe, high-quality care (Ferri et al., 2020; Abd El-Salam et al., 2022).

Time constraints also hinder staff engagement in safety initiatives. Competing responsibilities, administrative burdens, and documentation requirements reduce opportunities for participation in training and reporting. Streamlining workflows through technology and delegating non-clinical tasks to support staff can alleviate these pressures. Short, structured safety briefings during shift transitions maintain awareness without overwhelming staff schedules. Addressing time limitations creates space for meaningful safety participation and reinforces organizational commitment to continuous improvement (Akinbadewa & Sofowora, 2020; Sheta & Hammouda, 2022).

Financial limitations often restrict investment in safety infrastructure, technology, and training. Resource-constrained institutions may struggle to implement electronic health records or hire safety officers despite proven benefits. Seeking external funding, partnerships, and cost-effective interventions can offset financial barriers. Highlighting long-term savings from reduced litigation and improved patient retention strengthens the case for safety investments. Balancing fiscal responsibility with safety priorities ensures sustainable progress (Mahmoud, 2019; Yurtseven & Dogan, 2019).

Strong leadership is fundamental to overcoming barriers and strengthening PSC. Leaders influence organizational priorities, allocate resources strategically, and reinforce safety through visible engagement. Transparent discussions about errors and successes foster trust and demonstrate accountability. Leadership commitment inspires shared responsibility and motivates staff to embrace safety initiatives (Badawy, 2021; Yu et al., 2019).

Leaders must serve as role models by prioritizing patient safety over operational pressures. Participation in safety rounds and multidisciplinary committees reinforces credibility and transparency. Leadership development programs focused on safety principles enhance capacity to guide cultural change effectively. Visible commitment builds confidence and strengthens collective engagement (Canu, 2023; Vikstrom & Johansson, 2019).

Continuous training equips healthcare professionals with the competencies required to uphold safety standards. Simulation-based exercises prepare teams for high-pressure scenarios while reinforcing teamwork and communication skills. Integrating safety education into onboarding programs establishes early cultural alignment (Faisal et al., 2020; Nanjundeswaraswamy, 2021). Interdisciplinary training enhances collaboration and reduces communication gaps. Team-based simulations strengthen coordination during emergencies, while structured communication tools improve clarity. Cross-disciplinary learning fosters mutual respect and shared responsibility for patient safety (Fentaw et al., 2022; Parizad et al., 2021).

Electronic health records (EHRs) improve information accessibility and reduce medication errors through integrated alerts. Proper training ensures effective use and minimizes alert fatigue. Optimized systems enhance coordination and reinforce safety processes (Sengul & Seyfi, 2020; Vasconcelos et al., 2019). Predictive analytics enables proactive identification of risks such as sepsis or medication interactions. Integrating predictive models into clinical workflows enhances preventive capacity. Collaboration between clinicians and data specialists ensures actionable implementation (Huang et al., 2020; Twidwell et al., 2022). Feedback systems promote transparency and sustain engagement in safety initiatives. Anonymous reporting and timely communication of improvements demonstrate responsiveness. Continuous feedback fosters accountability and encourages ongoing participation (King, 2021; Mahran et al., 2022). Technology enhances communication through secure messaging and telehealth platforms. Real-time alerts reduce delays and improve coordination. Training ensures optimal utilization of digital tools in safety efforts (Gillet et al., 2021; Balducci et al., 2020).

Monitoring PSC through surveys and KPIs provides measurable insights into organizational performance. Tools such as HSOPSC assess teamwork, communication, and leadership support. Regular benchmarking guides strategic improvements (Svartdal et al., 2020; Nomany, 2022). Continuous monitoring ensures PSC remains adaptive amid organizational changes. Real-time dashboards and safety committees enable prompt corrective action. Flexibility and responsiveness sustain long-term cultural resilience and patient protection (Jalili et al., 2021; Clark et al., 2020).

References

• Abd El Rahman, S., Ali, H., Ali, R., Mohamed, A. (2022): Effect of Organizational Cynicism on Quality of Work Life and Employee Effectiveness among Nursing Staff. Minia Scientific Nursing Journal. 11 (1), 2785-9797.

• Abd El-Salam, A. I., Metwally, F. G., & Abdeen, M. A. (2022):Academic Procrastination and Self-control of Faculty Nursing Students. Zagazig Nursing Journal, 18(2), 15-29.

• Abdillah, H. Z., Rahman, F., Husna, M., Sitinjak, C., Hidayah, N., & Mujidin, M. (2022): School well-being in terms of self-determination and patience in vocational high school students. International Journal of Islamic Educational Psychology, 3(1), 19-34 .

• Abe, E. N., & Chikoko, V. (2020): Exploring the factors that influence the career decision of STEM students at a university in South Africa. International Journal of STEM Education, 7(1), 1-14.

• Adel, ¨ E., Lofmark, ¨ A., Pålsson, Y., Mårtensson, G., Engstrom, ¨ M., Lindberg, M., 2021: Health-promoting and impeding aspects of using peer-learning during clinical practice education: a qualitative study. Nurse Educ. Pract. 55, 103169.

• Afota, M. C., Robert, V., & Vandenberghe, C. (2021): The interactive effect of leader-member exchange and psychological climate for overwork on subordinate workaholism and job strain. European Journal of Work and Organizational Psychology, 30(4), 495-509.

• Akinbadewa, B. O., & Sofowora, O. A. (2020): The effectiveness of multimedia instructional learning packages in enhancing secondary school students' attitudes toward Biology. International Journal on Studies in Education, 2(2), 119-133.

• Aklil, M., Perizade, B., Hanafi, A., & Bemby, B. (2021): The Effect of Resonant Leadership on Work Engagement through Ethnic Culture in Pangkalpinang City Civil Servants. Italienisch, 11(2), 358-371.

• Al-Turfi, M. K. & Al-Jubouri, M. B.(2022): "Effect of moral distress on decision making among nurses in intensive care units,"Pakistan Journal of Medical and Health Sciences., vol. 16, no. 3, pp. 915–918.
• Badawy, A.A. (2021): Relationship between organizational justice and work engagement among staff nurses, unpublished master thesis, Faculty of Nursing, Ain Shams University .
• Balducci, C., Avanzi, L., & Fraccaroli, F. (2020): The individual "costs" of workaholism: An analysis based on multisource and prospective data. Journal of Management, 44(7), 2961-2986 .
• Baris, V. K., Intepeler, S. S., & Unal, A. (2023): Development and psychometric validation of the Sickness Sickness presenteeism Scale-Nurse. International Journal of Nursing Practice, e13168.
• Brown, M., Kraimer, M. L., & Bratton, V. K. (2019): The influence of employee performance appraisal cynicism on intent to quit and sportsmanship. Personnel Review.
• Canu, Z. (2023): The Relationship Between Family-Work Conflict and Work-Family Conflict Among Special Education Teachers. Jurnal Multidisiplin Madani, 3(4), 811-816 .
• Chang, Y., et al. (2020): Work Ability and Quality of Life in Patients with Work- Related Musculoskeletal Disorders. P.p.20-40.
• Cherkasov, A., Bratanovskii, S. N., Koroleva, L. A., & Zimovets, L. G. (2019): Development of the School Education System in the Province of Vologda (1725-1917). Part 2. European Journal of Contemporary Education, 8(2), 418-424.
• Cinar, E. (2019): The effect of person-organization fit on the organizational identification: The mediating role of organizational attractiveness. Eurasian Journal of Business and Management, 7(1), 74-84.
• Çingöl N., Karakaş M., Zengin S., and Çelebi E. (2020): The effect of psychiatric nursing students' internships on their beliefs about and attitudes toward mental health problems; a single-group experimental study. Nurse Educ Today. 2020;84:104243 .
• Clark, M. A., Smith, R. W., & Haynes, N. J. (2020): The Multidimensional Workaholism Scale: Linking the conceptualization and measurement of workaholism. Journal of Applied Psychology, 105(11), 1281 .
• Crafter, S., Maunder, R., & Soulsby, L. (2019): Developmental transitions: Exploring stability and change through the lifespan. Routledge.
• Darling-Hammond L., Flook L., Cook-Harvey C., Barron B., and Osher D. (2020): Implications for educational practice of the science of learning and development. Applied Developmental Science, 24(2), 97–140 .
• Dedahanov. A.T, Bozorov. F and Sung S. (2019): Paternalistic Leadership and Innovative Behavior: Psychological Empowerment as a Mediator. Sustainability. 11(6) 1-14.
• Durrah, O., Chaudhary, M., & Gharib, M. (2019): Organizational cynicism and its impact on organizational pride in industrial organizations. International journal of environmental research and public health, 16(7), 1203.
• Echebiri, C., Amundsen, S., & Engen, M. (2020): Linking Structural Empowerment to Employee-Driven Innovation: the Mediating Role of Psychological Empowerment. MDPI, 10(42.(
• Eliyana, A., Rohmatul, S., Rohmatul, S., Sridadi, A. R., Razaq, A., & Gunawan, D. R. (2020): The role of motivation on attitudes and entrepreneur achievement. Systematic Reviews in Pharmacy, 11(8), 335-343.

• Eslamlou, A., Karatepe, O. M., & Uner, M. M. (2021): Does job Embeddedness mediate the effect of resilience on cabin attendants' career satisfaction and creative performance? Sustainability, 13(9), 5104 .
• Even, A. (2020): The Evolution of Work: Best Practices for Avoiding Social and Organizational Isolation in Telework Employees.SSRN2020.
• Faisal .S, .(2022): Job embeddedness and its connection with person organization fit among Saudi Arabian employees. Problems and Perspectives in Management, 20(2), 348-360. doi:10.21511/ppm.20(2).2022.29.
• Faisal, S., Naushad, M., & Faridi, M. (2020): A study on the level and relationship of job embeddedness and turnover intentions among Saudi Arabian working- class. Management Science Letters, 10(13), 3167- 3172. https://doi.org/10.5267/j. msl.2020.5.005
• Fentaw, Y., Moges, B. T., & Ismail, S. M. (2022): Academic procrastination behavior among public university students. Education Research International, 2022.
• Fernández-Salinero, S.& Topa, G. (2020): Intergroup Discrimination as a Predictor of Conflict within the Same Organization. The Role of Organizational Identity. Eur. J. Invest.Health Psychol. Educ. 2020, 10, 1.
• Ferri, P., Stifani, S., Morotti, E., Nuvoletta, M., Bonetti. L., Rovesti, S., Cutino, A.,&Di Lorenzo,R.(2020): Perceptions of Caring Behavior Among Undergraduate Nursing Students:A Three-Cohort Observational Study. Psychology research and behavior management, 13, 1311-1322.
• Fortes, K., Latham, C.L., Vaughn, S., Preston, K., 2022: The influence of social determinants of education on nursing student persistence and professional values. J. Prof. Nurs. 39, 41–53.
• Gawad, S.A., (2022): Work Place Incivility and its Effect on Quality of Work Life among Staff Nurses. Egyptian Journal of Health Care, 13(3), 809-821. doi: 10.21608/ejhc.2022.255400 .
• Ghafouri R , Bajestani S.l , Nasiri M , Ohnishi K and Foroozan A.S (2022): Psychometrics of the moral distress scale in Iranian mental health nurses. BMC Nursing (2021) 20:166 https://doi.org/10.1186/s12912-021-00674-4
• Gillet, N., Austin, S., Fernet, C., Sandrin, E., Lorho, F., Brault, S., ... & Aubouin Bonnaventure, J. (2021): Workaholism, presenteeism, work–family conflicts and personal and work outcomes: Testing a moderated mediation model. Journal of Clinical Nursing, 30(19-20), 2842-2853 .
• Gupta, M., Shaheen, M., & Das, M. (2019): Engaging employees for quality of life: mediation by psychological capital. The Service Industries Journal, 39(5-6), 403-419.
• Hiver, P., & Al-Hoorie, A. H. (2020): Reexamining the role of vision in second language motivation: A preregistered conceptual replication of You, Dörnyei, and Csizér (2016). Language Learning, 70(1), 48-102. Malinauskas, R. K., & Pozeriene, J. (2020). Academic motivation among traditional and online university students. European journal of contemporary education, 9(3), 584-591
• Holland, K. (2019): Does the Market Subvert Health Care Reform? An Examination of Recent Attempts to Cut Costs and increase Accessibility to Health Care by Harnessing the Market (Doctoral dissertation, State University of New York at
Stony Brook.
• Huang., et al.(2020): Self-reported confidence in patient safety competencies among Chinese nursingstudents: a multi-site cross-sectional survey. BMC Medical Education (2020) 20:32.

• Ismail, E.(2021): The relationship between Ethical work climate and Organizational commitment among staff nurses p7.
• Jalili, M., Niroomand, M., Hadavand, F., Zeinali, K., & Fotouhi, A. (2021) : Burnout among healthcare professionals during COVID-19 pandemic: a cross-sectional study. International Archives of occupational and Environmental Health, 1-8.
• Jansen, T. L. Hem, M. H. Dambolt, L. J. and Hanssen, I. .(2020): "Moral distress in acute psychiatric nursing: multifaceted dilemmas and demands," Nursing ethics., vol. 27, no. 5, pp. 1315–1326.
• Jerg-Bretzke, L., Limbrecht-Ecklundt, K., Walter, S., Spohrs, J., & Beschoner, P. (2020): Correlations of the "Work–Family Conflict" with occupational stress—a cross-sectional study among university employees. Frontiers in psychiatry, 11, 134 .
• Jiang, Z., Hu, X., Wang, Z., & Jiang, X. (2019): Knowledge hiding as a barrier to thriving: The mediating role of psychological safety and moderating role of organizational cynicism. Journal of Organizational Behavior, 40(7), 800-818.
• Kachaturoff, M., Caboral-Stevens, M., Gee, M., Lan, V.M., 2020: Effects of peermentoring on stress and anxiety levels of undergraduate nursing students: an integrative review. J. Prof. Nurs. 36, 223–228 .
• Khalid, U., Mushtaq, T., Khan, A. Z., & Mahmood, F. (2021): Probing the impact of transformational leadership on job embeddedness: the moderating role of job characteristics. Management Research Review, 44(8), 1139-1156 .
• Khosravi, M., Ghiasi, Z., & Ganjali, A. (2021): Burnout in hospital medical staff during the COVID-19 pandemic: Diagnosis, treatment, and prevention. Journal of Natural Remedies, 21(12 (1)), 3644.
• Kim, A.Y., Sim, I.O., 2020: Communication skills, problem-solving ability, understanding of patients' conditions, and nurse's perception of professionalism among clinical nurses: a structural equation model analysis. Int. J. Environ. Res. Public Health 17, 4896 .
• Kim, J., & Gatling, A. (2019): Impact of employees' job, organizational and technology fit on engagement and organizational citizenship behavior. Journal of Hospitality and Tourism Technology.
• Kim, S.C., Jillapali, R., Boyd, S., 2021: Impacts of peer tutoring on academic performance of first-year baccalaureate nursing students: a quasi-experimental study. Nurse Educ. Today 96, 104658 .
• King, J. L. (2021): Research review: work-family/family-work conflict. International Journal of Leadership Studies, 1(1), 102-105 .
• Ko, W., & Kang, H. (2019): Effect of leadership style and organizational climate on employees' food safety and hygiene behaviors in the institutional food service of schools. Food Science & Nutrition published by Wiley Periodicals, Inc.; 7 (6): 2131-2143.
• Lee, S.E., Lee, M.H., Peters, A.B. and Gwon, S.H., (2020): Assessment of Patient Safety and Cultural Competencies among Senior Baccalaureate Nursing Students. nt. J. Environ. Res. Public Health,17, 4225.
• Liu, F., Chow, I. H.-S., Zhang, J.-C., & Huang, M. (2019): Organizational innovation climate and individual innovative behavior: exploring the moderating effects of psychological ownership and psychological empowerment. Rev. Manag. Sci. 13, 771–789.
• Macedo, L.L., Silva,A.M.R., Silva, J.F., Mdcfl, H., &Girotto, E. (2020): The cultureregarding the safety of the patient in primary health care: distinctionsamong professional categories. Trab Educ Saúde Rio de Janeiro. 2020;18(1.(

• Mahmoud, S.R., 2019: Nursing students' attitudes toward nursing profession and its relation to study adjustment. Int. J. Nurs. Didact. 9 (7), 9–16.
• Mahran, H. M., Abd Al, M. A. A. H., & Saleh, N. M. (2022): Relationship between ethical leadership and workaholism among nursing supervisors as perceived by staff nurses. Egyptian Nursing Journal, 19(2), 79.
• Mauro, L. B. (2022): Exploring Moral Distress, Ethical Climate, and Psychological Empowerment among New Registered Nurses (Doctoral dissertation, Walden University
• Moghadari-Koosha, M., Moghadasi-Amiri, M., Cheraghi, F., Mozafari, H., Imani, B., & Zandieh, M. (2020): Self-efficacy, self-regulated learning, and motivation as factors influencing academic achievement among paramedical students: A correlation study. Journal of allied health, 49(3), 145E-152E.
• Molazem, Z., Bagheri, L., & Najafi Kalyani, M. (2022): Evaluation of the Moral Distress Intensity and Its Relationship with the Quality of Work Life among Nurses Working in Oncology Wards in Shiraz, Southwest of Iran. BioMed Research International, 2022.
• Mostafa, B. A., El-Borsaly, A. A. E., Hafez, E. A. E., & Hassan, S. A. (2021):The Mediating Effect of Person-Organization Value Fit on the Relationship Between University branding and Academic Staff Citizenship Behavior. Academic Journal of Interdisciplinary Studies, 10(1), 313-313.
• Nanjundeswaraswamy T. (2021): Nurses quality of work life: scale development and validation. Journal of Economic and Administrative Sciences, DOI 10.1108/JEAS-09-2020-0154 .
• Newman, A., Round, H., Wang, S. L., & Mount, M. (2020): Innovation climate: a systematic review of the literature and agenda for future research. J. Occup. Organ. Psychol. 93, 73–109.
• Nomany , N.F. (2022): Perceived Nursing Supervisor Support and Its Influence on Job Embeddedness among Staff Nurses, un published master thesis, faculty of nursing, Ain Shams University, p 148- 150.
• Nyanyiwa, S., Peters, K., & Murphy, G. (2022):A scoping review: Treatment attitudes and adherence for adults with schizophrenia. Journal of clinical nursing.
• Ohnishi, K., Kitaoka, K., Nakahara, J., Välimäki, M., Kontio, R., & Anttila, M.(2019): Impact of moral sensitivity on moral distress among psychiatric nurses. Nursing ethics, 26(5), 1473-1483.
• Olatunji, O. A., Idemudia, E. S., & Owoseni, O. O. (2020):Investigating the role of emotional intelligence and role conflict on job burnout among special education teachers. Journal of Intellectual Disability–Diagnosis and Treatment, 9(1), 128-136 .
• Pålsson, Y., Engstrom, ¨ M., Swenne, C.L., Mårtensson, G., 2022: A peer learning intervention in workplace introduction-managers' and new graduates' perspectives. BMC Nurs. 21 (12), 1–13 .
• Parizad, N., Lopez, V., Jasemi, M., Gharaaghaji Asl, R., Taylor, A., &Taghinejad, R. (2021): Job stress and its relationship with nurses' autonomy and nurse–physician collaboration in intensive care unit. Journal of Nursing Management. 22-24.
• Querstret, D., O'Brien, K., Skene, D. J., & Maben, J. (2020): Improving fatigue risk management in healthcare: A systematic scoping review of sleep-related/fatigue-management interventions for nurses and midwives. International journal of nursing studies, 106, 103513.

• Raeissi, P., Rajabi, M. R., Ahmadizadeh, E., Rajabkhah, K., &Kakemam, E. (2019): Quality of work life and factors associated with it among nurses in public hospitals, Iran. Journal of the Egyptian Public Health Association, 94(1), 1-8
• Ramírez Molina, R. J., del Valle Marcano, M., Ramírez Molina, R. I., Lay Raby, N. D., & Herrera Tapias, B. A. (2019): Relationship Between social intelligence and resonant leadership in public health Institutions.
• Ramos, F. R.. Barth, P. O Brehmer, L. C.. Dalmolin, G. D fargas, M. A. and Schneider, D. G .(2020):"Intensity and frequency of moral distress in Brazilian nurses," Revista da Escola de Enfermagem da USP., vol. 54.
• Razmerita, L., Kirchner, K., Hockerts, K., & Tan, C. W. (2020): Modeling collaborative intentions and behavior in Digital Environments: The case of a Massive Open Online Course (MOOC). Academy of Management Learning & Education, 19(4), 469-502.
• Reynolds, P. O. F., Dias, B. M., Flores, C. A. D. S., Balsanelli, A. P., Gabriel, C. S., & Bernardes, A. (2022): Resonant leadership practices of nurse managers in the hospital setting: a cross-sectional study. Texto & Contexto-Enfermagem, 31 .
• Segev, E. (2019): "Volume and control: the transition from information to power". Journal of Multicultural Discourses. 14 (3): 240–257. doi:10.1080/17447143.2019.1662028. ISSN 1744-7143.
• Sein Myint, N. N., Kunaviktikul, W., & Stark, A. (2021): A contemporary understanding of organizational climate in healthcare setting: A concept analysis. Nursing Forum, 56(1), 172–180.
• Sengul, M., & Seyfi, R. O. (2020): Investigation of the relationship between academic procrastination behaviours and academic selfefficacy of Turkish language teacher candidates. Cumhuriyet International Journal of Education, 9(3), 755-773 .
• Sheta, S. S., & Hammouda, M. A. (2022): Risk for Workaholism among Working Physicians of Zagazig University Hospitals: A Massage for Achieving Productive Work and Balanced Life. The Egyptian Journal of Hospital Medicine, 89(1), 4402-4409 .
• Shin, J., & Shin, H. (2020): Impact of job insecurity on hotel workers' workaholism and work–family conflict in korea. International Journal of Environmental Research and Public Health, 17(21), 7783 .
• Siyal, S., Xin, C., Peng, X., Siyal, A. W., & Ahmed, W. (2020): role of person–organization fit mechanism. Sage Open, 10(3), 2158244020947424.
• Spagnoli, P., Haynes, N. J., Kovalchuk, L. S., Clark, M. A., Buono, C., & Balducci, C. (2020): Workload, workaholism, and job performance: Uncovering their complex relationship. International Journal of Environmental Research and Public Health, 17(18), 6536 .
• Spilg, E. G., Rushton, C. H., Phillips, J. L., Kendzerska, T., Saad, M., Gifford, W., Gautam, M., Bhatla, R., Edwards, J. D., Quilty, L., Leveille, C., & Robillard, R. (2022): The new frontline: Exploring the links between moral distress, moral resilience and mental health in healthcare workers during the COVID-19 pandemic. BMC Psychiatry, 22(1), 19-19. https://psycnet. apa.org/doi/10.1186/s12888- 021-03637-w
• Svartdal, F., Klingsieck, K. B., Steel, P., & Gamst-Klaussen, T. (2020): Measuring implemental delay in procrastination: Separating onset and sustained goal striving. Personality and Individual Differences, 156, 109762.
• Syahrina, I. A., & Mutya, M. T. (2023): Academic Self-Efficacy and Academic Procrastination: The Mediating Role of Academic Motivation. In International Conference of Psychology (Vol. 2, No. 1, pp. 122-129.(

• Tajalli, S. Rostamli, S. Dezvaree, N. Shariat, M.and Kadivar, M..(2021): "Moral distress among Iranian neonatal intensive care units'health care providers: a multi-center cross sectional study,"Journal of Medical Ethics and History of Medicine., p. 14.

• Talebian, F., Hesamzadeh, A., Hosseinnataj, A., & AzimiLolaty, H. (2022): Relationship between academic procrastination and perceived competence, self-esteem and general self-efficacy of nursing students. Journal of Nursing and Midwifery Sciences, 9(4), 310-316.
• Twidwell, J., Dial, D., Fehr, C., 2022: Gender, career choice confidence, and perceived faculty support in baccalaureate nursing students. J. Prof. Nurs. 39, 96–100 .
• Uwannah, N.C., Onyekachi, C.N., & Filade, B.A. (2021): Hardiness, Supervisor Support and Work Engagement: Empirical Evidence from Tertiary Institutions in Ogun State, Nigeria. American Journal of Applied Psychology, 9(1), 8-14.
• Vasconcelos PF, de Freitas CHA, Jorge MSB, et al. (2019): Safety attributes in primarycare: understanding the needs of patients, health professionals, andmanagers. Public Health. 2019;171:31–40.
• Vikstrom, ¨ S., Johansson, K., 2019: Professional pride: a qualitative descriptive study of nursing home staff's experiences of how a quality development project influenced their work. J. Clin. Nurs. 28, 2760–2768.
• World Alliance for Patient Safety. (2021): WHO cubiculum guide for medical schools addressed to WHO Press, at the above address (fax: +41 22 791 4806.(
• Xing, L., Sun, J.M. and Jepsen, D. (2021): "Feeling shame in the workplace: examining negative feedback as an antecedent and performance and well-being as consequences", Journal of Organizational Behavior, (42).9.1244-1260.
• Yoon, S. K., Kim, J. H., Park, J. E., Kim, C. J., & Song, J. H. (2020): Creativity and knowledge creation: the moderated mediating effect of perceived organizational support on psychological ownership. Eur. J. Train. Dev. 44, 743–760.
• Yu, H., Guan, X. & Zhang, X. (2019): Paternalistic Leadership Creates Work Performance, Servant Leadership Delivers Job Satisfaction: Integration of Two Types of Leadership Behaviors. Science of Science and Management of S. & T., 35 (06), 172-180.
• Yun, L. (2019): The relation between academic motivation and academic procrastination among university students. Faculty Of Social Science And Humanities Tunku Abdul Rahman University College Kuala Lumpur.
• Yun, M. R., Lim, E. J., Yu, B., & Choi, S. (2020): Effects of Academic Motivation on Clinical Practice-Related Post-Traumatic Growth among Nursing Students in South Korea: Mediating Effect of Resilience. International journal of environmental research and public health, 17(13), 4901 .
• Yuniati, R., & Sitinjak, C. (2022): Upward Comparison at the Workplace: A Review. East Asian Journal of Multidisciplinary Research, 1(7), 1377-1394 .
• Yurtseven, N., & Dogan, S. (2019): Structural Relationships among Academic Procrastination, Academic Motivation, and Problem-Solving Skill in Prep Class College Students. Pegem Journal of Education and Instruction, 9(3), 849-876.
• Zarrin, S. A., Gracia, E., & Paixão, M. P. (2020): Prediction of academic procrastination by fear of failure and self-regulation. Educational Sciences: Theory & Practice, 20(3), 34-43.
• Zurman C., Hoffmann H. O., and Ruff-Stahl H. K. (2019): Difference in attitudes toward Crew Resource Management based on nationality. International Journal of Aviation, Aeronautics, and Aerospace, 6(4.(

• Zwedberg, S., Alnervik, M., Barimani, M., 2021: Student midwives' perception of peer learning during their clinical practice in an obstetric unit: a qualitative study. Nurse Educ. Today 99, 104785.