

Individual Factors and Business Success among Nurse Entrepreneurs  
in Nursing and Midwifery Clinics

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**Abstract**

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**Background:** Launching and running nursing and midwifery clinics successfully can be challenging. There are multiple contextual factors that impact business success, but individual factors can also have an influence. When nurse entrepreneurs set up new ventures, individual factors are essential considerations that can influence business success. In fact, individual factors influence behavior in complex and significant ways and may be strengths or weaknesses for achieving business success. However, to date, no studies have examined or identified the individual factors influencing business success in nursing entrepreneurship, particularly focusing on nursing-owned clinics.

**Objective:** The objective of this dissertation and the overall focus of the three studies was to explore factors associated with business success in nursing entrepreneurship. The first study aimed

to assess and synthesize the literature on nursing entrepreneurship and identify gaps regarding factors influencing nursing entrepreneurship. The second study aimed to determine the association of individual factors through a quantitative survey that included personality traits, transformation leadership, self-efficacy, and social support, that influence business success in nursing and midwifery clinics in Thailand. The third study aimed to elaborate on these individual factors, including personality traits, transformational leadership, self-efficacy, social support, and others, that influence the business experiences of nurse entrepreneurs by triangulating nurse entrepreneurs' qualitative perceptions with the earlier quantitative findings.

**Research design:** The data for this dissertation were drawn from three main methodological approaches: a scoping review (the first study), a cross-sectional correlational design (the second study), and an explanatory mixed-methods design (the third study).

**Subjects:** The sample for the quantitative study included 190 nurse entrepreneurs who owned nursing and midwifery clinics in Thailand for at least 1 year and 20 nurse entrepreneurs selected from among the survey respondents for the in-depth qualitative interviews.

**Measures:** A cross-sectional correlational design (the quantitative study) used the Ten-Item Personality Inventory (TIPI) measuring the Big Five model of personality traits (extraversion, agreeableness, conscientiousness, emotional stability, and openness to experiences), the Global Transformational Leadership Scale (GTL), the General Self-Efficacy Scale (GSE), a social support questionnaire, the Business Performance Measurement, the Nurse Satisfaction with Quality-of-Care Scale (NSQC), and an investigator-developed demographic questionnaire. For the explanatory mixed-methods study, the qualitative interviews were guided by questions about participants' individual factors, including the Big Five personality traits, transformational leadership, self-efficacy, social support, and others, that influence business experiences of nurse

entrepreneurs in nursing and midwifery clinics. Findings from those interviews were then analyzed considering results from the quantitative study analyses in order to elaborate on and explain those findings.

**Results:** The scoping review identified 22 articles; 16 were qualitative studies and 6 were quantitative studies. Multiple levels of factors that influence nursing entrepreneurship were identified and categorized using a social-ecological model with following levels: individual (knowledge and skills in entrepreneurship, characteristics of nurse entrepreneurs, entrepreneurial leadership, clinical and management experience, and social support); interpersonal (professional networks), organizational (healthcare organizations, the scope of legal/regulatory practices, and the new role of the professional nurse entrepreneur); community (social entrepreneurship and social capital); and public policy (healthcare policies and small business support). For the quantitative cross-sectional correlational design, the multiple regression analyses were conducted to examine associations, which indicated that self-efficacy, social support, and engaging in clinic ownership as a part-time job collectively explain a substantial proportion of the variance in business performance ( $F(3, 189) = 16.88, p < 0.001$ ). In addition, self-efficacy, social support, and work experience in nursing together explained a significant portion of the variance in quality of care ( $F(3, 189) = 27.71, p < 0.001$ ). For the sequential explanatory mixed-methods design, overall findings offered a comprehensive understanding that integrated both the quantitative and qualitative findings, with the triangulation of findings offering seven integrated themes: 1. Enhancing personality traits of conscientiousness and emotional stability (with subthemes careful and accurate in the patient care and safety, effective organized clinic management, and resilience in the face of challenges); 2. Self-efficacy promotes effective transformational leadership; 3. Conscientiousness enhances transformational leadership (idealized Influence, inspirational

motivation, intellectual stimulation, and individualized consideration); 4. Self-efficacy for quality of care (confidence in providing quality care and having mission and passion for healthcare); 5. Self-efficacy enhances business performance; 6. Enhancing business performance (role of self-efficacy, role of social support, and time management when clinic ownership is part-time) and 7. Enhancing quality of care (role of self-efficacy, role of social support, and work experience in nursing).

**Conclusion:** These findings are helpful in understanding and identifying gaps in what important factors influence business success, as well as the complex interplay between individual factors, personality traits, transformational leadership, self-efficacy, social support, and business success for nurse entrepreneurs in nursing and midwifery clinics. The findings of these studies can also serve as an evidence base for future research on nursing entrepreneurship, informing concepts and content to address in nursing education and training, guiding nursing practice in healthcare delivery and policy, and fostering interdisciplinary collaboration in healthcare, which can lead to success in nursing and midwifery clinics as well as healthcare businesses in Thailand. Ultimately, these future activities can enhance healthcare for the Thai population and more globally.

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## **Chapter 1. Introduction**

## **Nursing entrepreneurship and nurse entrepreneurs**

Nursing entrepreneurship represents an important, expanding role for nursing that inspires innovation and advances scientific knowledge. In the 21st century, a growing aging population, prevalent chronic illness, advanced technology, higher demands for quality healthcare, limited resources, healthcare workforce shortages, inequities, and disparities in healthcare delivery, as well as the COVID-19 pandemic challenge healthcare systems and impact population health (Vannucci & Weinstein, 2017). Nursing entrepreneurship offers an opportunity to expand healthcare services, respond to these trends, and enhance health globally (Vannucci & Weinstein), while also helping to strengthen health systems and services, and enhance their development and sustainability, leading to improved healthcare for populations (Salmon & Maeda, 2016).

Nurses often work on the front lines of healthcare delivery, including health promotion, illness prevention, treatment, and rehabilitation, to meet the demand for safe, high-quality, patient-centered, and accessible care. They are becoming the drivers and leaders in population health management, helping to facilitate equal access to healthcare services. They are, therefore, well-positioned to consider new business opportunities, technology initiatives, and ways of working and thinking to support the healthcare system (Jakobsen et al., 2021). By using their nursing knowledge, skills, and experience to start healthcare-related businesses, nurse entrepreneurs can be empowered to take on these important leadership roles. A nurse entrepreneur is defined by the International Council of Nurses [ICN] as “a proprietor of a business that offers nursing services of a direct care, educational, research, administrative, or consultative nature” (Sanders & Kingma, 2012, p.7). Nurse entrepreneurs can play an essential role in the healthcare system by supporting the development of targeted services, such as nursing entrepreneurship or

nursing business, to support the quality of care for populations (Thepna et al. 2023a). Nurses can enhance these businesses to develop and distribute medical products and devices, offer direct patient care and patient advocacy, educate and train other professionals or community members, and provide healthcare-related consultations, among other functions (Vannucci & Weinstein, 2017). From a review of the existing literature, nurse entrepreneurs currently operate nursing entrepreneurship in the public and private healthcare sectors, including independent nursing practices, nurse-owned skilled nursing facilities, and consultancy agencies (Sanders & Kingma).

Currently, the prevalence of nurse entrepreneurs is only 0.5–1% of all working nurses globally, and there is great potential for entrepreneurship in the nursing profession due to population needs for healthcare services as well as nurses' ability to address these needs (Jakobsen et al., 2021). The actual numbers of nurse entrepreneurs within individual countries vary considerably, with estimates of nurses or midwives who are self-employed or own professionally related businesses being as low as 9% in the USA (U.S. Bureau of Labor Statistics, 2022) and as high as 18% in the United Kingdom (Sanders & Kingma, 2012). However, in Thailand, these numbers are unknown because nursing businesses have been understudied, even though many healthcare enterprises are set up by nurses, including nursing homes for older individuals and children, nursing and midwifery clinics, health education services, and home caregiving (Kortana, 2018).

### **Nursing entrepreneurship in Thailand**

Entrepreneurship in healthcare plays a significant role in the economy of Thailand, with many new start-ups occurring and healthcare businesses playing a prominent role in the significant transformational changes taking place in both the public and private healthcare sectors, including nursing entrepreneurship growth. The total market value of both private and public sectors is

estimated at approximately \$19.93 billion, with the industry expected to show a steady growth of 6.5% from 2022–2023 (Thailand Board of Investment, 2022). Moreover, Thailand’s healthcare expenditures are predicted to exhibit strong growth over the next five years, as evidenced by the country’s healthcare sector growing from \$20 to \$25 billion from 2016 to 2020 and projected to reach \$47.9 billion by 2026 (International Trade Administration, 2022). Nurse-led clinics and nurse managers provide illness care in the public healthcare sector. In the private healthcare sector, nursing entrepreneurship provides various services such as nursing and midwifery clinics, nursing homes for older individuals and caregivers, schools for healthcare to patients in independent homes, specialized daycare facilities for children and older individuals, and expert health consultants (Kortana, 2018).

### **Nurse entrepreneurs in Thailand’s nursing and midwifery clinics**

Nowadays, in Thailand, nurses are becoming more interested in establishing nursing and midwifery clinics to apply their nursing knowledge and skills and manage this business (Thailand Nursing and Midwifery Council [TNMC], 2022). Nurse entrepreneurs are those who own, set up, and run nursing and midwifery clinics independently. They are also key individuals in the nursing profession who can increase nursing’s value, autonomy, and quality of care throughout the healthcare industry to provide direct nursing care for people, including those in rural areas. In Thailand, nursing and midwifery clinics are part of the primary healthcare system providing nursing services, particularly in rural communities.

The Thai government supports a system of universal healthcare coverage for effective and efficient primary healthcare to help reduce health inequity. In 1996, the Ministry of Public Health (MOPH) in Thailand announced a health policy to allow registered nurses (RNs) to open nursing and midwifery clinics that are nurse-owned under the Medical Professional and Nursing

and Midwifery Profession Act of 1997. To be able to practice within a nurse-owned clinic, nurse entrepreneurs must graduate with a bachelor's degree in nursing science and obtain a Thai Nursing and Midwifery License (Thailand Nursing & Midwifery Council [TNMC], 2014). Given that nurses are key providers of primary care services, particularly in rural and marginalized communities, nursing and midwifery clinics provide a one-stop service for health promotion, prevention, rehabilitation, first-aid treatment, home healthcare, immunization, referrals, prenatal and postnatal care, and healthcare consultations (TNMC, 2014). Nursing entrepreneurship in nursing and midwifery clinics in Thailand is attractive for nurses who want to own nursing businesses. TNMC identified 4,884 nursing and midwifery clinics around Thailand owned by nurse entrepreneurs, including 2,127 in the Central region, 1,632 in the Northeast, 627 in the South, and 498 in the North (The National Health Security Office [NHSO], 2022), which reflects the policy of the Thailand government to support universal healthcare coverage. By increasing the number of nursing and midwifery clinics in Thailand's rural communities, effective and efficient primary healthcare may help with the universal health coverage goal to reduce health inequity. In fact, in 2019, the National Health Security Office (NHSO) in Thailand initiated a health policy to promote equal access to quality health services for Thai people, particularly those in rural communities. The policy was developed in response to the NHSO policy with over 600 nursing and midwifery clinics across Thailand to provide primary healthcare services under the Universal Healthcare Program system, enabling people access to services in the community without having to go to the hospital, thereby saving on travel expenses and reducing congestion in the hospital. This healthcare policy of the NHSO addresses an essential need and helps support the expansion of nursing entrepreneurship. Nurse entrepreneurs are being offered the opportunity to develop their

nursing roles in many similar contexts, where they serve as key change agents to enact health policy, address disparities, and improve accessibility to healthcare (Thepna et al., 2023a).

### **Business success including business performance and quality of care**

Despite nurse entrepreneurs' expertise in caring for patients, they may face important challenges in their clinics toward success. Business success can be defined as the ability to achieve stated objectives, encompassing the overall accomplishment of business goals from performance, and ultimately leading to sustainability in the business (Lucky et al., 2012). Business success is essentially the success of the business achieving its goals, and a business is successful when it makes a profit (Ilmafa'ati, 2021). Therefore, it is necessary to understand the construct of business success. Nowadays, in the business world, entrepreneurs equate success with survival because entrepreneurs can only stay in business if they make a profit. If their company incurs losses, they will have no choice but to exit from the company (Darmanto et al., 2021), Businesses that understand and adopt this concept will be in a better position to compete in the market (Razmus & Laguna, 2018).

Business performance is the effectiveness of an organization and is an indication of how it is performing effectively to achieve its goals and enhance business success (Cherrington, 1989). Thus, business performance is related to work accomplishment, entrepreneurial success, and business outcomes (Subedi, 2021). Many entrepreneurs use business performance as the outcome variable in measuring their business success (Brüderl & Preisendörfer, 1998; Halim et al., 2011; Islam et al., 2011). Furthermore, sustainability and growth in the business can be measured by business performance, a component of business success (Epstein, 2018). Zin and Ibrahim (2020) highlighted that business performance involves Key Performance Indicators encompassing both financial and non-financial aspects. These indicators include financial profit

as well as metrics related to customer satisfaction and product quality (Hayat et al., 2019). Soto-Acosta et al. (2016) expanded on this notion, distinguishing between financing, such as business profitability, and non-financing factors, such as customer satisfaction and business competitiveness.

Certainly, in the context of nursing and midwifery clinics as healthcare businesses, it is important to assess the quality of care non-financially. The evaluation of care quality aids in determining the effectiveness of treatments and assessing care delivery to patients (Freitas et al., 2014; Zin & Ibrahim, 2020). By emphasizing the quality of care, these clinics can ensure they maintain high service standards, thereby fostering long-term success and sustainability (Wilson et al., 2003).

Assessing satisfaction with the quality of care from the nurse's perspective is vital because it serves as a valid and reliable indicator of care quality (Alilyyani et al., 2022). Being healthcare professionals, nurses have expertise such as nursing skills, effective management and leadership, and community participation (Mudallal et al., 2017). Adequate nursing staff and patient outcomes, including patient satisfaction (Liu & Aunguroch, 2018) are also important elements of nursing care quality, and nurses are at the forefront of patient care, providing direct services with a holistic understanding of patients' emotional, psychological, and social needs, as well as medical procedures and treatment plans (Spence Laschinger et al., 2016). Therefore, nurses' perspectives help with the assessment of quality of care based on clinical standards and best practices. Alilyyani et al. have highlighted that ensuring quality care involves establishing clear nursing standards and providing adequate time, staff, resources, and equipment, as well as

emphasizing patient-centered care. These efforts are crucial for upholding high standards of care and bolstering the clinic's reputation and competitiveness within the healthcare industry.

### **The variety of factors that influence business success in nursing entrepreneurship**

Launching and running nursing and midwifery clinics successfully can be challenging since various factors influence the transition from nurse to entrepreneur and the resulting business success of the nursing entrepreneurship, including multiple contextual factors such as healthcare policy, financing, the nursing educational system, gender roles, and geographic location (Alamshahi et al., 2017; Indarti, 2004; Jakobsen et al., 2021; Nurluöz et al., 2019; Salmon & Maeda, 2016; Sharp & Monsivais, 2014; Thepna et al., 2023a), as well as individual factors of the entrepreneurs themselves (Cooper et al., 1992; Limsong et al., 2016; Seet et al., 2021; Stockwellsafety, 2022).

#### ***Healthcare policy***

There is a significant amount of literature on healthcare policies, laws, and regulations influencing business success and nursing entrepreneurship. For example, Alamshahi et al. (2017) found that health policy has the potential to foster entrepreneurship among nurses by enabling them to offer healthcare services within hospitals, operating under the authority of a licensed nursing professional. Likewise, Layton et al. (2022) found that healthcare policy and nursing practice standards can help expand healthcare access and support operations and performance to achieve sustained access for underserved communities. When establishing health service businesses, nurses must address the role of nursing services in health systems, policies, laws, and regulations that differ geographically (Thepna et al., 2023a). For example, referring to the earlier information, Thailand's NHSO launched a policy to ensure equal access to quality healthcare, especially in rural areas. This initiative involves over 600 clinics providing primary healthcare

under the Universal Healthcare Program, reducing travel costs and hospital congestion. Sharp and Monsivais (2014) studied decreasing barriers to nurse practitioner social entrepreneurship in the US and found that legal and regulatory practice by the board of nursing is a barrier to nurse practitioner clinic ownership and management because there are regulatory limitations on the nurse practitioner's role. Consistently, Waite (2019) studied the lived experience of nurse practitioners (NPs) in independent practice and found that having an understanding of regulations and the law about NP roles is one approach to developing a successful NP-owned practice. Consequently, these healthcare policies, laws, and regulations are important for ensuring access to healthcare for all, particularly underserved populations, but they also support nursing entrepreneurship growth. Nurse entrepreneurs are being offered the opportunity to develop their nursing roles, in which they serve as key change agents to enact health policy, address disparities, and improve accessibility to healthcare (Thepna et al., 2023a).

### ***Financing***

When starting a business, entrepreneurs must recognize the importance of financing with regard to starting and growing their business entrepreneurship. Financing is particularly important during the early stages of entrepreneurship because it provides the money necessary for investment and growth. It costs money and capital to start a new business. If the business is not profitable, entrepreneurs have to rely on financing to cover the cost of growing pains (Brown et al., 2020). All businesses can benefit from financing while running and managing successfully, but financing is particularly important for start-ups, expansion, and business growth (Andrusiv et al., 2020; Prohorovs et al., 2019). Thus, entrepreneurs are motivated to make a profit in order to sustain their entrepreneurship activity. In terms of nursing entrepreneurship, financing is one of the contextual factors for investment and growth. Salmon and Maeda (2016) stated that adequate

financial support is crucial to incubating, launching, scaling, and sustaining any enterprise, particularly start-up financing in nursing and midwifery enterprises, because the flow and management of revenue are crucial to enterprise growth and sustainability. Likewise, Lim et al. (2021) indicated that interest in nursing start-ups develops at an early stage. To encourage nursing start-ups, it is necessary to strengthen business skills such as finance and budgeting. Sharp and Monsivais (2014) revealed that financial management, such as planning, reimbursement, and outcome measures, are useful in attaining short- and long-term goals for success of clinics owned by nurse practitioners that serve rural Americans.

### ***Nursing educational system***

Some nurse entrepreneurs fail to manage a successful business because that often requires confronting problems such as having limited business acumen or understanding of entrepreneurial knowledge and skills (da Silva Copelli et al., 2019; Jakobsen et al., 2021; Nurluöz et al., 2019). Similarly, Thepna et al. (2023a) noted that nurses generally lack the necessary education, knowledge, and skills for business, despite more traditional curricular content on leadership and management. These educational knowledge gaps, therefore, present significant challenges for the nurse transitioning to nurse entrepreneur because basic nursing curricula do not currently address entrepreneurial knowledge and skills.

### ***Gender role***

Nursing, a predominantly female profession, faces pervasive societal gender norms and expectations that can create barriers to entrepreneurial practices and limit nurses' empowerment in pursuing entrepreneurial endeavors (Sanders & Kingma, 2012). Salmon and Maeda (2016) argue that addressing gender inequity in nursing and midwifery enterprises requires explicit contributions to women's empowerment, a contextual factor impacting investment in nursing

entrepreneurship. Enhancing women's empowerment among nurse entrepreneurs is a crucial strategy for raising expectations that high entrepreneurial activity will effectively launch and sustain businesses, as well as improve health outcomes through initiatives such as education programs and networking with providers (Pittman & Salmon, 2016). Krubiner et al. (2016) identified various innovative health programs that can provide empowerment opportunities for nurses and midwives, including provider training, information and communications technologies, cooperatives, and clinical franchises. Promoting women's empowerment as nurse entrepreneurs can help them develop their businesses with more confidence and expertise in these emerging roles (Thepna et al., 2023a).

### ***Geographic location***

For businesses, geographic location is crucially important. Business location affects a company's costs and revenue and its ability to serve the customer. Choosing the right business location is vital to business operations and success, whether to provide a balance between business costs and business revenues or locate businesses to fully benefit from government policies (Indarti, 2004). In rural communities, the further away health services are, the more highly utilized in rural communities. Still, some limitations in healthcare policy might be less effective, such as budgets and availability of healthcare workers because of the rural location. Therefore, geographic access to healthcare can be more difficult for people living in rural areas. Nurse entrepreneurs should consider geographic location of services to support the potential for increased health access, but also increased health equality among patients (Health and Place Initiative, 2014). Meeting the healthcare services needs of people in these areas can generate income for entrepreneurs in healthcare businesses. For example, across the regions in Thailand, there are over 4,800 nursing and midwifery clinics that provide primary healthcare services,

particularly in rural communities, thereby enabling people to access such services in their community and enhancing physical and mental health, preventing disease and death, extending life, and improving quality of life (TNMC, 2022).

### **Individual factors that influence business success in nursing entrepreneurship**

In the early stages of entrepreneurship or when setting up new ventures, individual factors are essential elements for entrepreneurs that can influence their business success. Individual factors also influence behavior in complex and significant ways and may be strengths or weaknesses for achieving business success (Stockwellsafety, 2022). The characteristics of entrepreneurs who found or led a business, such as their values, attitudes, personality, and self-efficacy, can greatly impact the success of a business firm (Seet et al., 2021). Cooper et al. (1992) addressed individual factors influencing success by examining entrepreneur characteristics such as gender, age, education, experience, personality, and entrepreneur skill. Limsong et al. (2016) identified the Human Capital Theory, which involved individual factors that consisted of the entrepreneurs' demographic, personality traits, and competence characteristics that influence business success. Because of contextual differences among businesses, details specific to individual factors can be particularly important in healthcare businesses. Healthcare business is highly complicated and regulated, including nursing and midwifery clinics in Thailand. Entrepreneurs in nursing and midwifery clinics should have background characteristics such as educational qualifications in entrepreneurship, nurse practitioner certifications/licenses and also have working experiences and leadership skills in nursing within healthcare sectors to run, manage, and deal with multiple clinic-related situations (TNMC, 2022).

Although individual factors including personality traits, leadership, self-efficacy, and social support can influence business success in general entrepreneurship, these factors have not

been studied adequately among nurse entrepreneurs in nursing and midwifery clinics. These specific individual factors were selected for study due to their significant influence on nurse entrepreneurs' behavior and decision-making processes that can impact business success within a dynamic healthcare industry. The Big Five personality traits provide insights into how individuals approach challenges and interact with others, which are essential aspects of entrepreneurial behavior (Costa & McCrae, 1992). Transformational leadership has been widely recognized for its ability to inspire innovation and foster team effectiveness, making it particularly relevant for entrepreneurial ventures (Bass, 1990). Self-efficacy plays a crucial role in determining individuals' belief in their ability to succeed, which is a key determinant of entrepreneurial motivation and persistence (Bandura, 1977). Lastly, social support networks provide invaluable resources and guidance, essential for navigating the complexities of entrepreneurship (Kim & Tussyadiah, 2013). Thus, this study will focus on these individual factors of nurse entrepreneurs in nursing and midwifery clinics to determine to what extent individual factors have an influence on business success, after adjusting or controlling for relevant contextual factors.

### ***The Big Five model personality traits***

Personality traits reflect a person's characteristic thoughts, feelings, and behaviors and imply consistency and stability (McShane & Von Glinow, 2010). In the context of entrepreneurship, the Big Five personality model is widely studied because it can identify specific configurations of key personality traits that contribute to the development or enhancement of performance (Hachana et al. 2018). A widely used system of personality traits is the Big Five model from Costa & McCrae (1992), which includes five broad traits:

**1) Extraversion** refers to individuals who enjoy social interaction and are sociable, expressive, and oriented toward the outside world (Ciavarella et al., 2004). Extraversion is manifested in a person's full interaction with their business activities through self-development. Business activities involve social interaction, so extraversion plays a role in business success because extroverted individuals tend to be directly involved in business activities. Franco and Prata (2019) identified extraversion as being related to business success.

**2) Agreeableness** is a term used to describe a person who is pleasant, warm, obedient, and trustworthy (Kerr et al., 2018). Entrepreneurs with high agreeableness have positive interpersonal relationships, are more likely to develop business, and are more successful in management and business performance (Franco & Prata, 2019).

**3) Conscientiousness** describes a socially prescribed impulse control that facilitates task- and goal-oriented behavior (Kerr et al., 2018), and reflects an awareness of a company's long-term goals. Entrepreneurs need a high level of awareness and a sense of optimism to deal with a dynamic business environment. Hard work and persistence are also needed to achieve their goals (Franco & Prata, 2019; Zhao et al., 2010). Ciavarella et al. (2004) and Hachana et al. (2018) revealed that the high conscientiousness of an entrepreneur is positively related to business success and long-term venture survival.

**4) Emotional stability** in the Big Five model has also been termed emotional stability vs. neuroticism, stability, emotionality, and neuroticism (Barrick and Mount, 1991; Kraczkla, 2017). Neuroticism is understood to be a vulnerability to experiencing negative emotions like anxiety, discontentment, guilt, or anger; a sensitivity to psychological stress; and a tendency to irrational behavior and lack of courage to take the risks needed to build social capital; it is negatively related to business success (Franco & Prata, 2019; Kraczkla, 2017). On the other hand,

persons with a low neuroticism are emotionally stable, relaxed, calm, and able to cope with stress without experiencing concerns, internal tension or annoyance (Kraczla,2017). Emotional stability as a Big Five personality trait essentially reflects a continuum from emotional instability to emotional stability, with emotional stability being a characteristic of an entrepreneurial personality positively related to business success (Hachana et al., 2018; Zhao et al., 2010). The Ten-Item Personality Inventory, chosen for this study, is a brief measure of the Big Five dimensions with good reliability, includes one negative and one positive item reflecting the dimension of emotional stability (Gosling et al., 2003), and has been useful in nursing entrepreneurial research (Íspir et al, 2019).

**5) Openness to experience** is a personality trait that describes the breadth, depth, originality, and complexity of an individual's mental and experiential life and someone who also seeks new, imaginative, and creative ideas (Kerr et al., 2018). Judge and Zapata (2015) found that openness was more strongly related to business performance, innovation, and creativity and positively affected business success.

Currently, there is substantial literature on the Big Five model in relation to entrepreneurs' business success (Lee & Yang, 2013; Sarwoko & Nurfarida, 2021; Zhao et al., 2010). Although there is limited literature on business success using the Big Five model in the nursing context, this is an important topic for educators and researchers to further explore in order to prepare nurse entrepreneurs when starting a business. Ispir et al. (2019) studied the relationship between nursing students' personality traits and entrepreneurship tendency toward career adaptability. The results revealed that the highest mean scores on these personality traits were for conscientiousness and the lowest was for emotional stability. The authors suggested that nursing education should enhance positive personality traits to ensure their adaptation to nursing practice and the

development of entrepreneurs. A high tendency for entrepreneurship may be effective for both business success and career management, so studying personality traits to understand nursing entrepreneurship can offer evidence for their development and improvement to increase business success. These findings align with those of Franco and Prata (2019) that indicated successful entrepreneurs have specific personal resources like positive personality traits that allow them to take advantage of new opportunities. One's personality traits can be invaluable and irreplaceable, creating a competitive advantage that will drive business success.

### ***Transformational leadership***

For a business to be competitive, it needs to have a good leader who can make decisions quickly, take action, and bring their own expertise to achieve business goals. Entrepreneurs need to anticipate the future, respond to unforeseen circumstances, and adapt to change for survival and success in business. Entrepreneurial leadership has been defined as an identifiable trait that correlates with corporate success in different types of business firms (Leitch & Harrison, 2018). However, Darling and Beebe (2007) defined entrepreneurial leadership as organizing a group of people to achieve a common goal using proactive entrepreneurial behavior that safely optimizes risk, innovates to take advantage of opportunities, takes personal responsibility, and manages change within a dynamic environment for the benefit of the organization. Leadership is an indispensable managerial instrument.

Entrepreneurs are familiar with various leadership styles, including transactional and transformational leadership; both styles are observed in studies of entrepreneurial leaders. A particular leader may demonstrate varying degrees of both transformational and transactional leadership. Transformational leadership, characterized by inspiring and motivating followers to achieve their full potential (Bass, 1999), involves fostering a shared vision, providing support and

guidance, and empowering individuals to excel. In contrast, transactional leadership is based more on exchanges between the leader and follower, in which followers are rewarded for meeting specific goals or performance criteria (Jung, 2010). These styles are not mutually exclusive, and some combination of both may enhance effective leadership (Aarons, 2006). However, when considering the leadership roles of nurse entrepreneurs in nursing and midwifery clinics, a capable leader is necessary who can make quick decisions, take decisive action, and leverage their expertise to achieve organizational goals (Ejimabo, 2015). Leadership should encompass a range of behaviors, attitudes, and actions aimed at influencing and motivating subordinates to achieve specific objectives (Yukl, 2012), with these leadership skills align with transformational leadership. In recent years, the importance of transformational leadership has become increasingly apparent.

Transformational leadership has proven particularly popular in the literature, with more studies undertaken on this topic than all other leadership theories. Transformational leadership was initiated by James V. Downton in 1973. In 1990, Bass further developed the concept. This is known as ‘Bass’s Transformational Leadership Theory’. Bass introduced methods to measure and rank the success of transformational leadership, along with the notion that leaders should express authentic and focused energy to inspire other team members. Bass also suggested that there were four dimensions to transformational leadership style (also known as the “four I’s”): 1) Idealized influence, the leader being an admirable and convincing role model for subordinates; 2) Inspirational motivation, the articulation of an appealing and inspiring vision; 3) Intellectual stimulation, encouraging creativity in subordinates; and 4) Individual consideration, attending to and supporting individual needs (Bass, 1990). These dimensions highlight the potential for transformational leadership to foster entrepreneurship and drive business success.

For example, Moriano et al. (2014) discovered that transformational leadership encourages employees' creativity and innovation, ultimately contributing to improved business success. Transformational leaders prioritize higher or intrinsic needs, motivating followers with a vision that extends beyond their immediate self-interest. In summary, the influence exercised by this type of leader involves changing the way subordinates perceive themselves as well as pointing out the opportunities and challenges presented by the environment (Bass, 1999). Therefore, entrepreneurial leadership shares many similarities with transformational leadership, as transformational leadership also inspires success by appealing to the higher needs of followers (Gupta et al., 2004) and plays a pivotal role with nurse entrepreneurs in nursing and midwifery clinics. Nurse entrepreneurs who embody transformational leadership qualities inspire their teams to share a vision of delivering exceptional care. They motivate staff to surpass expectations, foster innovation, and continuous skill enhancement, cultivate an environment of trust and open communication, and lead to higher employee satisfaction and better patient outcomes (Steinmann et al., 2018). Ultimately, transformational leadership of nurse entrepreneurs in nursing and midwifery clinics can support effective clinic management, facilitate collaborative decision-making, leverage diverse perspectives to tackle complex challenges, and drive improvements in business success (Collins et al., 2020).

### *Self-efficacy*

Another individual factor is self-efficacy, which Bandura (1977) conceptualized as an individual's belief in their ability to perform a given task. Self-efficacy is viewed as an antecedent to the formation of intentions. If an individual believes they have the ability to achieve a goal, they are more likely to develop the intention to achieve it. In contrast, if an individual believes they do not have such ability, they are less likely to form the intention to pursue it. Bandura suggested that

individuals use four major sources or attributions of information when forming self-efficacy judgments and actions toward behavior or performance, including performance accomplishment, vicarious experience, social persuasion, and physiological and emotional states. Relevant to entrepreneurship, self-efficacy relates to an individual's belief in their capacity to execute the behaviors necessary to launch and manage a high-performing business (Applegate & Butler, 2016; Kim-Soon et al., 2022; Thepna et al., 2023b; Zulkosky, 2009). The extant literature offers evidence to support self-efficacy in business success. Zulkosky (2009) pointed out that people with high self-efficacy accomplish goals by visualizing successful outcomes rather than focusing on the possibility of negative consequences. Self-efficacy in entrepreneurs can be defined as the perception of their capability to achieve designated performance levels for successful business management. While low self-efficacy tends to weaken success, high self-efficacy beliefs contribute to practical task completion, effort, and business success, therefore playing an essential role in business development. Nurse entrepreneurs who have self-efficacy when running a business may be more likely to impact its success with supporting people's healthcare needs (Lyons, 2014). Moreover, some nurse entrepreneurs face barriers such as a lack of the necessary knowledge and skills to manage a healthcare business and potential fears about running a healthcare business, which can affect self-confidence or self-efficacy (Elango et al., 2007). Evidence on nurse entrepreneurs' self-efficacy suggests that defining attributes of self-efficacy are performance accomplishments and relevant knowledge. For example, Jahani et al. (2018) stated that entrepreneurship education could affect nurses' self-efficacy and entrepreneurship intention, especially from the perspective of knowledge and skills about nursing entrepreneurship, establishing an independent business, and business management. Similarly, Zulkosky (2009) pointed out that nurses with high self-efficacy believe a particular activity can demonstrate the

required behavior for goal attainment and increase business success, helping them cope with stress and environmental stimuli. However, there are few studies on self-efficacy in nurse entrepreneurs at present, and further research is needed to bridge this gap by exploring the extent to which self-efficacy specifically relates to business success in nursing entrepreneurship.

### ***Social support***

Social support is understood as the resources people obtain from their social relationships and use when faced with difficulties that might impact their business success (Kim & Tussyadiah, 2013). The support obtained from social surroundings can have behavioral consequences and affect the individual's likelihood of entering the entrepreneurial process and performing well in business (Stam et al., 2014). When focusing on entrepreneurship, social support refers to the potential entrepreneur's experience with the support they are likely to receive from groups such as family, friends, and other special relationships when setting up a business (León et al., 2007). These social support efforts can enable entrepreneurs to effectively start up and manage their business ventures (Politis, 2005). Many entrepreneurs need considerable support to succeed, whether it be financial, operational, or emotional (Elsafty et al., 2020). One of the essential sources of support for entrepreneurs is their network of friends and family members, which becomes a resource pool for skilled jobs that helps small businesses, families, and community members find stability and connection. Family and friends provide emotional support to entrepreneurs when faced with stress, which generally helps them keep a sense of perspective amid the responsibility of starting and maintaining a successful business (Edelman et al., 2016; Leung et al., 2020; Uzialko, 2022). Cardella (2020) also noted that family and friends' support involves providing financial, informational, and emotional support for entrepreneurs, which can help them effectively meet business success goals. Specifically, during the start-up and growth

phases of a new small business, this networking power might determine a business' survival (Abbas et al., 2019). Existing literature on entrepreneurial networks highlights the importance of support from friends, family, and other connections in stimulating entrepreneurship opportunities and enhancing business success through valuable contacts (Kregar & Antoncic, 2014; Parker, 2018; Thepna et al., 2023b). Therefore, nurse entrepreneurs in clinics recognize the significance of having a robust social support network in developing clinic opportunities and achieving business success.

### **Objective**

The objective of this dissertation study is to explore nurse entrepreneurs' individual factors, including the Big Five model personality traits, transformational leadership, self-efficacy, and social support, that influence business success, including business performance and quality of care in nursing and midwifery clinics in Thailand.

### **Introduction to the three studies**

This dissertation consists of a series of three studies. The first study aimed to assess and synthesize the literature on nursing entrepreneurship and identify gaps regarding factors influencing nursing entrepreneurship. The second study aimed to determine the association of individual factors, including the Big Five model personality traits, transformational leadership, self-efficacy, and social support, that influence business success in nursing and midwifery clinics in Thailand. The third study aimed to elaborate on the individual factors, including personality traits, transformational leadership, self-efficacy, social support, and others, that influenced the business experiences of nurse entrepreneurs by triangulating nurse entrepreneurs' qualitative perceptions with the previous study's quantitative findings. This dissertation represents an important step to provide evidence concerning these individual factors of personality traits,

transformational leadership, self-efficacy, and social support that influence business success, specifically business performance and quality of care, in nursing and midwifery clinics in Thailand. The findings will be helpful in understanding what elements influence nurse entrepreneurs' business success in nursing and midwifery clinics and can provide an evidence base for concepts and content to address in nursing curricula and nursing science. The findings of these dissertation studies can also potentially lead to innovative interventions or training programs to increase business success for nurse entrepreneurs when setting up and developing nursing and midwifery clinics. Such interventions and training programs can improve the managerial skills of nurse entrepreneurs and lead to success in nursing and midwifery clinics as well as healthcare businesses in Thailand, ultimately these future activities can enhance healthcare for the Thai population and underserved populations more globally.

## References

- Aarons, G. A. (2006). Transformational and transactional leadership: Association with attitudes toward evidence-based practice. *Psychiatric Services, 57*(8), 1162-1169. <https://doi.org/10.1176/appi.ps.57.8.1162>.
- Abbas, J., Raza, S., Nurunnabi, M., Minai, M. S., & Bano, S. (2019). The impact of entrepreneurial business networks on firms' performance through a mediating role of dynamic capabilities. *Sustainability, 11*(11), 3006. <https://doi.org/10.3390/su11113006>.
- Alamshahi, M., Alvaani, J., & Ghavam, A. (2017). Review of the factors affecting nurse's entrepreneurship in selected hospitals of Golestan province. *Bioscience Biotechnology Research Communications, 10*(1), 146-152.
- Alilyyani, B.; Kerr, M.; Wong, C.; Wazqar, D. A (2022). Psychometric analysis of the nurse satisfaction with the quality of care scale. *Healthcare, 10*, 1145. <https://doi.org/10.3390/healthcare10061145>.
- Andrusiv, U., Kinash, I., Cherchata, A., Polyanska, A., Dzoba, O., Tarasova, T., & Lysak, H. (2020). Experience and prospects of innovation development venture capital financing. *Management Science Letters, 10*(4), 781-788. <https://doi.org/10.5267/j.msl.2019.10.019>.
- Applegate, L., Kraus, J., & Butler, T. (2016). *Skills and behaviors that make entrepreneurs successful*. Harvard Business School, Boston.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191–215. <https://doi.org/10.1037/0033-295X.84.2.191>

- Barrick, M. R., & Mount, M. K. (2012). Select on conscientiousness and emotional stability. *Handbook of principles of organizational behavior: Indispensable knowledge for evidence-based management*, 19-39. <https://doi.org/10.1002/9781119206422.ch2>
- Bass, B. M. (1990) From transactional to transformational leadership: Learning to share the vision. *Organizational Dynamics* 18, 19-31. [https://doi.org/10.1016/0090-2616\(90\)90061-S](https://doi.org/10.1016/0090-2616(90)90061-S)
- Bass, B. M. (1999). Two decades of research and development in transformational leadership. *European Journal of Work and Organizational Psychology*, 8(1), 9-32. <https://doi.org/10.1080/135943299398410>.
- Brown, R., Rocha, A., & Cowling, M. (2020). Financing entrepreneurship in times of crisis: exploring the impact of COVID-19 on the market for entrepreneurial finance in the United Kingdom. *International Small Business Journal*, 38(5), 380-390. <https://doi.org/10.1177/0266242620937464>
- Brüderl, J., & Preisendörfer, P. (1998). Network support and the success of newly founded business. *Small Business Economics*, 10, 213-225. <https://doi.org/10.1023/A:1007997102930>
- Cardella, G. M., Hernández-Sánchez, B. R., & Sanchez Garcia, J. C. (2020). Entrepreneurship and family role: A systematic review of a growing research. *Frontiers in Psychology*, 10, 29-39. <https://doi.org/10.3389/fpsyg.2019.02939>
- Ciavarella, M. A., Buchholtz, A. K., Riordan, C. M., Gatewood, R. D., & Stokes, G. S. (2004). The Big Five and venture survival: Is there a linkage? *Journal of Business Venturing*, 19(4), 465-483. <https://doi.org/10.1016/j.jbusvent.2003.03.001>

- Cherrington, D.J. (1989). *Organizational behavior: The management of individual and organizational performance*. Allyn & Bacon.
- Collins, E., Owen, P., Digan, J., & Dunn, F. (2020). Applying transformational leadership in nursing practice. *Nursing Standard (Royal College of Nursing (Great Britain): 1987)*, 35(5), 59–66. <https://doi.org/10.7748/ns.2019.e11408>
- Cooper, A. C., Folta, T., Gimeno-Gascon, J., & Woo, C. Y. (1992). Entrepreneurs' exit decisions: the role of threshold exceptions. *Academy of Management Proceedings (1)*, 75-79. <https://doi.org/10.5465/AMBPP.1992.4977477>
- Costa, P. T., & McCrae, R. R. (1992). The five-factor model of personality and its relevance to personality disorders. *Journal of Personality Disorders*, 6(4), 343 - 359. <https://doi.org/10.1521/pedi.1992.6.4.343>
- da Silva Copelli, F. H., Lorenzini Erdmann, A., & Guedes dos Santos, J. L. (2019). Entrepreneurship in nursing: An integrative literature review. *Revista Brasileira de Enfermagem*, 72(Suppl. 1), 289-298. <https://doi.org/10.1590/0034-7167-2017-0523>
- Darling, J. R., & Beebe, S. A. (2007). Enhancing entrepreneurial leadership: A focus on key communication priorities. *Journal of Small Business & Entrepreneurship*, 20(2), 151-167. <https://doi.org/10.1080/08276331.2007.10593392>
- Darmanto, S., Alagappar, P. N., & Xavier, J. A. (2021). Women entrepreneurial career maturity towards success of business in Semarang, Indonesia. *Jurnal Pengurusan*, 61, 43-55. <https://doi.org/10.17576/pengurusan-2021-61-04>
- Edelman, L. F., Manolova, T., Shirokova, G., & Tsukanova, T. (2016). The impact of family support on young entrepreneurs' start-up activities. *Journal of Business Venturing*, 31(4), 428-448. <https://doi.org/10.1016/j.jbusvent.2016.04.003>

- Ejimabo, N. O. (2015). The influence of decision making in organizational leadership and management activities. *Journal of Entrepreneurship & Organization Management*, 4(2), 2222-2839. <https://doi.org/10.4172/2169-026X.1000138>
- Elango, B., Hunter, G. L., & Winchell, M. (2007). Barriers to nurse entrepreneurship: A study of the process model of entrepreneurship. *Journal of the American Academy of Nurse Practitioners*, 19(4), 198– 204. <https://doi.org/10.1111/j.1745-7599.2007.00215.x>
- Elsafty, A., Abadir, D., & Shaarawy, A. (2020). How does the entrepreneurs' financial, human, social and psychological capitals impact entrepreneur's success. *Business and Management Studies*, 6(3), 55-71. <https://doi.org/10.11114/bms.v6i3.4980>
- Epstein, M. J. (2018). *Making sustainability work: Best practices in managing and measuring corporate social, environmental and economic impacts*. Routledge.
- Franco, M., & Prata, M. (2019). Influence of the individual characteristics and personality traits of the founder on the performance of family SMEs. *European Journal of International Management*, 13(1), 41-68. <https://doi.org/10.1504/EJIM.2019.096498>
- Freitas, J. S. D., Silva, A. E. B. D. C., Minamisava, R., Bezerra, A. L. Q., & Sousa, M. R. G. D. (2014). Quality of nursing care and satisfaction of patients attended at a teaching hospital. *Revista Latino-americana De Enfermagem*, 22, 454-460. <https://doi.org/10.1590/0104-1169.3241.2437>
- Gosling, S. D., Rentfrow, P. J., & Swann Jr, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, 37(6), 504-528. [https://doi.org/10.1016/S0092-6566\(03\)00046-1](https://doi.org/10.1016/S0092-6566(03)00046-1)

- Gupta, V., MacMillan, I. C., & Surie, G. (2004). Entrepreneurial leadership: developing and measuring a cross-cultural construct. *Journal of Business Venturing*, 19(2), 241-260. [https://doi.org/10.1016/S0883-9026\(03\)00040-5](https://doi.org/10.1016/S0883-9026(03)00040-5)
- Hachana, R., Berraies, S., & Ftiti, Z. (2018). Identifying personality traits associated with entrepreneurial success: does gender matter? *Journal of Innovation Economics Management*, (3), 169-193. <https://doi.org/10.3917/jie.027.0169>
- Halim, M. A. S. A., Muda, S., & Amin, W. A. A. W. M. (2011). The measurement of entrepreneurial personality and business performance in Terengganu creative industry. *International Journal of Business and Management*, 6(6), 183. <https://doi.org/10.5539/ijbm.v6n6p183>
- Hayat, A., Latif, A., Humayon, A. A., Ahmed, M., & Azeem, M. (2019). The mediating role of entrepreneurial leadership in the relationship between entrepreneurial orientation and firm performance of ICTs SMEs. *Journal of Multidisciplinary Approaches in Science*, 5(1), 16-23.
- Health and Places Initiative. (2014). Geographic healthcare access and place. *A Research Brief*, 1.
- Ilmafa'ati, R. (2021). The influence of entrepreneurship, creativity, and business location on business success. *Innovation Research Journal*, 2(1), 51-64. <https://doi.org/10.30587/innovation.v2i1.2397>
- Indarti, N. (2004). Business location and success: The case of internet cafe business in indonesia. *Gadjah Mada International Journal of Business*, 6(2), 171-192. <https://doi.org/10.22146/gamaijb.5543>
- International Trade Administration (2022). Healthcare technologies resource guide. <https://www.trade.gov/healthcare-resource-guide>.

- Islam, M. A., Khan, M. A., Obaidullah, A. Z. M., & Alam, M. S. (2011). Effect of entrepreneur and firm characteristics on the business success of small and medium enterprises (SMEs) in Bangladesh. *International Journal of Business and Management*, 6(3), 289. <https://doi.org/10.5539/ijbm.v6n3p289>
- İspir, Ö., Elibol, E., & Sönmez, B. (2019). The relationship of personality traits and entrepreneurship tendencies with career adaptability of nursing students. *Nurse Education Today*, 79, 41-47. <https://doi.org/10.1016/j.nedt.2019.05.017>
- Jahani, S., Abedi, H., Khoshknab, M. F., & Elahi, N. (2018). The experience of Iranian entrepreneurial nurses on the identification of entrepreneurial opportunities: A qualitative study. *Journal of Family Medicine and Primary Care*, 7(1), 230-236. [https://doi.org/10.4103/jfmpc.jfmpc\\_233\\_17](https://doi.org/10.4103/jfmpc.jfmpc_233_17)
- Jakobsen, L., Wachter Qvistgaard, L., Trettin, B., & Juel Rothmann, M. (2021). Entrepreneurship and nurse entrepreneurs lead the way to the development of nurses' role and professional identity in clinical practice: A qualitative study. *Journal of Advanced Nursing*, 77(10), 4142-4155. <https://doi.org/10.1111/jan.14950>
- Judge, T. A., & Zapata, C. P. (2015). The person–situation debate revisited: Effect of situation strength and trait activation on the validity of the Big Five personality traits in predicting job performance. *Academy of Management Journal*, 58(4), 1149-1179. <https://doi.org/10.5465/amj.2010.0837>
- Jung, D. I. (2010). Transformational and transactional leadership and their effects on creativity in groups. *Creativity Research Journal*, 13(2), 185-195. doi 10.1207/S15326934CRJ1302\_6

- Kerr, S. P., Kerr, W. R., & Xu, T. (2018). Personality traits of entrepreneurs: A review of recent literature. *Foundations and Trends in Entrepreneurship*, 14(3), 279-356. <https://doi.org/10.1561/03000000080>
- Kim-Soon, N., Al-Rawi, O. Y. M., Mostafa, S. A., Ling, C. Y., Al-Dayyeni, W. S., Ali, R. R. & Al-Rawi, B. (2022). A model for predicting entrepreneurship intentions based on social cognitive theory and entrepreneurship characteristics. *Information Sciences Letters: An International Journal*, 11(2), 445-455. <https://doi.org/10.18576/isl/110215>
- Kim, J., & Tussyadiah, I. P. (2013). Social networking and social support in tourism experience: The moderating role of online self-presentation strategies. *Journal of Travel and Tourism Marketing*, 30(1-2), 78-92. <https://doi.org/10.1080/10548408.2013.751220>
- Kortana, T. (2018). Key success factors for entrepreneurs in the healthcare business of Thailand. *The Euraseans: Journal on Global Socio-economic Dynamics*, 4(11), 83-88. [https://doi.org/10.35678/2539-5645.4\(11\).2018.83-88](https://doi.org/10.35678/2539-5645.4(11).2018.83-88)
- Kraczla, M. (2017). Personality profiling according to the big five model by PT Costa and RR McCrae: Comparison analysis of managers and specialists. *Regional Formation and Development Studies*, 22(2), 77-91. <https://doi.org/10.15181/rfds.v22i2.1479>
- Kregar, T. B., & Antoncic, B. (2014). Entrepreneurial networks: The multiplexity of exchange content. *Economic and Social Development: Book of Proceedings*, 389.
- Krubiner, C. B., Salmon, M., Synowiec, C., & Lagomarsino, G. (2016). Investing in nursing and midwifery enterprise: empowering women and strengthening health systems—a landscaping study of innovations in low-and middle-income countries. *Nursing Outlook*, 64(1), 17-23. <https://doi.org/10.1016/j.outlook.2015.10.007>

- Layton, S. S., Blakely, K. K., Patel, B., & Miltner, R. S. (2022). Assessing Southeastern Advanced Practice Registered Nurses' Business and operational skill sets. *The Journal for Nurse Practitioners*, 16(6), 636-639. <https://doi.org/10.1016/j.nurpra.2022.02.019>
- Lee, L., & Yang, C. L. (2013). Key success factors in female micro entrepreneurship a study of the catering business. *Service Science and Management Research*, 2(3), 39-47.
- Leitch, C. M., & Harrison, R. T. (2018). The evolving field of entrepreneurial leadership: An overview. *Research Handbook on Entrepreneurship and Leadership*. Edward Elgar Publishing.
- León, J. A. M., Descals, F. J. P., & Domínguez, J. F. M. (2007). The psychosocial profile of the university entrepreneur. *Psychology in Spain*, 11(1), 72-84.
- Leung, Y. K., Mukerjee, J., & Thurik, R. (2020). The role of family support in work-family balance and subjective well-being of SME owners. *Journal of Small Business Management*, 58(1), 130-163. <https://doi.org/10.1080/00472778.2019.1659675>
- Lim, J. Y., Kim, J., & Kim, S. (2021). The effects of the Start-Up NurseS program on nursing students using management strategy simulation. *Nurse Education Today*, <https://doi.org/10.1016/j.nedt.2021.105020>
- Limsong, S., Seang, S., Sambath, P., & Hong, S. (2016). Model of entrepreneurial success: Linking theory and practice. In International Conference on Enterprise Marketing and Globalization (EMG). Proceedings. Global Science and Technology Forum, 97. [https://doi.org/10.5176/2251-2039\\_IE16.29](https://doi.org/10.5176/2251-2039_IE16.29).
- Liu, Y., & Aunguroch, Y. (2018). Factors influencing nurse-assessed quality nursing care: A cross-sectional study in hospitals. *Journal of Advanced Nursing*, 74(4), 935-945. <https://doi.org/10.1111/jan.13507>

- Lucky, E. O. I., Olusegun, A. I., & Bakar, M. S. (2012). Determinants of business Success: trust or business policy? *Researchers World*, 3(3), 37.
- Lyons, C. (2014). Entrepreneurship in nursing. *The Oklahoma Nurse*, 59(1), 1.
- McShane, S. L., & Von Glinow, M. (2010). *Organizational behaviour: Emerging knowledge and practice for the real world* (5th ed.). New York: McGraw-Hill/Irwin.
- Moriano, J. A., Molero, F., Topa, G., & Lévy Mangin, J. P. (2014). The influence of transformational leadership and organizational identification on intrapreneurship. *International Entrepreneurship and Management Journal*, 10(1), 103-119. <https://doi.org/10.1007/s11365-011-0196-x>
- Mudallal, R. H., Saleh, M. Y., Al-Modallal, H. M., & Abdel-Rahman, R. Y. (2017). Quality of nursing care: The influence of work conditions, nurse characteristics and burnout. *International Journal of Africa Nursing Sciences*, 7, 24-30. <https://doi.org/10.1016/j.ijans.2017.06.002>
- Nurluöz, Ö., & Esmaeilzadeh, S. (2019). Assessment of the entrepreneurial characteristics and hopelessness status of nurses working in the onetraining and research Hospital. *Dimensions*, 10, 13.
- Parker, S. C. (2018). *The economics of entrepreneurship*. Cambridge University Press.
- Pittman, P., & Salmon, M. E. (2016). Advancing nursing enterprises: A cross-country comparison. *Nursing Outlook*, 64(1), 24-32. <https://doi.org/10.1016/j.outlook.2015.09.002>
- Politis, D. (2005). The process of entrepreneurial learning: A conceptual framework. *Entrepreneurship Theory and Practice*, 29(4), 399-424. <https://doi.org/10.1111/j.1540-6520.2005.00091.x>

- Prohorovs, A., Bistrova, J., & Ten, D. (2019). Start-up success factors in the capital attraction stage: Founders' perspective. *Journal of East-West Business*, 25(1), 26-51.
- Razmus, W., & Laguna, M. (2018). Dimensions of entrepreneurial success: A multilevel study on stakeholders of micro-enterprises. *Frontiers in Psychology*, 9, 370133. <https://doi.org/10.3389/fpsyg.2018.00791>
- Salmon, M. E., & Maeda, A. (2016). Investing in nursing and midwifery enterprise to empower women and strengthen health services and systems: An emerging global body of work. *Nursing Outlook*, 64(1), 7-16. <https://doi.org/10.1016/j.outlook.2015.11.010>
- Sanders, E., & Kingma, M. (2012). *Handbook on entrepreneurial practice: Nurse creating opportunities as entrepreneurs and intrapreneurs*. International Council of Nurses, Geneva.
- Sarwoko, E., & Nurfarida, I. N. (2021). Entrepreneurial marketing: Between entrepreneurial personality traits and business performance. *Entrepreneurial Business and Economics Review*, 9(2), 105-118. <https://doi.org/10.15678/EBER.2021.090207>
- Seet, P. S., Lindsay, N., & Kropp, F. (2021). Understanding early-stage firm performance: The explanatory role of individual and firm level factors. *International Journal of Manpower*, 42(2), 260-285. <https://doi.org/10.1108/IJM-02-2019-0112>
- Sharp, D. B., & Monsivais, D. (2014). Decreasing barriers for nurse practitioner social entrepreneurship. *Journal of the American Association of Nurse Practitioners*, 26(10), 562-566. <https://doi.org/10.1002/2327-6924.12126>
- Soto-Acosta, P., Cismaru, D. M., Vătămănescu, E. M., & Ciochină, R. S. (2016). Sustainable entrepreneurship in SMEs: A business performance perspective. *Sustainability*, 8(4), 342. <https://doi.org/10.3390/su8040342>

- Spence Laschinger, H. K., Zhu, J., & Read, E. (2016). New nurses' perceptions of professional practice behaviours, quality of care, job satisfaction and career retention. *Journal of Nursing Management*, 24(5), 656-665. <https://doi.org/10.1111/jonm.12370>
- Stam, W., Arzlanian, S., & Elfring, T. (2014). Social capital of entrepreneurs and small firm performance: A meta-analysis of contextual and methodological moderators. *Journal of Business Venturing*, 29(1), 152-173. <https://doi.org/10.1016/j.jbusvent.2013.01.002>
- Steinmann, B., Klug, H. J. P., & Maier, G. W. (2018). The path is the goal: How transformational leaders enhance followers' job attitudes and proactive behavior. *Frontiers in Psychology*, 9, 2338. <https://doi.org/10.3389/fpsyg.2018.02338>.
- Stockwellsafety (2022). How do 'individual factors' impact health and safety. <https://stockwellsafety.com/how-do-individual-factors-impact-health-and-safety/#:~:text=Every%20human%20being%20is%20%20unique,and%20%20attributes%20to%20the%20%20work>.
- Subedi, R. (2021). Entrepreneurial performance construct, its dimensions, measures, and issues. *Interdisciplinary Journal of Management and Social Sciences*, 2(1), 172-179. <https://doi.org/10.3126/IJMSS.V2I1.36756>
- Thailand board of investment (2022). *Medical device industry in Thailand*. [https://www.boi.go.th/upload/content/Infopack\\_MedDevice.pdf](https://www.boi.go.th/upload/content/Infopack_MedDevice.pdf)
- Thailand Nursing and Midwifery Council [TNMC] (2014). *Nursing and Midwifery Profession Act 1985 and amended (No. 2) 1997 according to the ministerial regulations and regulations of the Ministry of Public Health and the announcement Nursing Council No.3*. Nonthaburi: Jud Thong Company Limited.

- Thailand Nursing and Midwifery Council [TNMC] (2022, July). *Nursing and Midwifery Clinics*.  
<https://www.tnmc.or.th/news/407>.
- The National Health Security Office [NHSO] (2022, August,31). Operational guidelines  
Nursing and midwifery. <https://www.tnmc.or.th/images/userfiles/files/2566/nhso/05/01.pdf>.
- Thepna, A., Cochrane, B. B., & Salmon, M. E. (2023a). Advancing nursing entrepreneurship in  
the 21st century. *Journal of Advanced Nursing*. <https://doi.org/10.1111/jan.15563>.
- Thepna, A., Cochrane, B. B., & Salmon, M. E. (2023b). Self-efficacy in nurse entrepreneurs: A  
concept analysis. *Nursing Outlook*, 71(6), 102053.  
<https://doi.org/10.1016/j.outlook.2023.102053>.
- U.S. Bureau of Labor Statistics (2022). *Nursing Entrepreneur: Salary & Definition*.  
<https://bestaccreditedcolleges.org/articles/nursing-entrepreneur-salary-definition.htm>
- Uzialko, A. (2022). Family and Friends Provide a Key Lifeline for Entrepreneurs.  
<https://www.businessnewsdaily.com/9617-friends-family-business-support.html>
- Vannucci, M. J., & Weinstein, S. M. (2017). The nurse entrepreneur: Empowerment needs,  
challenges, and self-care practices. *Nursing: Research & Reviews*, 7, 57-66.  
<https://doi.org/10.2147/NRR.S98407>
- Waite, A. (2019). Highlighting the lived experience of nurse practitioners in independent practice.  
*Journal for Nurse Practitioners*, 15(10), 787-791.  
<https://doi.org/10.1016/j.nurpra.2019.07.020>
- Wilson, A., Averis, A., & Walsh, K. (2003). The influences on and experiences of becoming nurse  
entrepreneurs: A Delphi study. *International Journal of Nursing Practice*, 9(4), 236–245.  
<https://doi.org/10.1046/j.1440-172x.2003.00426.x>.

- Yukl, G. (2012). Effective leadership behavior: What we know and what questions need more attention. *Academy of Management Perspectives*, 26(4), 66-85. <https://doi.org/10.5465/amp.2012.0088>
- Zhao, H., Seibert, S. E., & Lumpkin, G. T. (2010). The relationship of personality to entrepreneurial intentions and performance: A meta-analytic review. *Journal of Management*, 36(2), 381-404. <https://doi.org/10.1177/0149206309335187>
- Zin, M. L. M., & Ibrahim, H. (2020). The influence of entrepreneurial supports on business performance among rural entrepreneurs. *Annals of Contemporary Developments in Management & HR*, 2(1), 31-41. <https://doi.org/10.33166/ACDMHR.2020.01.004>
- Zulkosky, K. (2009). Self-efficacy: A concept analysis. *Nursing Forum*, 44 (2), 93-102. <https://doi.org/10.1111/j.1744-6198.2009.00132.x>

## **Chapter 2. Factors influencing nursing entrepreneurship: A scoping review**

## **Abstract**

**Objectives:** To assess and synthesize the literature on nursing entrepreneurship and identify gaps regarding factors influencing nursing entrepreneurship.

**Design:** A scoping review design was used to conduct this literature review.

**Data Sources:** Five electronic databases were searched: PubMed, CINAHL, EMBASE, PsycINFO, and Web of Science, with a focus on research articles published between January 2011 and June 2023 related to nursing entrepreneurship, such as nurse-led primary care clinics, nursing businesses or companies. Additionally, the search was limited to articles that were published in English and available in full-text within peer-reviewed journals.

**Review Methods:** The scoping review was based on Arksey and O'Malley's 2005 methodological approach and further refined by the PRISMA guideline for scoping reviews.

**Results:** Multiple levels of influence on nursing entrepreneurship were identified and categorized using a social-ecological model at the following levels: individual (knowledge and skills in entrepreneurship, characteristics of nurse entrepreneurs, entrepreneurial leadership, clinical and management experience, and social support); interpersonal (professional networks), organizational (healthcare organizations, the scope of legal/regulatory practices, and the new role of the professional nurse entrepreneur); community (social entrepreneurship and social capital); and public policy (healthcare policies and small business support).

**Conclusion:** The results of this scoping review offer valuable insights that lay a foundation for future research and education to advance the professional role of nursing entrepreneurship, which is essential for addressing the healthcare needs of broad populations of individuals.

**Impact:** This review highlights factors influencing nursing entrepreneurship, emphasizing the unique aspects of these differences from other forms of entrepreneurship, which should be addressed in nursing education and training programs, as well as research.

**Patient or Public Contribution:** The findings contribute to nursing entrepreneurial education, training, and development of nurse entrepreneurs in other health settings and their nursing businesses. Findings also lead to recommendations for nursing organizations and healthcare policy.

**Keywords:** Nursing entrepreneurship, Nurse entrepreneur, Nursing businesses, Nursing education.

## **Background**

In the 21st century, healthcare entrepreneurship has assumed a critical role within the economy. Healthcare enterprises now hold prominent positions in the shifts occurring across both public and private healthcare sectors, giving rise to innovative start-ups. The global healthcare industry is enormous and continues to grow, with its market size set to exceed \$7,500 billion in 2022 and expected to increase to \$10,000 billion by 2026 (Reportlinker, 2022). Consequently, entrepreneurship within the healthcare industry holds considerable economic opportunity. Healthcare enterprises are playing a pivotal role in the significant changes happening within both public and private healthcare sectors, and numerous new start-ups are emerging due to this transformative environment. Despite these developments, the prevalence of nursing entrepreneurship is only 0.5%–1% of all working nurses globally (Jakobsen et al., 2021), which means there is an enormous potential for entrepreneurship in the nursing profession due to people's need for healthcare services and the capability of nurses to address these needs. Nurse entrepreneurs can play an essential role in the healthcare system by supporting the development of targeted services such as nursing clinics. Nurses can also enhance businesses by developing and distributing medical products or devices, offering direct patient care or patient advocacy, educating, or training other professionals or community members, and providing healthcare-related consultations, among other functions (Vannucci & Weinstein, 2017). A review of the existing literature shows that nurse entrepreneurs currently operate nursing businesses in the public and private healthcare sectors. Several types of nursing businesses exist, such as independent nursing practices, nurse-owned skilled nursing facilities, and consultancy agencies (Sanders & Kingma, 2012).

Trends in the current general health of the global population significantly impact healthcare systems worldwide. These trends include factors such as the increasing number of older individuals, the growing prevalence of chronic diseases, the rising burden of mental health issues, outbreaks of infectious diseases like the recent COVID-19 pandemic, population diversity, and persistent disparities in healthcare accessibility and delivery (Thepna et al., 2023a). To tackle these complex trends effectively, it is crucial to improve the availability and quality of healthcare services. In this context, nurses, especially those with entrepreneurial skills, have the potential to play a pivotal role in delivering healthcare that effectively addresses these evolving challenges (Thepna et al., 2023b).

The understanding of nursing entrepreneurship differs from other disciplines, as it requires nursing professionals and leaders to establish healthcare-related businesses with a primary focus on delivering high-quality care and ensuring patient safety. This involves adhering to nursing standards and regulations rather than prioritizing profit (Neergard, 2021; Thepna et al., 2023b). Nurses now have the opportunity to expand their skill set beyond the bedside, explore entrepreneurship, and take on leadership roles in population health management, supporting equal access to healthcare services for all populations (Vannucci & Weinstein, 2017).

A nurse entrepreneur is defined as someone who owns a business providing direct nursing care, education, research, administration, or consultation (Sanders & Kingma, 2012, p7). Nurse entrepreneurs can play a crucial role in social justice by supporting the development of targeted services involving direct care or consultancy. Sanders and Kingma (2012) identify nurse-led units, clinics, emergency services, telephone consultation services, and nurse-owned nursing homes as characteristic examples of entrepreneurial nursing. Successful nurse entrepreneurs contribute to social support by providing direct care as independent practitioners or within nurse-

led group practices that offer case management, product development, consulting, or educational services (Vannucci & Weinstein, 2017).

Launching and running a nursing entrepreneurship successfully can be challenging, as represented by factors relevant to The Socio-Ecological Model, a broad-based conceptual model depicting basic ecological principles of human behavior (Lee et al., 2017). In an extensive review of various ecological models, Lee et al. (2017) explained that the core principles of an ecological model indicate there are multiple influences on an individual's behaviors, including factors at the intrapersonal and interpersonal levels, with increasing influence at organizational, community, and public policy levels. Many authors have indicated that nurse entrepreneurs face barriers to individual factors, such as lacking the necessary knowledge and skills, characteristics, and leadership competencies to manage a healthcare business (Arnaert et al., 2018; Neergard, 2021; Sharp & Monsivais, 2014). Moreover, entrepreneurship approaches incorporate creativity and innovation, which nurse entrepreneurs do not always apply in business (da Silva Copelli et al., 2019). These essential skills in entrepreneurial nursing can lead to business success. Healthcare operational skills are also essential, including staff management, financial management, marketing, strategic planning, and business planning based on ethics and a clear understanding of relevant healthcare laws (Copelli et al., 2017; Jahani et al., 2018). In addition, nursing entrepreneurship is shaped by various interpersonal factors at different levels, such as professional networks that enable nurse entrepreneurs to access resources and forge collaborations, often with other healthcare professionals (Kagan et al., 2023). Organizational factors, such as healthcare organizations and legal/regulatory practices, can either support or challenge nurse entrepreneurs (Jahani et al., 2016; Layton et al., 2022), who may work within or outside traditional healthcare institutions and must navigate complex regulations (Jahani et al., 2016). Community factors

emphasize the growing role of social entrepreneurship (D'Souza & Scahill, 2020), requiring nurse entrepreneurs to build trust and relationships within communities to address healthcare needs effectively. Public policy factors encompass healthcare policies and government support for small businesses, which can either facilitate or hinder nurse entrepreneurs (Kirkman et al., 2018; Wall, 2015). Nurse entrepreneurs can drive innovation and improve healthcare services by understanding and responding to these multifaceted factors.

Previous studies addressing factors influencing nursing entrepreneurship have identified specific cases of nurse entrepreneurs but have yet to be comprehensive or synthesized. Furthermore, it is crucial to specify the unique aspects of nurses and nursing entrepreneurship, emphasizing the importance of understanding and explicitly acknowledging these differences. Therefore, a thorough review and synthesis of the literature on nursing entrepreneurship are necessary to identify both existing knowledge and gaps in the current understanding of the factors influencing nursing entrepreneurship.

## **Objectives**

The objective of this review was to assess and synthesize the literature on nursing entrepreneurship and identify knowledge and gaps regarding factors that influence nursing entrepreneurship.

## **Methods**

### ***Design***

A scoping review was performed by systematically searching, selecting, and synthesizing existing literature to map key concepts in an area of research that has yet to be comprehensively reviewed and with limited literature focused on the factors influencing nursing entrepreneurship. The scoping review was conducted in line with the Arksey & O'Malley (2005) framework. This

review is helpful in identifying knowledge gaps, setting research agendas, and identifying implications for decision-making that are reported in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guideline for scoping reviews (Tricco et al., 2018).

The approach outlined by Arksey & O'Malley (2005) has five stages of analysis: 1) Identification of research questions, 2) Identification of relevant studies, 3) Selection of studies, 4) Mapping of data, and 5) Collating and summarizing, and reporting the results.

***Stage 1: Identification of research questions***

The first stage involved identifying a broad, clearly articulated research question to serve as the basis for the subsequent stages of the review. Consistent with the aim above, our study was guided by the research question, “What are factors that influence nursing entrepreneurship?”

***Stage 2: Identification of relevant studies: Search methods***

This stage involved balancing the breadth and depth of the scoping review with feasibility. Exploration of nursing entrepreneurship was accomplished through a literature search of five electronic bibliographic databases of, EMBASE, PubMed, CINAHL, PsycINFO, and Web of Science, as the databases of choice to obtain a reasonable breadth of literature for this review. We searched for published full-text articles. The search terms of interest for this review were identified as ‘entrepreneurship’, ‘entreprene\*’, ‘nursing’, and ‘nurse,’ which were used as keywords to access a broad range of papers. The referenced literature covered the ten-year period from January 2011 to June 2023. The specific search terms are included in Table 1.

**Table 2.1** Search strategy

<b>Database</b>	<b>Terms of interest</b>
<b>Embase</b>	('entrepreneurship'/exp OR entreprene*) AND ('nurse'/exp OR nurse) AND [embase]/lim
<b>PubMed</b>	("Entrepreneurship"[Mesh] OR entreprene*) AND ("Nurses"[Mesh] OR nurses)
<b>CINAHL</b>	(MH "Entrepreneurship" OR Entrepren*) AND (MH "Nurses+" OR nurses OR MH "Nursing Role")
<b>PsycINFO</b>	(DE "Entrepreneurship" OR entreprene*) AND (DE "Nurses" OR DE "Psychiatric Nurses" OR DE "Public Health Service Nurses" OR DE "School Nurses" OR nurses OR nurse)
<b>Web of Science</b>	ALL= (entrepreneu* AND nurses)

***Stage 3: Selection of studies: Inclusion and exclusion criteria***

We sought to identify all published articles on nursing entrepreneurship. Our search terms returned a broad range of results, many irrelevant to our topic of interest. To determine which articles would be included in this review, the review authors agreed on initial selection criteria based on the research question: journal articles focused on nursing entrepreneurship in nurse-led primary care clinics (nurse clinicians), nurse entrepreneurs or self-employed nurses; qualitative and quantitative studies; English-only language; and published full-text articles in peer-reviewed journals. Papers that were excluded by our team fell into two categories; one group of papers did not meet the inclusion criteria, and another group was clearly out of scope/irrelevant to our present topic, such as grey literature (e.g., book reviews, theses, brief items, narrative

reviews, expert opinion, editorials, letters to the editor). Once the search was completed, we screened all the publications for eligibility based on relevance by reviewing the title and abstract, followed by a full-text analysis and synthesis process.

#### ***Stage 4: Mapping of data***

After selecting studies for review, we mapped the data extracted from the included studies and classified the information according to the main issues and participants in the study. The table was designed after the full-text screening, as the reviewers had developed some familiarity with the literature. The data extracted directly corresponded to our stated research question. A draft analytic frame was developed to document the characteristics of selected studies. (See Table 2.)

#### ***Stage 5: Collating, summarizing, and reporting results***

The types of studies conducted and the audiences relevant to each study were identified. Results were also included in Table 2 to provide insight into the current literature on nursing entrepreneurship. The information was thematically organized during and after the full-text review by identifying the topics of each paper and synthesizing them into common themes. These results were synthesized in Table 3 to help identify knowledge and gaps regarding factors that influence successful nursing entrepreneurship.

#### ***Quality appraisal***

Critical appraisal was conducted to assess bias in the included studies; however, in adherence to the methodology of the PRISMA Extension for Scoping Reviews (PRISMA-ScR) (Tricco et al., 2018), no articles were excluded based solely on this appraisal. The evaluation utilized the Joanna Briggs Institute appraisal checklist for qualitative research (Lockwood et al., 2015) for qualitative studies and the analytical cross-sectional studies checklist (Moola et

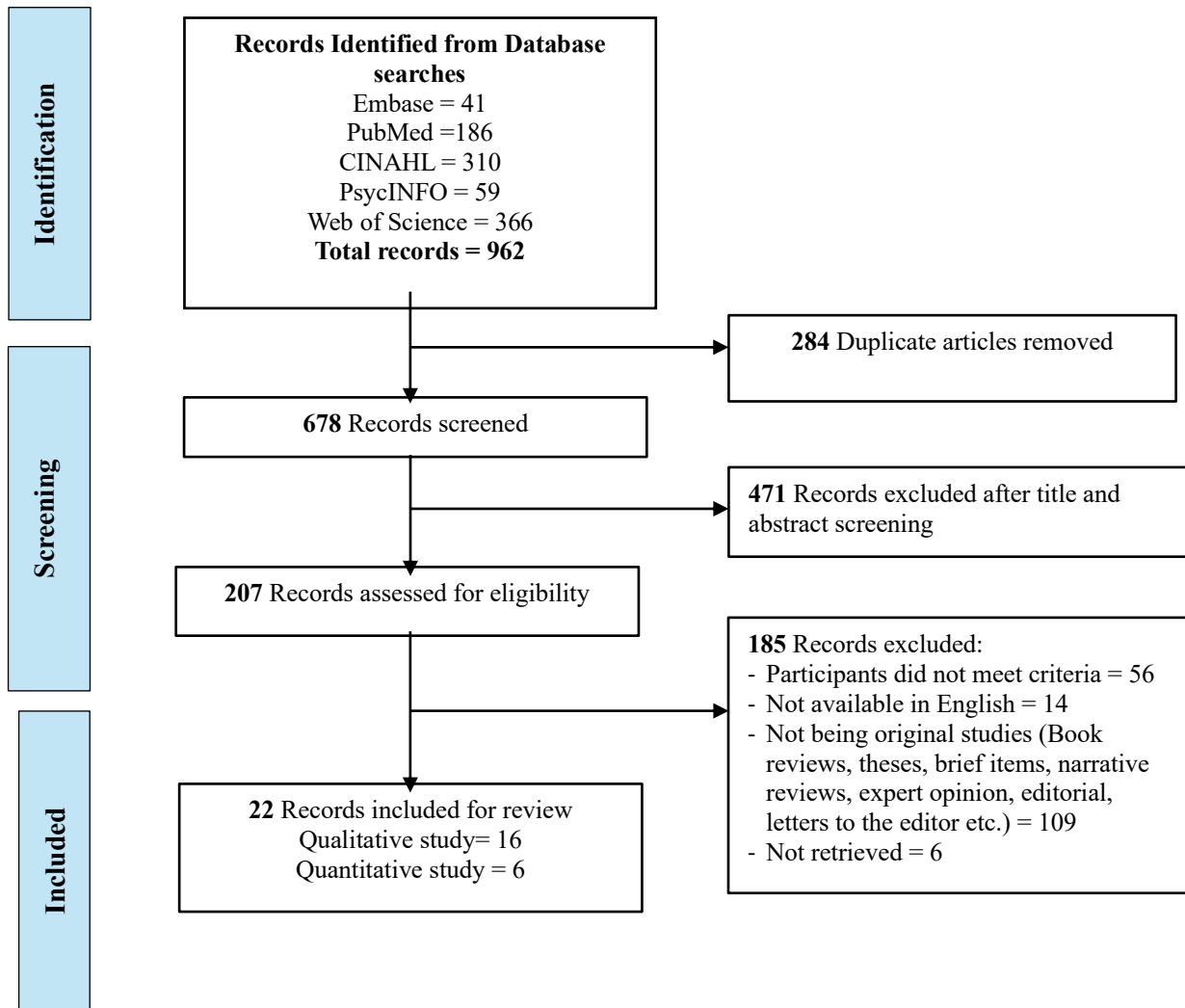
al.,2020) for quantitative studies. Two independent reviewers performed this critical appraisal process on the selected articles.

## **Results**

### ***Selection of sources of evidence***

The five electronic database searches yielded a total of 962 records. Duplicates were removed (n = 284), and 678 records were retained. The relevance of the title and abstract to nursing entrepreneurship was then screened, leaving 207 records accessed for eligibility review. Another 185 articles were excluded based on established criteria following that review, and in the end, 22 articles were included in this study for review. The study search and selection processes are shown in Figure 1. The most common reason for excluding an article from the review was that it needed to be about or include information about the healthcare business of nurse entrepreneurs.

**Figure 2.1** PRISMA 2020 flow chart of scoping review search



### *Characteristics of sources of evidence*

The name(s) of the study author(s), publication years, study purpose, countries of origin, study design, sample, and the findings on factors influencing nursing entrepreneurship are summarized in Table 2. The examined articles were published between January 2011 to June 2023. Of the 22 studies included in the review, 16 were qualitative studies, and 6 were quantitative studies. Qualitative methods involved individual interviews, ethnographic, phenomenological, systematic reviews and meta-analyses, and narrative inquiry. The methods of the quantitative

studies involved data description, a randomized controlled trial, and secondary analysis. The included studies spanned various countries, with five conducted in the United States, four in Canada, three in Brazil, two each in Iran, Korea, and New Zealand, and one each in Denmark, Israel, Nigeria, and Norway.

**Table 2.2** Characteristics of research studies included (n=22)

	<b>Author, year</b>	<b>Purpose</b>	<b>Country</b>	<b>Design</b>	<b>Sample</b>	<b>The findings on factors influencing nursing entrepreneurship</b>
1	D'Souza & Scahill (2020)	Explore nurses' views as to whether they see community pharmacists as entrepreneurial and what this might mean for working together in primary care.	New Zealand	Qualitative; semi-structured interviews	18 nurses from primary care, nursing professional bodies and academics from nursing schools	1) Individual 2) Professional 3) National policy 4) Professional leadership 5) Social entrepreneur
2	de Carvalho Andrade et al. (2015)	Identify and characterize nursing companies managed by entrepreneur nurses registered on Commercial Registry of São Paulo	Brazil	Quantitative ; descriptive; exploratory	196 active companies administered by nurse entrepreneurs on Commercial	Creation, management, and search for market alternatives that aim to provide human care based on creativity and innovation.

	<b>Author, year</b>	<b>Purpose</b>	<b>Country</b>	<b>Design</b>	<b>Sample</b>	<b>The findings on factors influencing nursing entrepreneurship</b>
					Registry of Sao Paulo	
3	Fraser & Schwaind (2011)	Explore potential of guided creative narrative reflection and metaphor in professional development of enterprising individuals in business and nursing.	Canada	Qualitative; narrative inquiry	2 Canadian enterprising individuals.	Guided creative and critical reflection on lived experiences helps enterprising individuals in business and nursing to recreate knowledge and understanding of themselves, leading to improved workplace discourse.
4	Frisch-Aviram et al. (2021)	Expand understanding of how and when street-level bureaucrats might use entrepreneurial strategies to directly influence policy design	Israel	Quantitative ; randomized field experiments	158 nurses in community-based network of maternal and child healthcare clinics	Policy entrepreneurship training

	<b>Author, year</b>	<b>Purpose</b>	<b>Country</b>	<b>Design</b>	<b>Sample</b>	<b>The findings on factors influencing nursing entrepreneurship</b>
5	Jahani et al (2016)	Describe Iranian entrepreneur nurses' perceived barriers to entrepreneurship in order to identify the existing barriers.	Iran	Qualitative; semi-structured interviews	13 entrepreneur nurses	1) Traditional nursing structure 2) Legal limitations 3) Traditional attitudes of governmental managers 4) Unprofessional behaviors of colleagues 5) Morality and ethics in nurse entrepreneurs
6	Jahani et al. (2018)	Describe experiences of Iranian entrepreneurs on identification of proper opportunities in entrepreneurship	Iran	Qualitative; semi-structured interviews	13 entrepreneur nurses	Entrepreneurial opportunity 1) Resources for opportunity identification 2) Opportunity assessment 3) Identification of proper opportunities.
7	Jakobsen et al. 2021	Explore experiences and perspectives of nurses'	Denmark	Qualitative; semi-	9 nurse entrepreneurs	1) Prejudice towards entrepreneurship

	<b>Author, year</b>	<b>Purpose</b>	<b>Country</b>	<b>Design</b>	<b>Sample</b>	<b>The findings on factors influencing nursing entrepreneurship</b>
		transition into entrepreneurship in clinical and cultural nursing setting and impact of entrepreneurship on nurses' role and professional identity.		structured interviews		2) To become an entrepreneur in a nursing culture 3) Rebellion against the traditional role as employee 4) Challenged professional identity and new professional roles
8	Kagan et al. (2023)	Understand differences in baseline confidence levels in starting a new venture, start-up, or project in the context of nurse-led hackathons.	USA	Quantitative ; retrospective secondary analysis	234 nurses and nursing students	1) Confidence 2) Desirable Hackathon outcome including: 2.1 Improve yourself & learn new skills (broadening of perspectives, living up to one's potential) 2.2 Practice innovation skills (create new product/service)

	<b>Author, year</b>	<b>Purpose</b>	<b>Country</b>	<b>Design</b>	<b>Sample</b>	<b>The findings on factors influencing nursing entrepreneurship</b>
						2.3 Collaborate with nurse.
9	Kim & Lim (2022)	Explore factors influencing nurses' entrepreneurial intentions.	Korea	Qualitative; a systematic review and meta-analysis	386 nurses	1) Nurse's entrepreneurial intention 2) Attitude, subjective norm, perceived behavioral control 3) Entrepreneurial orientation 4) Personality
10	Kirkman et al. (2018)	Explore innovative activities of primary care nurse practitioners as socially entrepreneurial.	New Zealand	Qualitative; a semi-structured interviews	7 nurse practitioners working in primary care	1) Nursing model of care aligned with social entrepreneurship (education [e.g., business model], policy, funding support) 2) Building social capital to collaborative relationships.
11	Layton et al. (2022)	Perform assessment of learning needs to identify gaps in business and	USA	Quantitative ; descriptive	102 APRN represented 5 NP professional	1) Confidence in business and operational skills - - i.e., maintaining daily business operations, marketing services

	<b>Author, year</b>	<b>Purpose</b>	<b>Country</b>	<b>Design</b>	<b>Sample</b>	<b>The findings on factors influencing nursing entrepreneurship</b>
		operational skills among APRNs in Southeast; identify APRNs' learning preferences for addressing skill gaps.		survey design	organizations and 4 states (Alabama, Tennessee, Florida, Mississippi)	2) Establishment of reimbursement services, mitigation of risk, maintaining regulatory compliance, and selecting financial/administrative operating systems.
12	Lim et al. (2020)	Identify trends regarding nursing start-ups as reflected by YouTube content	Korea	Quantitative ; secondary data analysis-based survey	16 nurse experts (Five nurse entrepreneurs, five nurse managers, one nursing management professor, and	Competencies in business skills, such as finance and budgeting, help establish active policy support for these start-ups.

	<b>Author, year</b>	<b>Purpose</b>	<b>Country</b>	<b>Design</b>	<b>Sample</b>	<b>The findings on factors influencing nursing entrepreneurship</b>
					five master's or doctoral students majoring in business administration)	
13	Neergard (2022)	Explore how nurse entrepreneurs' ethical concerns influence their pursuit of entrepreneurial opportunities.	Norway	Qualitative; in-depth, narrative interviews	11 nurse entrepreneurs	Ethical concerns: 1) leading to an entrepreneurial opportunity 2) while engaged in an opportunity formation
14	Richter et al. (2019)	Identify challenges to development of entrepreneurial behaviors,	Brazil	Qualitative; exploratory study, in-	12 female nurses working in strategic	The development of entrepreneurial behaviors represented by:

	<b>Author, year</b>	<b>Purpose</b>	<b>Country</b>	<b>Design</b>	<b>Sample</b>	<b>The findings on factors influencing nursing entrepreneurship</b>
		from perspective of nurses in strategic leadership position		depth interview	leadership position in health organizations and services of municipality in southern Brazil.	1) Movements of entrepreneurial actions by nurses in strategic positions of leadership 2) Being an entrepreneur in a strategic leadership position and (im)mobilizing situations 3) Learning to be an entrepreneur: challenges of advanced responsibility.
15	Sharp & Monsivais (2014)	Describe difficulties associated with business- related aspects of practice in role transition of rural nurse practitioners (NPs); give practice implications	USA	Qualitative; ethnography , interview	24 rural NPs living throughout USA	The necessary skills and knowledge needed to manage clinic ownership, including, 1) The Scope of practice for NPs is regulated by the board of nursing 2) Business skills, including reimbursement management; managerial skills; and maintaining billing, accounting, and financial records

	<b>Author, year</b>	<b>Purpose</b>	<b>Country</b>	<b>Design</b>	<b>Sample</b>	<b>The findings on factors influencing nursing entrepreneurship</b>
						3) Role conflict
16	Trombeta et al. (2020)	Understand nurse entrepreneur experience in long term institutions for elderly; elaborate theoretical model regarding that experience process	Brazil	Qualitative; grounded theory, interview	10 Long Term Institutions for Elderly (LTIE) nurse owners in state interior of São Paulo	Insight of nurse entrepreneurs' experience with LTIE; 1) Foreseeing LTIE as promising business with aging population 2) Discovering self as lacking business training/experience for social enterprise 3) Changing from preservation, expansion, and business abandonment
17	Ubochi et al. (2021)	Explore perception of entrepreneurship among nurses and develop a mid-range theory that explains meaning and practices of	Nigeria	Qualitative; grounded theory, in-depth interview	20 Nurse entrepreneurs in Southeastern Nigeria	1) Education and expertise, passion for creativity, and positive creative climate 2) Passion for caring, need for recognition, and desire to leave a legacy

	<b>Author, year</b>	<b>Purpose</b>	<b>Country</b>	<b>Design</b>	<b>Sample</b>	<b>The findings on factors influencing nursing entrepreneurship</b>
		entrepreneurship among nurses.				<p>3) Professionalizing in nursing motivated by specialized training and retraining, practicing with autonomy, research, and ethical code</p> <p>4) Need for leadership, financial independence, status enhancement, and time flexibility</p> <p>5) Need for business savvy driven by opportunity identification, health risk management, and health marketing</p> <p>6) Desire for job creation and wealth generation.</p>
18	Vannucci & Weinstein (2017)	Better understand experiences and challenges of nurse entrepreneurs.	USA	Quantitative ; cross-sectional	44 nurse entrepreneurs	<p>1) Self-care practices</p> <p>2) Psychological empowerment, such as meaning/purpose, having an impact, need for growth, and getting to make decisions</p>

	<b>Author, year</b>	<b>Purpose</b>	<b>Country</b>	<b>Design</b>	<b>Sample</b>	<b>The findings on factors influencing nursing entrepreneurship</b>
						<p>3) Structural empowerment, such as financial gain and job or organizational constraints.</p> <p>3) Some work/life balance challenges, such as juggling multiple roles in business, balancing one's own needs with others, time management, and addressing family and business needs.</p> <p>4) Biggest challenges to success identified (such as implementing a marketing strategy, networking, and accessing mentorship) were all related to relying on connections with others</p>
19	Waite (2019)	Explore lived experience of NPs in independent practice.	USA	Qualitative; phenomenology, interview	17 nurse practitioners in four states (Idaho, New	<p>1) Four core themes emerged from NPs' narratives:</p> <p>1.1 Questioning e.g., disappointment with medical system, unsatisfied with limitations</p>

	<b>Author, year</b>	<b>Purpose</b>	<b>Country</b>	<b>Design</b>	<b>Sample</b>	<b>The findings on factors influencing nursing entrepreneurship</b>
					Mexico, Oregon, and Washington) and District of Columbia.	placed on practice, Frustration stemmed from large patient loads and corporate business models focused on increasing productivity via high-volume patient processing compromised patient care.  1.2 Self-directing (and need for control)  1.3 Transforming  1.4 Achieving fulfillment  2) Barriers, such as job satisfaction and empowerment in self-employment.
20	Wall (2013)	Illuminate important issues about nursing professionalism, nurses' work environments and	Canada	Qualitative; ethnography , interview	20 self-employed nurses in western Canada.	1) Responding to system restructuring 2) Going into business 3) Expanding scope of nursing practice 4) Dealing with consequences

	<b>Author, year</b>	<b>Purpose</b>	<b>Country</b>	<b>Design</b>	<b>Sample</b>	<b>The findings on factors influencing nursing entrepreneurship</b>
		nursing's contribution to healthcare delivery				5) Making a difference  6) Unresolved issues regarding recognition, regulation, and funding of independent nursing practice.  7) Health system change
21	Wall (2014)	Explore self-employed nurses' work experiences.	Canada	Qualitative; ethnography , interview	20 self- employed nurses	1) Entrepreneurial risks  2) Change strategies such as capitalizing on opportunities, preparing for innovative work, managing, and expanding scope of nursing practice, and building new ideas on foundational nursing knowledge and experience.  3) Non-traditional approach to nursing practice

	<b>Author, year</b>	<b>Purpose</b>	<b>Country</b>	<b>Design</b>	<b>Sample</b>	<b>The findings on factors influencing nursing entrepreneurship</b>
22	Wall (2015)	Explore and discuss characteristics of professional caring work in nursing and ways in which these relate to precariousness.	Canada	Qualitative; ethnography, interview	20 self-employed nurses	1) Experiences of self-employed nurses 2) Motivations for transitioning to self-employment 3) Complexity and ambiguity of precariousness in self-employment 4) Policy 5) Support

***Thematic findings***

We used a social-ecological model (Lee et al., 2017) to identify and separate factors influencing nursing entrepreneurship among nurse-led primary care clinics and nurse entrepreneurs or self-employed in various nursing enterprises. This model considers a variety of levels of influence and contextualizes these factors as individual, interpersonal, organizational, community, and public policy. Table 3 summarizes these five levels of factors that influence nursing entrepreneurship by identifying themes and sub-themes from the studies reviewed.

**Table 2.3** Study themes and sub-themes related to factors that influence nursing entrepreneurship

<b>A social-ecological model</b>	<b>Themes</b>	<b>Sub-themes</b>
Individual factors	1. Knowledge and skills in entrepreneurship	1.1 Entrepreneurial management 1.2 Business skills 1) Business model and business plan 2) Managerial skills 3) Administrative operating systems 4) Operational skills 1.3 Strategic planning 1.4 Marketing 1) Market alternatives 2) Marketing services 3) Health marketing 4) Marketing strategy

A social-ecological model	Themes	Sub-themes
		<p>1.5 Financial management</p> <ul style="list-style-type: none"> <li>1) Reimbursement management</li> <li>2) Finance and budgeting, maintaining billing, accounting, and financial records</li> </ul> <p>1.6 Entrepreneurial opportunity</p> <p>1.7 Creativity and innovation</p> <p>1.8 Clinic management</p> <ul style="list-style-type: none"> <li>1) Patient outcomes/ quality of care</li> </ul> <p>1.9 Scope of practice</p> <p>1.10 Entrepreneurial risks</p> <p>1.11 Time management</p> <p>1.12 Morality and ethics in nurse entrepreneurs</p> <p>1.13 Policy entrepreneurship</p>
	<p>2. Characteristics of nurse entrepreneurs</p>	<p>2.1 Entrepreneurial self-efficacy or confidence in business</p> <p>2.2 Personality in nurse entrepreneurs</p> <p>2.3 Entrepreneurial attitude</p> <p>2.4 Entrepreneurial intention</p> <p>2.5 Entrepreneurial orientation</p> <p>2.6 Being self-directing and the need for control</p> <p>2.7 Self-care practices</p>

A social-ecological model	Themes	Sub-themes
		2.8 Motivation 2.9 Empowerment 2.10 Role conflict
	3. Entrepreneurial leadership	Professional leadership
	4. Clinical and management experience	4.1 Experiences of self-employed nurses
	5. Social support	5.1 Social support e.g., family, friends, experts 5.2 Mentorship 5.3 Connections
Interpersonal factors	Professional networks	Collaborate inter-professionally
Organizational factors	1. Healthcare organizations	Funding models in healthcare
	2. Scope of legal/regulatory practices	Managing and expanding scope of legal/regulatory practices
	3. New role of professional nurse entrepreneur	3.1 Professional identity and professional nurse entrepreneur roles 3.2 Nurse entrepreneur structure
Community factors	1. Social entrepreneurship	Community engagement
	2. Community resources	Social capital
	1. Healthcare policy	1.1 Healthcare policy

A social-ecological model	Themes	Sub-themes
Public policy factors		1.2 Policy entrepreneurship
	2. Small business support	2.1 Funding support 2.2 Policymakers

### **Individual factors**

We found several studies that identify individual factors important in nursing entrepreneurship, including knowledge and skills in entrepreneurship, characteristics of nurse entrepreneurs, entrepreneurial leadership, clinical and management experience, and social support.

#### ***1) Knowledge and skills in entrepreneurship***

Insights into the knowledge and skills of nurse entrepreneurs in entrepreneurship encompass various facets. These include entrepreneurial management as highlighted by de Carvalho Andrade et al. (2015), Fraser and Schwaing (2011), and Sharp and Monsivais (2014). Additionally, business skills, including proficiency in business models and plans, have been emphasized by Lim et al. (2020) and Frisch-Aviram et al. (2021), among others. Managerial skills, administrative operating systems, and operational skills are crucial elements identified in the research (Layton et al., 2022). The importance of strategic planning, marketing strategies, and an understanding of market alternatives and services has been underscored by various studies (de Carvalho Andrade et al., 2015; Sharp & Monsivais, 2014; Ubochi et al., 2021; Vannucci & Weinstein, 2017). Financial management is a key aspect, covering reimbursement management, finance and budgeting, and the maintenance of billing, accounting, and financial records (Layton et al., 2022; Lim et al., 2020; Sharp & Monsivais, 2014; Ubochi et al., 2021). Entrepreneurial

opportunity, creativity, and innovation are also highlighted as essential components for nurse entrepreneurs (de Carvalho Andrade et al., 2015; Jahani et al., 2018; Kagan et al., 2023). Clinic management, including patient outcomes and quality of care, falls within the purview of nurse entrepreneurs, as indicated by Neergard (2022) and Sharp and Monsivais (2014). The scope of practice, as well as an understanding of entrepreneurial risks, is emphasized by multiple studies (Jahani et al., 2016; Jakobsen et al., 2021; Ubochi et al., 2021; Wall, 2014, 2015). Time management, morality, and ethics are identified as crucial factors for nurse entrepreneurs, with research findings pointing to their significance (Jahani et al., 2016; Neergard, 2022; Ubochi et al., 2021; Vannucci & Weinstein, 2017). Lastly, policy entrepreneurship is recognized as a critical domain in nurse entrepreneurship, as highlighted by Frisch-Aviram et al. (2021).

## ***2) Characteristics of nurse entrepreneurs***

After reviewing these studies, we found that the characteristics of nurse entrepreneurs are individual factors that influence nursing entrepreneurship. These characteristics include entrepreneurial self-efficacy or business confidence (Kagan et al., 2023; Layton et al., 2022), personality in nurse entrepreneurs (Kim & Lim, 2022), entrepreneurial attitude (D'Souza & Scahill, 2020; Jahani et al., 2016; Jakobsen et al., 2021; Kim & Lim, 2022; Waite, 2019), entrepreneurial intention (Kim & Lim, 2022), entrepreneurial orientation (Kim & Lim, 2022), self-directing (Waite, 2019), self-care practices (Vannucci & Weinstein, 2017), motivation (Ubochi et al., 2021; Waite, 2019; Wall, 2015), empowerment (Vannucci & Weinstein, 2017; Waite, 2019), and role conflict (Sharp & Monsivais, 2014).

## ***3) Entrepreneurial leadership***

Studies identified entrepreneurial leadership as one of the factors influencing nursing entrepreneurship. D'Souza and Scahill (2020) studied the need to integrate entrepreneurial

identity into primary healthcare. The authors mentioned that one of the barriers to effective entrepreneurship is the need for more entrepreneurial leadership to contribute to health professional groups and create a seamless pathway for patients and policy initiatives. Similarly, the studies by Kagan et al. (2023), Sharp and Monsivais (2014), Richter et al. (2019), and Ubochi et al. (2021) found that nursing entrepreneurship involves professional leadership.

#### ***4) Clinical and management experience***

The experiences of self-employed nurses contribute to the development and embodiment of key attributes associated with professional, caring work within the field of nursing (Trombeta et al., 2020; Ubochi et al., 2021; Wall, 2015).

#### ***5) Social support***

Within the context of nursing entrepreneurial success, social support emerges as a salient individual factor. The importance of networking and accessing mentorship (Vannucci & Weinstein, 2017) both relate to relying on connections with others, including friends, family, and experts in the healthcare and nursing business (Wall, 2015). These forms of support are essential for nurse entrepreneurs as they provide opportunities for professional development and bolster support within the healthcare sector.

### **Interpersonal factors**

#### ***Professional networks***

In the review, we discerned that certain studies elucidate the significance of a nurse's professional network regarding its potency and heterogeneity (Kagan et al., 2023). Moreover, the research conducted by Jahani et al. (2016) has demonstrated the potential influence of colleagues' professional behaviors on nursing entrepreneurship. The findings of D'Souza and Scahill (2020) also align with the seamless integration of inter-professional relationships among healthcare

service providers, which plays a pivotal role in enhancing the entrepreneur's likelihood of success within the primary care domain.

### **Organizational factors**

We found some studies identifying organizational factors that are important in nursing entrepreneurship, including healthcare organizations, the scope of legal/regulatory practices, and the new role of the professional nurse entrepreneur.

#### ***1) Healthcare organizations***

The organization in which a nurse clinician works can influence their ability to engage in nurse entrepreneurs. Supportive clinic environments may offer opportunities for nurses to implement innovative practices or services. D'Souza and Scahill (2020) discovered that funding models within nursing organizations and the strategic planning conducted by a governmental health board contributed to the success of nursing entrepreneurship.

#### ***2) Scope of legal/regulatory practices***

Healthcare regulations, such as the scope of practice laws, can either facilitate or hinder nursing entrepreneurship. Regulatory barriers may need to be navigated or reformed. Therefore, many studies mention that the scope of legal and regulatory practices as governed by the board of nursing influences the management and operation of nursing entrepreneurship (Sharp & Monsivais, 2014), although some legal limitations can exist regarding the practice and roles of nurses (Jahani et al., 2016; Waite, 2019). Consequently, expanding and managing the scope of nursing practice (Jakobsen et al., 2021; Trombeta et al., 2020; Wall, 2013, 2014) enhances nursing practice, particularly in primary healthcare, such that nursing organizations should consider maintaining regulatory compliance (Layton et al., 2022), regulating independent nursing practice (Wall, 2013), or adopting non-traditional approaches to nursing practice (Wall, 2014).

### ***3) The new role of the professional nurse entrepreneur***

The transformation of healthcare has influenced changes in the healthcare system, which, in turn, has challenged the role of the professional nurse, leading to the emergence of professional identity and professional nurse entrepreneur roles (Jakobsen et al., 2021). In the traditional nursing structure, many nurses traditionally perceived their primary duties as complying with doctors' orders. Even when carrying out routine responsibilities, they often felt guided by supervisors. This mindset not only hampers nurses from embracing change and taking risks but is also exacerbated by a need for more relevant content in nursing education to familiarize students with emerging roles like entrepreneurship (Jahani et al., 2016).

#### **Community factors**

We found studies identifying social entrepreneurship and social capital at the community level to be crucial in nursing entrepreneurship.

##### ***1) Social entrepreneurship***

Social entrepreneurship in nursing at the community level involves creating innovative solutions to address healthcare challenges while considering the unique characteristics and needs of the local population. Successful social entrepreneurship in nursing businesses often requires a deep understanding of and engagement with the community they serve, along with a commitment to both financial sustainability and social impact (D'Souza & Scahill, 2020; Jakobsen et al., 2021; Kirkman et al., 2018; Trombeta et al., 2020).

##### ***2) Community resources***

Kirkman et al. (2018) indicated that social capital refers to the networks, relationships, and social connections within a community, encompassing the social norms, trust, and reciprocity

among individuals and groups within a community. Social capital can influence the success and operations of a nursing business at the community level.

### **Public policy factors**

We found studies that identify healthcare policies and small business support as factors important at the policy level in nursing entrepreneurship.

#### ***1) Healthcare policy***

National and healthcare policies, including insurance regulations, reimbursement, and policy entrepreneurship, can have a substantial impact on the viability of nursing entrepreneurship (D'Souza & Scahill, 2020; Frisch-Aviram et al., 2021; Kirkman et al., 2018; Wall, 2015).

#### ***2) Small business support***

Government programs and policies supporting small businesses and start-ups can influence the ease of entry into entrepreneurial ventures for nurses. For example, government funding support and investment in independent nursing practice (Frisch-Aviram et al., 2021; Vannucci & Weinstein, 2017; Wall, 2013), such as financial gain in nursing business, impact nursing business ventures. In addition, engaging with policymakers (Waite, 2019) is a strategy for success in the nursing business.

Analyzing these factors within the framework of a social-ecological model allows one to understand how multiple levels of influence interact and shape nursing entrepreneurship. It is important to note that these factors can vary by location and time, so a comprehensive analysis should consider the context in which nurse clinicians and nurse entrepreneurs operate.

### **Discussion**

This scoping review explored factors influencing nursing entrepreneurship at five contextual levels using a social-ecological model that includes individual, interpersonal,

organizational, community, and public policy. This review is critical because it addresses recent research on nursing entrepreneurship from countries in multiple regions across the globe. This discussion elaborated on these factors through detailed discussion and incorporated further insights from relevant research in healthcare business entrepreneurship.

## **Individual level factors**

### ***1) Knowledge and skills in entrepreneurship***

Knowledge and skills in entrepreneurship are essential for nurses looking to start and manage their nursing businesses. They not only enable nurses to provide essential healthcare services but also to establish sustainable and successful ventures in the highly competitive healthcare industry (Sindakis et al., 2016). Capelli et al. (2017) identified a lack of entrepreneurial knowledge as a barrier to business success. Similarly, Thepna et al. (2023 a) identified a general lack of necessary education, knowledge, and skills among nurses for business and entrepreneurship, despite the inclusion of more traditional curricular content on management. Maryati et al. (2020) revealed that education in entrepreneurship could foster new entrepreneurs who perform exceptionally well and succeed in nursing entrepreneurship. Considering these findings, it is logical to conclude that entrepreneurial education significantly influences business performance and success. Education helps nurture determination and advanced problem-solving skills, enhancing entrepreneurial competencies and leading to effective business performance and successful ventures (Wilson et al., 2012). This review emphasizes integrating entrepreneurial knowledge and skills into nursing education and training programs. It underscores the need for ongoing nursing education curricula development (Arnaert et al., 2018), integrating entrepreneurial management skills encompassing business acumen, strategic planning, marketing, risk and financial management, and creativity and innovation. Regarding the issue that nursing

curricula generally lack business-related content, despite the recommendations of the Institute of Medicine (2011), courses in entrepreneurial management should be developed to enable nurses to contribute to improving healthcare through novel initiatives. This knowledge and skills can empower individuals to navigate entrepreneurial processes and management, adeptly handling risk-taking. This proficiency has the potential to significantly impact businesses, laying a solid foundation for advancing their healthcare ventures toward success (Melnyk & Raderstrof, 2019).

In addition, it is important for nurse entrepreneurs to comprehend the specific nature of business. This understanding is distinct from entrepreneurs in other disciplines, because a nursing business involves nursing professionals and leaders. Nursing entrepreneurship entails the creation of healthcare-related businesses that address the demand for safe, high-quality, patient-centered, ethical, legal, and accessible care that is consistent with nursing standards (Neergard, 2022; Sharp & Monsivais, 2014). These challenges differ from other business models, focusing more on profit and productivity than regulation standards and high-quality patient care (Thepna et al., 2023b). Thus, the scope of practice, legal and ethical considerations, patient outcomes, quality of care, and healthcare policy are essential knowledge and skills nurse entrepreneurs need to be concerned about when running their business.

## ***2) Characteristics of nurse entrepreneurs***

Successful nurse entrepreneurs possess not only knowledge and skills that allow them to seamlessly integrate healthcare and business but also characteristics that will help them to be professionals. Limsong et al. (2016) identified human capital theory as encompassing individual factors that consist of the entrepreneurs' competence to influence entrepreneurial performance and success, such as demographic entrepreneur traits (gender, education level, work experience) and personality traits (self-confidence, attitude, or passion, intention). This scoping review found

similarities in characteristics of nurse entrepreneurs, such as entrepreneurial self-efficacy or business confidence, personality, entrepreneurial attitude, intention, orientation, self-directing, self-care practices, motivation, empowerment, and role conflict (Kagan et al., 2023; Kim & Lim, 2022; Layton et al.,2022; Vannucci & Weinstein, 2017; Waite, 2019). These characteristics of nurse entrepreneurs are essential for the psychological characteristics influencing successful entrepreneurs (Dehghanzadeh et al., 2016; Koe et al., 2012).

### **3) *Entrepreneurial leadership***

Entrepreneurial leadership was another individual factor influencing nursing entrepreneurship derived from this scoping review (D'Souza & Scahill, 2020; Kagan et al.,2023; Richter et al.,2019; Sharp & Monsivais, 2014; Ubochi et al.,2021). This type of leadership refers to achieving a specific set of business enterprise goals by minimizing risk and taking advantage of opportunities (Darling & Beebe, 2007). Entrepreneurial leadership emphasizes leadership through the strategic management of risk within dynamic and changing systems. Entrepreneurial leaders look for new opportunities and ways to innovate as individuals and as a team. Entrepreneurial leadership effectively enhances nurses' innovative work behavior (Bagheri & Akbari, 2018).

More attention must be focused on developing related competencies in nurse entrepreneurs to successfully manage and run the nursing business (Bagheri & Akbari, 2018; Richter et al.,2019; Sharp & Monsivais, 2014). Developing leadership skills is essential for nurse entrepreneurs as they navigate the complex healthcare industry while running their businesses. This development involves a multifaceted approach encompassing self-awareness, continuous learning, effective communication, emotional intelligence, decision-making, and problem-solving (D'Souza & Scahill, 2020; Kagan et al.,2023; Richter et al., 2019; Sharp & Monsivais, 2014; Ubochi et al., 2021). In a commentary on education, Colichi et al. (2019) suggested that when

teaching entrepreneurship in nursing, it is necessary to prepare nurses with adequate knowledge, skills, and management in leadership to increase their capacity to improve performance, integrate into the labor market, and prepare to meet the demands of a constantly changing environment. Leadership skills are honed over time, requiring dedication and practice, and nurse entrepreneurs must commit to ongoing personal growth in this regard. Leadership skills are significantly related to working performance since they help nurses feel confident about nursing professionalism and leadership in innovation and health system reform (Wall, 2013). Thus, the leadership skills of nurse entrepreneurs should receive greater attention within the scope of education and research.

#### ***4) Clinical and management experience***

This scoping review indicated that the experiences of self-employed nurses contribute to developing and embodying key attributes associated with professional, caring work within the field of nursing (Trombeta et al., 2020; Ubochi et al., 2021; Wall, 2015). Entrepreneurial management experience can have a profound and transformative impact on nurse entrepreneurs looking to establish and operate nursing businesses. Having a background in entrepreneurial management equips nurse entrepreneurs with a comprehensive skill set that transcends clinical expertise (Sharp & Monsivais, 2014). They tend to possess a deeper understanding of business fundamentals, which include financial acumen, marketing strategies, and operational efficiency (de Carvalho Andrade et al., 2015; Layton et al., 2022; Lim et al., 2020; Sharp & Monsivais, 2014; Ubochi et al., 2021; Vannucci & Weinstein, 2017). This experience empowers entrepreneurs to make informed decisions and navigate the intricacies of healthcare business effectively. Moreover, clinical and management experience fosters innovation, encouraging nurse entrepreneurs to identify novel ways to enhance patient care and administrative processes within their nursing businesses (Capezuti et al., 2013). Overall, clinical and management experience equips nurse

entrepreneurs with the tools, mindset, and agility needed to not only provide high-quality patient care but also build and sustain successful nursing businesses in a competitive healthcare market (Nurluoz et al., 2019).

### **5) *Social support***

This review found that social support is one of the individual-level factors that influence nursing entrepreneurship (Vannucci & Weinstein, 2017), such as networking and accessing mentorship, all of which are related to relying on connections with others, including friends, family, and experts in nursing businesses (Wall, 2015). Social support is understood as the resources people obtain from their social relationships and use, when faced with difficulties, to improve their business performance (Kim & Tussyadiah, 2013). In an entrepreneurial business, the support obtained from social surroundings has behavioral implications that affect the individual's likelihood of entering the entrepreneurial process and performing well in business (Stam et al., 2014). When focusing on entrepreneurship, social support refers to the potential entrepreneur's beliefs and expectations about the support they are likely to receive from groups such as family, friends, colleagues, networks, and consultants during the setting up of a business or becoming self-employed (León et al., 2007). Moreover, the support may appear in different forms, including experience sharing, role modeling, coaching, apprenticeship, networking, information sharing, motivation, guidance, and feedback (Moore & Wang, 2017). These social support efforts can transform into knowledge and skills, enabling entrepreneurs to effectively start up and manage their business ventures (Politis, 2005).

### **Interpersonal level factors**

#### ***Professional networks***

Professional networks can play a significant role in influencing nurse entrepreneurs to venture into the nursing business because they involve interaction with others in professional healthcare (D'Souza & Scahill, 2020; Jahani et al., 2016; Kagan et al., 2023). Nurses often work closely with diverse healthcare professionals, creating opportunities to build a wide-ranging network of contacts. These connections can offer valuable insights, support, and resources to aspiring nurse entrepreneurs. Through interactions with fellow nurses, physicians, administrators, and other healthcare professionals, nurse entrepreneurs can better understand the healthcare landscape, identify unmet needs or gaps in services, and access potential business partners or mentors. Moreover, their colleagues can provide guidance on navigating regulatory requirements, sharing best practices, and even referring patients or clients to the new venture (D'Souza & Scahill, 2020). In this way, a solid professional network can empower nurse entrepreneurs with the knowledge, relationships, and confidence needed to run and grow their nursing businesses successfully (D'Souza & Scahill, 2020; Jahani et al., 2016; Kagan et al., 2023).

## **Organizational level factors**

### ***1) Healthcare organizations***

Encouraging nurses to initiate their businesses within healthcare organizations where nurse clinicians operate can significantly impact their ability to engage in entrepreneurship (Breton et al., 2014). Nurse entrepreneurs may also engage in collaborations with healthcare organizations, fostering synergies between their businesses and these entities, leading to the development of new technologies, care models, or services that the organization can adopt to enhance patient care and operational effectiveness (Kagan et al., 2023). Such partnerships often result in shared resources, research opportunities, and improved patient referrals, benefiting both the entrepreneur and the healthcare organization's business (Vannucci & Weinstein, 2017). D'Souza and Scahill (2020)

identified that funding models within nursing organizations and strategic planning by the Ministry of Health and District Health Boards significantly contribute to the success of nursing entrepreneurship. By nurturing nurse entrepreneurs, healthcare organizations can adapt to evolving healthcare trends, ultimately enabling them to provide better patient care.

## ***2) Scope of legal/regulatory practices***

The scope of legal and regulatory practices plays a critical role in influencing nurse entrepreneurs to run a successful nursing business (Jahani et al., 2016; Jakobsen et al., 2021; Layton et al., 2022; Sharp & Monsivais, 2014; Trombeta et al., 2020; Waite, 2019; Wall, 2013, 2014). In the healthcare industry, adherence to laws and regulations is paramount to ensure patient safety, quality care, and ethical standards (Sharp & Monsivais, 2014). Nurse entrepreneurs must navigate a complex web of rules, such as licensing requirements, healthcare privacy laws, billing and insurance regulations, and professional standards of practice. Understanding and complying with these legal frameworks is not only essential to avoid fines and legal consequences but also to build trust with patients and stakeholders (Wall, 2014). A firm grasp of the legal landscape empowers nurse entrepreneurs to make informed decisions, manage risks effectively, and create a culture of compliance within their businesses (Layton et al., 2022). Moreover, this understanding allows them to seize opportunities within the healthcare market while mitigating potential pitfalls, ultimately contributing to their nursing businesses' long-term success and sustainability.

## ***3) The new role of the professional nurse entrepreneur***

In the evolving healthcare landscape, nurses are increasingly taking on entrepreneurial roles (Jakobsen et al., 2021) to meet the growing healthcare service demands and address unique patient needs. These nurse entrepreneurs bring their clinical expertise, compassion, and innovative thinking to the forefront of healthcare delivery. They leverage their deep understanding of patient

care to identify gaps in the system and develop innovative solutions. Moreover, nurse entrepreneurs play a pivotal role in developing and implementing cutting-edge healthcare technologies and services. Their ability to bridge the gap between clinical expertise and business acumen is invaluable, ensuring that healthcare businesses are not only profitable but also focused on providing high-quality patient care (Thepna et al., 2023b). The new role of the professional nurse entrepreneur, therefore, serves as a driving force for the success of nursing businesses, as it empowers nurses to lead, innovate, and make a lasting impact on the healthcare industry and healthcare system (Jahani et al., 2016).

### **Community level factors**

#### ***1) Social entrepreneurship***

Social entrepreneurship places a strong emphasis on creating and dealing with social and environmental impact in communities (D'Souza & Scahill, 2020; Kirkman et al., 2018). Nurse entrepreneurs, who are often driven by a passion for healthcare and improving the well-being of their communities, align well with this ethos. Integrating social missions into their enterprises, such as delivering affordable healthcare services to underserved populations or addressing specific healthcare gaps (D'Souza & Scahill, 2020), allows businesses to make a meaningful impact. Furthermore, social entrepreneurship, while not prioritizing profit, still requires implementing a revenue model that encourages innovation, sustainability, and growth. Nurse entrepreneurs can leverage this approach to develop creative solutions to healthcare challenges and introduce new technologies, services, or care delivery methods (Thepna et al., 2023a). This innovation can lead to improved patient outcomes, increased efficiency, and a competitive edge in the healthcare market. Additionally, social entrepreneurship often fosters collaborations and partnerships with various stakeholders, including nonprofit organizations, government agencies, and other

businesses. Nurse entrepreneurs can tap into these networks to access resources, expertise, and funding opportunities that can bolster their nursing businesses (Vannucci & Weinstein, 2017; Wall, 2014). Collaborative efforts can amplify their impact, enabling them to reach a broader audience and address more significant healthcare issues. Thus, social entrepreneurship provides nurse entrepreneurs with a values-driven framework that aligns with their healthcare goals, encourages innovation, and facilitates collaboration. These factors contribute to the success of nursing businesses by enhancing motivation, fostering creativity, and expanding their reach in the healthcare sector, ultimately leading to better outcomes for both the entrepreneurs and the communities they serve.

## ***2) Community resources***

Community resources play a vital role in supporting nurse entrepreneurs as they navigate the challenges inherent in establishing and managing healthcare ventures (Wison et al., 2012). Healthcare organizations are considered community resources by entrepreneurs working outside of them instead of internally developed ventures (intrapreneurship). Access to local healthcare facilities can streamline operations and reduce costs. Additionally, community-based organizations offer mentorship, guidance, and networking opportunities, enabling nurse entrepreneurs to learn from seasoned professionals and connect with potential clients or patients (Kirkman et al., 2018). Moreover, community resources enhance the credibility and trustworthiness of nurse entrepreneurs' businesses. Collaborations with local hospitals, clinics, or healthcare providers can strengthen their reputation and inspire confidence in patients seeking their services. Involvement within the community fosters a sense of belonging, facilitating the development of robust patient-provider relationships and generating positive word-of-mouth referrals. Furthermore, community resources aid nurse entrepreneurs in navigating the intricate

regulatory and legal aspects of healthcare businesses (Layton et al., 2022; Sharp & Monsivais, 2014). Hence, community resources serve as the foundation for the success of nurse entrepreneurs in their healthcare businesses, providing essential support, enhancing credibility, and facilitating networking and growth opportunities (Wison, 2003). By effectively leveraging these resources, nurse entrepreneurs can not only establish thriving businesses but also contribute significantly to the overall health and well-being of their communities.

### **Public policy-level factors**

#### ***Healthcare policy in small business support***

Healthcare policy establishes the legal and regulatory parameters that govern nursing's scope of practice, which directly impacts the services they can offer in their entrepreneurial ventures (Frisch-Aviram et al., 2021; Kirkman et al., 2018; Vannucci & Weinstein, 2017; Wall, 2013, 2015). These regulations are critical for ensuring patient safety and delivering high-quality care (Neergard, 2021). Healthcare policy influences small business support, particularly funding support, and reimbursement mechanisms, such as insurance coverage and government programs, which significantly affect the financial viability of nurse-led businesses (Frisch-Aviram et al., 2021). Understanding and navigating these reimbursement structures is vital for financial sustainability (Frisch-Aviram et al., 2021). Moreover, healthcare policies can either foster or hinder the adoption of technology, including telehealth, in nursing entrepreneurship. The COVID-19 pandemic highlighted the importance of telehealth, and favorable policies can enable nurse entrepreneurs to provide innovative and accessible care (Thepna et al., 2023a). Furthermore, healthcare policies are instrumental in addressing healthcare disparities, as they determine funding allocations, access to care, and initiatives to reduce inequalities (Vannucci & Weinstein, 2017). Nurse entrepreneurs often serve as catalysts for change in this regard. Healthcare policies can

impact access to capital, whether through grants, loans, or venture capital, influencing the ability of nurse entrepreneurs to initiate and expand their businesses. In summary, healthcare policy is fundamental to nursing entrepreneurship, affecting regulatory compliance, financial sustainability, technology adoption, healthcare equity, and resource access. Nurse entrepreneurs need to be well-informed and adaptable in navigating this complex policy landscape to succeed in a dynamic healthcare environment.

## **Strengths and Limitations**

### ***Strengths***

To enhance the likelihood of integrating the findings from this scoping review into the current practical knowledge base, this study's merits encompass the employment of robust and rigorous research techniques. Furthermore, it successfully identifies both common and distinct factors that influence specific nursing entrepreneurship within the various contexts of a social-ecological model framework to encompass influencing factors. These discoveries offer valuable insights from countries in multiple regions across the globe for improving our comprehension of factors that influence nursing entrepreneurship and guidelines for developing nursing businesses, including aspects such as nursing education and training programs. This review is essential for laying a foundation for future research and education to advance this professional role, which is so essential for addressing the healthcare needs of broad populations of individuals. This review also provides recommendations for stakeholders and providers involved in the field of nursing entrepreneurship.

### ***Limitations***

This scoping review had several limitations. It excluded grey literature, such as book reviews, theses, brief items, narrative reviews, expert opinions, editorials, and letters to the editor.

Additionally, it focused solely on identifying keywords in study titles, potentially missing relevant articles, even if unrelated to the nursing business. The review also exclusively included English-language literature, excluding research published in other languages. Lastly, the studies were not evaluated for differences in design, instruments, and quality that could affect comparison.

## **Implications**

Establishing a direct connection between factors at each level and nursing entrepreneurship proved feasible. Future research must delve deeper into identifying factors that influence nursing entrepreneurship to institute suitable educational and training programs for nurse entrepreneurs and offer recommendations for nursing organizations and healthcare policy. This review provides valuable insights into the fundamental factors that could prove instrumental in shaping the future of nursing entrepreneurship and strengthening the role of nurse entrepreneurs in addressing healthcare system gaps.

In terms of individual-level factors, knowledge and skills in entrepreneurship, characteristics of nurse entrepreneurs, entrepreneurial leadership, clinical and management experience, and social support needs to focus on cultivating or improving the skills of novice or nurse entrepreneurs to fulfill their roles effectively. These factors, essential for influencing nursing business as identified in this scoping review, can be integrated into both undergraduate and graduate nursing programs. This integration can be achieved by establishing specific programs and electives or incorporating them into required theory and practice courses. Moreover, continuing education or training programs in nursing entrepreneurship should be designed to equip nurses already engaged in the field or managing their own businesses with the necessary characteristics or competencies, entrepreneurial leadership skills, and clinical management to help nurse entrepreneurs become successful in business ventures.

Enhancing and supporting systems for nurse entrepreneurs should establish mentorship and consultant systems to provide nurse entrepreneurs with guidance and support. In addition, platforms and events can be developed to facilitate networking and collaboration among nurse entrepreneurs, healthcare professionals, and healthcare organizations. This effort can facilitate connections, sharing ideas, and forming valuable partnerships to discuss problems or experiences when running a business. The collaboration between healthcare organizations and nursing entrepreneurs holds significant implications for improving funding models in the healthcare industry, expanding, and modernizing legal and regulatory frameworks to better support nurse entrepreneurs, fostering their professional identity and roles, and establishing structures that facilitate growth opportunities in healthcare businesses. Ultimately, this collaboration aims to expand healthcare services, thereby enhancing the quality and accessibility of healthcare for people.

For successful collaboration between nurse entrepreneurs and communities as social entrepreneurs in nursing, it is crucial to understand how social entrepreneurship differs from other profit-driven businesses. While other businesses prioritize profit and productivity, social entrepreneurship within nursing focuses on addressing social needs related to health in communities. This includes considering regulatory standards, ensuring high-quality patient care, and meeting the community's health requirements and resource availability. Establishing health service businesses requires nurses to adhere to and understand the role of nursing services within healthcare policies, laws, and regulations essential for standardizing healthcare in nursing entrepreneurship. Nurse entrepreneurs have the opportunity to expand their nursing roles, serving as pivotal change agents in implementing health policy, addressing disparities, and improving healthcare accessibility. Simultaneously, policymakers involved in public policy should consider

providing funding support for small healthcare businesses. These factors contribute to fostering a more robust and policy-aware nursing entrepreneurship ecosystem. They benefit developing nurse entrepreneurs and empower nurses to become drivers and leaders in population health management, ensuring equitable access to healthcare services.

## **Conclusions**

This scoping review is vital for delineating the distinctive aspects of nurses and nursing entrepreneurship. It underscores the importance of comprehending and explicitly acknowledging these differences. It identified knowledge and multiple factors that influence nursing entrepreneurship within the various contexts of a social-ecological model framework to encompass influencing factors. These discoveries offer valuable insights from countries in multiple regions across the globe for improving our comprehension of factors that influence nursing entrepreneurship and guidelines for developing nursing businesses. The findings carry implications for nursing education in academic and clinical settings, laying a foundation for education and future research to advance this vital professional role in addressing broad healthcare needs. Additionally, recommendations are offered for stakeholders, including organizations, communities, and health policy entities involved in nursing entrepreneurship. The study's results provide valuable insights for future research on developing nursing entrepreneurship and education to advance this professional role, which is essential for addressing the healthcare needs of broad populations of individuals. In Chapters 3 and 4 that follow, we utilized the findings of this study to delve into more specific individual-level factors (personality traits, transformational leadership, self-efficacy, and social support) and their influence on business success among nurse entrepreneurs in nursing and midwifery clinics.

## References

- Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology*, 8(1), 19-32. <https://doi.org/10.1080/1364557032000119616>
- Arnaert, A., Mills, J., Bruno, F. S., & Ponzoni, N. (2018). The educational gaps of nurses in entrepreneurial roles: An integrative review. *Journal of Professional Nursing*, 34(6), 494-501. <https://doi.org/10.1016/j.profnurs.2018.03.004>
- Bagheri, A., & Akbari, M. (2018). The impact of entrepreneurial leadership on nurses' innovation behavior. *Journal of Nursing Scholarship*, 50(1), 28-35. <https://doi.org/10.1111/jnu.12354>
- Breton, M., Lamothe, L., & Denis, J. L. (2014). How healthcare organisations can act as institutional entrepreneurs in a context of change. *Journal of Health Organization and Management*, 28(1), 77-95. <https://doi.org/10.1108/JHOM-07-2011-0072>
- Capezuti, E. A., Briccoli, B., & Boltz, M. P. (2013). Nurses improving the care of healthsystem elders: Creating a sustainable business model to improve care of hospitalized older adults. *Journal of the American Geriatrics Society*, 61(8), 1387-1393. <https://doi.org/10.1111/jgs.12324>
- Colichi, R. M. B., Bonini, A. B. B., & Lima, S. A. M. (2019). Entrepreneurship and Nursing: Integrative review. *Revista Brasileira de Enfermagem*, 72, 321-330. <https://doi.org/10.1590/0034-7167-2018-0498>
- Copelli, F. H. D., Erdmann, A. L., dos Santos, J. L. G., Lanzoni, G. M. D., & de Andrade, S. R. (2017). Entrepreneurship in the public university management of nursing: Obstacles and strategies. *Rev Rene*, 18(5), 577-583. <https://doi.org/10.15253/2175-6783.2017000500003>

- Darling, J. R., & Beebe, S. A. (2007). Enhancing entrepreneurial leadership: A focus on key communication priorities. *Journal of Small Business & Entrepreneurship*, 20(2), 151-167. <https://doi.org/10.1080/08276331.2007.10593392>
- D'Souza, N., & Scahill, S. (2020). The need to integrate in primary healthcare: Nurse identity constructions of pharmacists as entrepreneurs. *Journal of Health Organization and Management*, 34(8), 849-867. <https://doi.org/10.1108/JHOM-01-2020-0009>
- da Silva Copelli, F. H., Lorenzini Erdmann, A., & Guedes dos Santos, J. L. (2019). Entrepreneurship in nursing: An integrative literature review. *Revista Brasileira de Enfermagem*, 72(Suppl. 1), 289-298. <https://doi.org/10.1590/0034-7167-2017-0523>
- de Carvalho Andrade, A., Watanabe Dal Ben, L., & Sanna, M. C. (2015). Entrepreneurship in nursing: overview of companies in the State of São Paulo. *Revista Brasileira de Enfermagem*, 68(1), 35-39. <https://doi.org/10.1590/0034-7167.2015680106i>
- Dehghanzadeh, M. R., Kholasehzadeh, G., Birjandi, M., Antikchi, E., Sobhan, M. R., & Neamatzadeh, H. (2016). Entrepreneurship psychological characteristics of nurses. *Acta Medica Iranica*, 595-599.
- Fraser, R. A., & Schwind, J. K. (2011). Advancement of guided creative and critical reflection in the professional development of enterprising individuals in business and nursing. *Reflective Practice*, 12(5), 645-661. <https://doi.org/10.1080/14623943.2011.601562>
- Frisch-Aviram, N., Beerli, I., & Cohen, N. (2021). How policy entrepreneurship training affects policy entrepreneurship behavior among street-level bureaucrats—a randomized field experiment. *Journal of European Public Policy*, 28(5), 698-722. <https://doi.org/10.1080/13501763.2021.1912146>

- The Institute of Medicine (2011). *The future of nursing: Leading change, advancing health*. Washington DC: National Academies Press.
- Jahani, S., Abedi, H., Elahi, N., & Fallahi-Khoshknab, M. (2016). Iranian entrepreneur nurses' perceived barriers to entrepreneurship: A qualitative study. *Iranian Journal of Nursing and Midwifery Research*, 21(1), 45-53. <https://doi.org/10.4103/1735-9066.174749>
- Jahani, S., Abedi, H., Khoshknab, M. F., & Elahi, N. (2018). The experience of Iranian entrepreneurial nurses on the identification of entrepreneurial opportunities: A qualitative study. *Journal of Family Medicine and Primary Care*, 7(1), 230-236. [https://doi.org/10.4103/jfmpe.jfmpe\\_233\\_17](https://doi.org/10.4103/jfmpe.jfmpe_233_17)
- Jakobsen, L., Wachter Qvistgaard, L., Trettin, B., & Juel Rothmann, M. (2021). Entrepreneurship and nurse entrepreneurs lead the way to the development of nurses' role and professional identity in clinical practice: A qualitative study. *Journal of Advanced Nursing*, 77(10), 4142-4155. <https://doi.org/10.1111/jan.14950>
- Kagan, O., Sciasci, N. G., Koszalinski, R. S., Kagan, D. H., Leary, M., & Nadel, H. (2023). Nurses' confidence in starting a new venture, start-up or project in the context of nurse-led hackathons: Results of prehackathon survey. *Nursing Outlook*, 71(3), 101961. <https://doi.org/10.1016/j.outlook.2023.101961>
- Kim, Y. J., & Lim, J. Y. (2022). Predictive models for nurses' entrepreneurial intentions using comparison of competing models. *International Journal of Environmental Research and Public Health*, 19(10), 6027. <https://doi.org/10.3390/ijerph19106027>
- Kim, J., & Tussyadiah, I. P. (2013). Social networking and social support in tourism experience: The moderating role of online self-presentation strategies. *Journal of Travel and Tourism Marketing*, 30(1-2), 78-92. <https://doi.org/10.1080/10548408.2013.751220>

- Kirkman, A., Wilkinson, J., & Scahill, S. (2018). Thinking about health care differently: Nurse practitioners in primary health care as social entrepreneurs. *Journal of Primary Health Care, 10*(4), 331-337. <https://doi.org/10.1071/HC18053>
- Koe, W. L., Sa'ari, J. R., Majid, I. A., & Ismail, K. (2012). Determinants of entrepreneurial intention among millennial generation. *Procedia-Social and Behavioral Sciences, 40*, 197-208. <https://doi.org/10.1016/j.sbspro.2012.03.181>
- Lee, B. C., Bendixsen, C., Liebman, A. K., & Gallagher, S. S. (2017). Using the socio-ecological model to frame agricultural safety and health interventions. *Journal of Agromedicine, 22*(4), 298-303. <https://doi.org/10.1080/1059924X.2017.1356780>
- León, J. A. M., Descals, F. J. P., & Domínguez, J. F. M. (2007). The psychosocial profile of the university entrepreneur. *Psychology in Spain, 1*(1), 72–84.
- Layton, S. S., Blakely, K. K., Patel, B., & Miltner, R. S. (2022). Assessing Southeastern Advanced Practice Registered Nurses' Business and operational skill sets. *The Journal for Nurse Practitioners, 16*(6), 636-639. <https://doi.org/10.1016/j.nurpra.2022.02.019>
- Lim, J. Y., Kim, S., Kim, J., & Lee, S. (2020). Identifying trends in nursing start-ups using text mining of YouTube content. *PLOS ONE, 15*(2). <https://doi.org/10.1371/journal.pone.0226329>
- Limsong, S., Seang, S., Sambath, P., & Hong, S. (2016). Model of entrepreneurial success: Linking theory and practice. In International Conference on Enterprise Marketing and Globalization (EMG). Proceedings. Global Science and Technology Forum, 97. [https://doi.org/10.5176/2251-2039\\_IE16.29](https://doi.org/10.5176/2251-2039_IE16.29).
- Lockwood, C., Munn, Z., & Porritt, K. (2015). Qualitative research synthesis: Methodological guidance for systematic reviewers utilizing meta-aggregation. *International Journal of*

*Evidence-Based Healthcare*, 13(3), 179–187.

<https://doi.org/10.1097/XEB.0000000000000062>

Maryati, S., Punjastuti, B., Purwaningsih, I., & Moebari. (2020). Improving entrepreneurial

motivation for health workers through entrepreneurship training. *Enfermería Clínica*, 30,

179-182. <https://doi.org/10.1016/j.enfcli.2020.02.004>

Melnyk, B. M., & Raderstorf, T. (2019). *Evidence-based leadership, innovation and*

*entrepreneurship in nursing and healthcare: A practical guide to success*. Springer

Publishing Company.

Moola, S., Munn, Z., Tufanaru, C., Aromataris, E., Sears, K., Sfetcu, R., Currie, M., Qureshi, R.,

Mattis, P., Lisy, K., & Mu, P.-F. (2020). Chapter 7. Systematic reviews of etiology and risk.

In E. Aromataris & Z. Munn (Eds.), *JBI manual for evidence synthesis*. Joanna Briggs

Institute Reviewer's Manual, JBI. <https://synthesismanual.jbi.global>

Moore, J. H., & Wang, Z. (2017). Mentoring top leadership promotes organizational

innovativeness through psychological safety and is moderated by cognitive

adaptability. *Frontiers in Psychology*, 8, 318. <https://doi.org/10.3389/fpsyg.2017.00318>

Neergard, G. B. (2021). Entrepreneurial nurses in the literature: A systematic literature review.

*Journal of Nursing Management*, 29(5), 905-915. <https://doi.org/10.1111/jonm.13210>

Neergard G. B. (2022). Nurse entrepreneurs' ethical concerns: A qualitative inquiry of the pursuit

of opportunity. *Journal of nursing management*, 30(7), 2346–2356.

<https://doi.org/10.1111/jonm.13850>

Nurluoz, Ö., & Esmaeilzadeh, S. (2019). Assessment of the entrepreneurial characteristics and

hopelessness status of nurses working in Theonetraining and Research

Hospital. *Dimensions*, 10, 13. <https://doi.org/10.5152/cjms.2019.832>

- Politis, D. (2005). *Entrepreneurship, career experience and learning-developing our understanding of entrepreneurship as an experiential learning process*. Lund University.
- Reportlinker. (2022). Healthcare services global market report 2022.  
<https://www.globenewswire.com/news-release/2022/02/11/2383671/0/en/Healthcare-Services-Global-Market-Report-2022.html>
- Richter, S. A., Pichek dos Santos, E., Kaiser, D. E., Capellari, C., & Ferreira, G. E. (2019). Being an entrepreneur in nursing: Challenges to nurses in a strategic leadership position. *Acta Paulista de Enfermagem*, 32(1), 46-52. <https://doi.org/10.1590/1982-0194201900007>
- Sanders, E., & Kingma, M. (2012). *Handbook on entrepreneurial practice: Nurse creating opportunities as entrepreneurs and intrapreneurs*. International Council of Nurses, Geneva.
- Sindakis, S., & Kitsios, F. (2016). Entrepreneurial dynamics and patient involvement in service innovation: Developing a model to promote growth and sustainability in mental health care. *Journal of the Knowledge Economy*, 7, 545-564. <https://doi.org/10.1007/s13132-014-0228-1>
- Sharp, D. B., & Monsivais, D. (2014). Decreasing barriers for nurse practitioner social entrepreneurship. *Journal of the American Association of Nurse Practitioners*, 26(10), 562-566. <https://doi.org/10.1002/2327-6924.12126>
- Stam, W., Arzlanian, S., & Elfring, T. (2014). Social capital of entrepreneurs and small firm performance: A meta-analysis of contextual and methodological moderators. *Journal of Business Venturing*, 29(1), 152-173. <https://doi.org/10.1016/j.jbusvent.2013.01.002>
- Thepna, A., Cochrane, B. B., & Salmon, M. E. (2023a). Advancing nursing entrepreneurship in the 21st century. *Journal of Advanced Nursing*. <https://doi.org/10.1111/jan.15563>.

- Thepna, A., Cochrane, B. B., & Salmon, M. E. (2023b). Self-efficacy in nurse entrepreneurs: A concept analysis. *Nursing Outlook*, 71(6), 102053.  
<https://doi.org/10.1016/j.outlook.2023.102053>.
- Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., ... & Straus, S. E. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. *Annals of Internal Medicine*, 169(7), 467-473. <https://doi.org/10.7326/M18-0850>
- Trombeta, F. M., Ramos, N. P., & Bocchi, S. C. M. (2020). Experience of nurse entrepreneurs in long term institutions for elderly people. *Brazilian Nursing Journal*, 73(3), e20190619.  
<https://doi.org/10.1590/0034-7167-2019-0619>
- Ubochi, N. E., Osuji, J. C., Ubochi, V. N., Ogbonnaya, N. P., Anarado, A., & Iheanacho, P. N. (2021). The drive process model of entrepreneurship: A grounded theory of nurses' perception of entrepreneurship in nursing. *International Journal of Africa Nursing Sciences*, 15, 100377. <https://doi.org/10.1016/j.ijans.2021.100377>
- Vannucci, M. J., & Weinstein, S. M. (2017). The nurse entrepreneur: Empowerment needs, challenges, and self-care practices. *Nursing: Research & Reviews*, 7, 57-66.  
<https://doi.org/10.2147/NRR.S98407>
- Waite, A. (2019). Highlighting the lived experience of nurse practitioners in independent practice. *Journal for Nurse Practitioners*, 15(10), 787-791.  
<https://doi.org/10.1016/j.nurpra.2019.07.020>
- Wall, S. (2013). Nursing entrepreneurship: Motivators, strategies and possibilities for professional advancement and health system change. *Nursing Leadership*, 26(2), 29-40.  
<https://doi.org/10.12927/cjnl.2013.23450>

- Wall, S. (2014). Self-employed nurses as change agents in healthcare: Strategies, consequences, and possibilities. *Journal of Health Organization Management*, 28(4), 511-531.  
<https://doi.org/10.1108/jhom-03-2013-0049>
- Wall, S. (2015). Dimensions of precariousness in an emerging sector of self-employment: A study of self-employed nurses. *Gender, Work & Organization*, 22(3), 221-236.  
<https://doi.org/10.1111/gwao.12071>
- Wilson, A. (2003). *Self-employed nurse entrepreneurs expanding the world of nursing practice: A journey of discovery* (Unpublished doctoral dissertation). University of Adelaide.
- Wilson, A., Whitaker, N., Whitford, D., Wilson, A., Whitaker, N., & Whitford, D. (2012). Rising to the challenge of health care reform with entrepreneurial and intrapreneurial nursing initiatives. *Online Journal Issues Nursing*, 17(2), 5.  
<https://doi.org/10.3912/OJIN.Vol17No02Man05>

**Chapter 3. The association of individual factors with business success among  
nurse entrepreneurs in nursing and midwifery clinic**

## **Abstract**

**Objective:** This study aimed to determine the associations of individual factors, including The Big Five personality traits, transformational leadership, self-efficacy, and social support between business success (including business performance and quality of care) among nurse entrepreneurs in nursing and midwifery clinics.

**Background:** Research on nurse entrepreneurs in nursing and midwifery clinics provides limited evidence of association with business success.

**Methods:** Findings from an earlier scoping review (see Chapter 2) served as a foundation for selecting individual factors (personality traits, transformational leadership, self-efficacy, and social support) for this study. A cross-sectional correlational design study involved a survey of 190 nurse entrepreneurs in nursing and midwifery clinics across Thailand. The response rate was 51.91%. Administered through REDCap, participants' responses were gathered through the use of the Ten-Item Personality Measure, the Global Transformational Leadership Scale, the General Self-Efficacy Scale, a social support questionnaire, the Business Performance Measurement, the Nurse Satisfaction with Quality-of-Care Scale, and a demographic questionnaire. Multiple regression analyses were used to examine associations.

**Results:** A statistically significant association was found between individual factors and the business success of nurse entrepreneurs in nursing and midwifery clinics. The regression analysis unveiled a model for business performance ( $F(3, 189) = 16.88, p < 0.001$ ), demonstrating that self-efficacy ( $\beta = 0.32$ ), social support ( $\beta = 0.22$ ), and engaging in part-time clinic ownership ( $\beta = -0.21$ ) collectively showed a significant association with business performance ( $R^2 = 0.21$ ). The analysis for quality of care revealed a significant model ( $F(3, 189) = 27.71, p < 0.001$ ), indicating

that self-efficacy ( $\beta = 0.43$ ), social support ( $\beta = 0.26$ ), and nursing work experience ( $\beta = -0.21$ ) were jointly associated with quality of care ( $R^2 = 0.31$ ).

**Conclusions:** Findings suggest that self-efficacy, social support, and engaging in part-time clinic ownership are important factors in bolstering business performance. Moreover, when considering the quality of care, factors such as self-efficacy, social support, and nursing work experience emerge as vital considerations for nurse entrepreneurs aiming to enhance care quality in nursing and midwifery clinics.

**Implications for nursing:** Nurturing self-efficacy and social support among nurse entrepreneurs can enhance business success in clinics, particularly within nursing education and training program curricula for nurse entrepreneurs seeking to establish nursing and midwifery clinics to enhance business performance and improve the quality of patient care. Moreover, acknowledging the importance of part-time clinic ownership and nursing work experience should be considered as factors influencing business success. These considerations can support the managerial skills and competency of nurse entrepreneurs, improve business success, and enhance healthcare for Thai populations and more globally.

**Keywords:** Nurse entrepreneur, business success, business performance, quality of care, The Big Five, personality traits, transformational leadership, self-efficacy, social support, nursing and midwifery clinics

## **Background**

In the healthcare system, nurses find themselves amidst many opportunities that extend far beyond conventional bedside care. The dynamic landscape of healthcare systems presents multifaceted challenges that directly impact population health. These challenges encompass a spectrum that includes a burgeoning aging demographic, the pervasive prevalence of chronic illnesses, the integration of advanced technologies, amplified demands for high-quality healthcare, constraints in resources, shortages in the healthcare workforce, disparities, and inequities in healthcare delivery, and the unprecedented influence of the COVID-19 pandemic (Thepna et al., 2023a; Vannucci & Weinstein, 2017). For these reasons, nurse entrepreneurs have become pivotal figures driving innovative solutions and augmenting the efficacy of healthcare delivery. Their role transcends traditional nursing frameworks, venturing into entrepreneurial endeavors that contribute significantly to expanding and enhancing the health care system, mainly primary care services. By identifying gaps in primary care systems, nurse entrepreneurs bring a unique amalgamation of clinical expertise and business acumen to provide nursing services by founding independent clinics – nursing clinics (Sanders & Kingma, 2012). These endeavors not only enhance accessibility to care but also foster patient engagement and empowerment, ultimately contributing to improved health outcomes (Neergard, 2021; Sharp & Monsivais, 2014).

Healthcare in Thailand has seen a notable emergence of nurse entrepreneurship, particularly in establishing nursing and midwifery clinics owned and operated by nurses as nurse entrepreneurs. In 1996, Thailand's Ministry of Public Health introduced a policy allowing Registered Nurses (RNs) to establish nurse-owned clinics as nursing and midwifery clinics under the Medical Professional and Nursing and Midwifery Profession Act of 1997. Nursing and

midwifery clinics are integral to Thailand's primary healthcare system. This initiative aims to ensure efficient primary healthcare, potentially reducing health disparities. Given the pivotal role of nurses in providing primary care, particularly in remote and marginalized regions, establishing nursing clinics is crucial. These clinics offer various services, including health promotion, preventive care, rehabilitation, first-aid treatments, home healthcare, immunization, referral services, prenatal and postnatal care, and healthcare consultations (Thailand Nursing & Midwifery Council [TNMC], 2014). Based on recent data, there are 4,884 nursing and midwifery clinics around Thailand (TNMC, 2022), which reflects the policy of the Thailand government to support the healthcare system, enabling people access to services in the community without having to go to the hospital, thereby saving on travel expenses and reducing congestion in the hospital. In 2019, the National Health Security Office (NHSO) in Thailand launched a health policy aimed at ensuring equal access to high-quality healthcare services for all Thai citizens, particularly those residing in rural areas. This initiative involved collaborating with over 200 nursing and midwifery clinics across Thailand to deliver primary healthcare services within the Universal Healthcare Program framework, thereby enhancing community access to healthcare services. This policy not only addresses a fundamental societal need but also supports the expansion of nursing entrepreneurship. Nurse entrepreneurs are being offered the opportunity to develop their nursing roles in many similar contexts, where they serve as key change agents to enact health policy, address disparities, and improve accessibility to healthcare (Thepna et al., 2023a).

However, amidst their contributions, nurse entrepreneurs face multifaceted challenges in balancing the demands of running a successful business while maintaining increasing business performance and the quality of care for their patients. These challenges include financial

management, regulatory compliance, staffing issues, and the ongoing pursuit of clinical excellence (Soto-Acosta et al., 2016). Moreover, the healthcare industry's dynamic nature, socioeconomic shifts, and evolving patient expectations add further complexity for nurse entrepreneurs. Understanding the factors influencing business success among nurse entrepreneurs is crucial for addressing these challenges and optimizing their contributions to the healthcare system in Thailand.

### **Business success including business performance and quality of care**

Success in running nursing and midwifery clinics is of vital importance not only for nurse entrepreneurs but also for healthcare in society as a whole since it leads to an increasing healthcare delivery system and promotes equal access to quality health services for people, particularly those in rural communities (Razmus & Laguna, 2018; Thepna et al., 2023b). Business success can be defined as the ability to achieve stated objectives, encompassing the overall accomplishment of business goals from performance, and ultimately leading to sustainability in the business (Lucky et al., 2012). It is, therefore, essential to understand the concept of business success. Businesses comprehending and adopting this concept are better positioned to navigate the competitive business landscape, whereas business performance is the effectiveness of an organization and is an indication of how it is performing effectively to achieve its goals and enhance business success (Cherrington, 1989).

#### ***1) Business performance***

Business performance, an important concept in entrepreneurship, is related to work accomplishment, entrepreneurial success, and business outcomes (Subedi, 2021). Many entrepreneurs use business performance as the outcome variable in measuring their business success (Brüderl & Preisendörfer, 1998; Halim et al., 2011; Islam et al., 2011). Research has

identified two main categories of indicators used to measure business performance: financial and non-financial. Financial indicators, such as return on assets, income, and profits, are commonly used to assess business performance (McGee et al., 1995; Murphy et al., 1996; Zhou et al., 2019; Zin & Ibrahim, 2020). On the other hand, non-financial indicators, including marketing strategies, growth, and product or service quality, also play a significant role in evaluating business performance (Hayat et al., 2019; Umrani et al., 2018; Zin & Ibrahim, 2020). For instance, Soto-Acosta et al. (2016) delved into business success and sustainable entrepreneurship and in SMEs from a business performance perspective, distinguishing between financial factors such as business profitability and non-financial factors such as customer satisfaction and business competitiveness.

## ***2) Quality of care***

Measuring the quality of care nurses provide is crucial as it helps determine treatment success levels and evaluate care delivery to patients (Freitas et al., 2014). In health businesses, particularly within nursing and midwifery clinics, prioritizing the quality of care as an outcome performance is paramount (Zin & Ibrahim, 2020). Assessing satisfaction with the quality of care from the nurse's perspective is vital as it is a valid and reliable indicator of care quality (Alilyyani et al., 2022). Alilyyani et al. highlighted that ensuring quality care involved the type of services, adequate time, staff, resources, and overall quality of care patients receive. These efforts are crucial for upholding high standards of care and bolstering the clinic's reputation and competitiveness within the healthcare service industry. Ultimately, by emphasizing the quality of care, these clinics can maintain high service standards, fostering long-term success and sustainability in business (Wilson et al., 2003).

Therefore, this study focused on the overall outcome of business success, which encompassed both business performance and the quality of care within nursing and midwifery clinics.

### **Individual factors influencing business success**

Launching and running nursing and midwifery clinics successfully can be challenging, with various factors influencing the transition from nurse to entrepreneur and the subsequent management of clinics. Individual factors emerge as particularly significant when evaluating the factors that contribute to business success. While other factors such as healthcare policy, the nursing educational system, geographic location, an aging society, and advanced technology also play a role, individual factors warrant special attention, especially in the context of nurse entrepreneurs. These individual factors, such as the Big Five personality traits, transformational leadership, self-efficacy, and social support, play crucial roles in influencing the behavior of nurse entrepreneurs in complex and significant ways, which can either be strengths or weaknesses in achieving business success. These individual factors were selected for study due to their important influence on nurse entrepreneurs' behavior and decision-making processes that affect business success within the healthcare sector (See Chapter 2). However, these factors have been shown to influence on business success within the healthcare sector in general, but not specifically in nursing and midwifery clinics.

#### ***1) The Big Five model personality traits***

Personality traits reflect an individual's consistent thoughts, emotions, and actions, embodying stability (McShane & Von Glinow, 2010). Among various frameworks, the Big Five model proposed by Costa & McCrae (1992) stands as the most widely embraced, delineating five overarching traits: 1) Extraversion refers to individuals who enjoy social interaction, are sociable,

expressive, and oriented toward the outside world. Extraversion is manifested in a person's full interaction with their business activities through the process of self-development; 2) Agreeableness is a term used to describe a person who is pleasant, warm, obedient, and trustworthy; 3) Conscientiousness is used to describe socially prescribed impulse control that facilitates task- and goal-oriented behavior. It is an awareness of the company's long-term goals. 4) Emotional stability reflects a relaxed and calm personality trait and the ability to cope with stress without experiencing concerns, internal tension or annoyance and low neuroticism (Kraczla,2017); 5) Openness to experience is a personality trait that describes the breadth, depth, originality, and complexity of an individual's mental and experiential life and who also seeks new, imaginative, and creative ideas. Franco and Prata (2019) suggested that specific personality traits enable individuals to seize emerging prospects and prudently administer their resources. These traits, considered invaluable, furnish entrepreneurs with a competitive edge that augments business performance. Despite limited literature on business performance within nursing using the Big Five model, it presents a compelling avenue for scholarly exploration, offering insights to prepare nurse entrepreneurs for their ventures. Within nursing, there has been relatively limited research on the Big Five personality traits among nurse entrepreneurs. Ispir et al. (2019) considered nursing students' personality traits and their inclination toward entrepreneurship and career adaptability. Their findings underscored conscientiousness as a prevailing trait among nurses, contrasting with relatively lower emotional stability. The study advocates for nursing education to prioritize cultivating positive personality attributes, especially those delineated in the Big Five model, to enhance entrepreneurial skills.

## ***2) Transformational leadership***

Indeed, many leadership styles are available to entrepreneurs, including situational leadership, servant leadership, transactional leadership, and transformational leadership. These styles can enhance business performance, ultimately leading to business success.

Transactional and transformational leadership theory was first developed by Burns (1978). Transactional leadership is when leaders guide or motivate their followers toward established goals by clarifying roles and task requirements (Bass, 1999). On the other hand, transformational leadership is based on the understanding that high-quality leadership can encourage or influence other followers to make good decisions and take strategic risks (Bass, 1999).

When considering the leadership roles of nurse entrepreneurs in nursing and midwifery clinics, it is necessary to have a capable leader who can make quick decisions, take decisive action, and leverage their expertise to achieve organizational goals (Ejimabo, 2015). Leadership should encompass a range of behaviors, attitudes, and actions aimed at influencing and motivating subordinates to achieve specific objectives (Yukl, 2012). Moreover, Kenneth (2019) mentioned that a transformational leader can create a conducive environment for business success. This leader uses entrepreneurial characteristics rather than transactional or some other type of leadership. Thus, this study focused on transformational leadership rather than transactional leadership.

Transformational leadership has proven particularly popular, with more studies undertaken than all other leadership theories (Bass, 1999). Transformational leadership is based on four related dimensions: 1) Idealized influence, the leader being an admirable and convincing role model for subordinates; 2) Inspirational motivation, the articulation of an appealing and

inspiring vision; 3) Intellectual stimulation, encouraging creativity in subordinates; and 4) Individual consideration, attending to and supporting individual needs. The influence exercised by this type of leader involves changing the way subordinates perceive themselves as well as pointing out the opportunities and challenges presented by the environment. The importance of transformational leadership has become increasingly apparent. This leadership style offers significant benefits by motivating employees to drive meaningful change and help achieve business goals (Bass, 1999). These dimensions highlight the leader's potential to foster entrepreneurship and enhance business performance. For example, Moriano et al. (2014) discovered that transformational leaders encourages employees' creativity and innovation, contributing to improved business performance. Transformational leaders prioritize higher or intrinsic needs and motivate with a vision that extends beyond immediate self-interest. Nurse entrepreneurs inspire their teams to share a vision of delivering exceptional care. Transformational leadership helps nurse entrepreneurs to effectively manage clinics, facilitate collaborative decision-making, leverage diverse perspectives to tackle complex challenges, and drive improvements in business performance and success (Collins et al., 2020).

### ***3) Self-efficacy***

Self-efficacy is another individual factor. It reflects confidence in controlling one's motivation, behavior, and social environment. Consistent with Bandura's influential work, self-efficacy refers to an individual's belief in their capacity to achieve specific performance attainments (Bandura, 1977). It precedes the formation of intentions. If individuals believe they can achieve a goal, they are more likely to develop the intention to achieve it; conversely, if they doubt their ability, they are less likely to form such intentions (Melnik & Raderstorf, 2019). Self-efficacy in entrepreneurship refers to an individual's perception of their ability to accomplish

tasks (Chen et al., 1998). Entrepreneurs with high self-efficacy set challenging goals, persist, invest in tasks, and recover quickly from failures, positively impacting performance and business success (Miao et al., 2017). In nursing and midwifery clinics, nurse entrepreneurs strive to increase self-efficacy for effective management. However, some nurse entrepreneurs face barriers such as a lack of necessary knowledge and skills to manage a healthcare business and fears about running a business (Elango et al., 2007).

#### **4) *Social support***

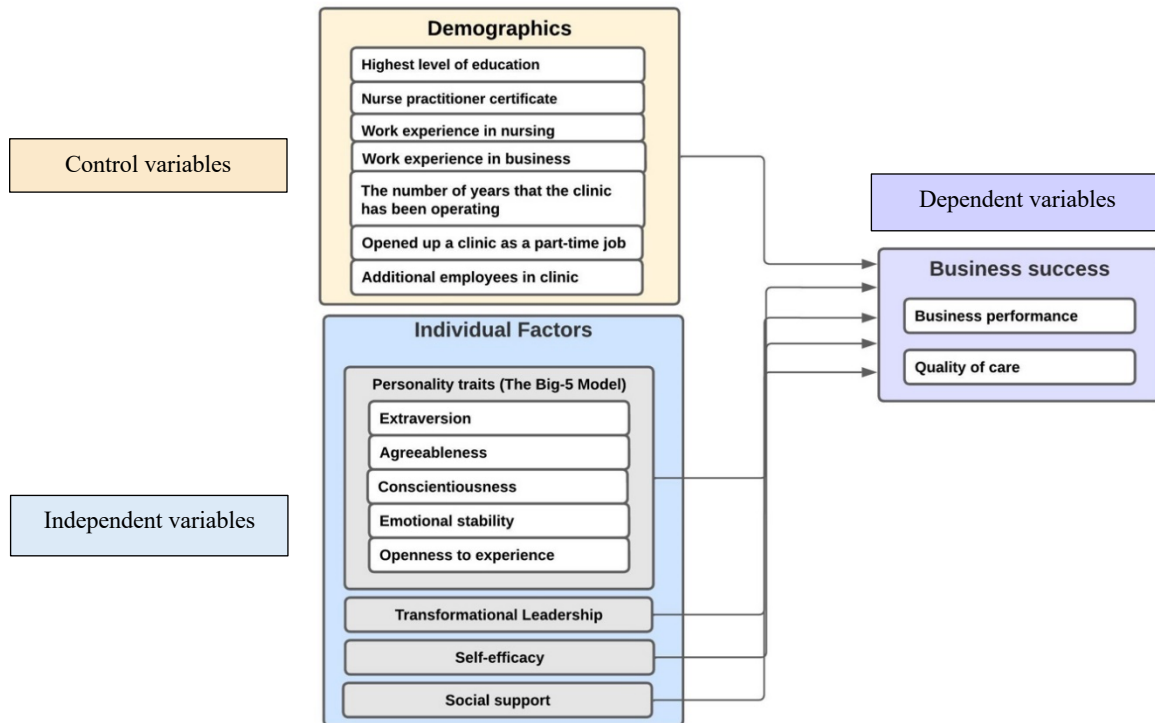
Social support refers to resources individuals acquire from social relationships to enhance business performance (Kim & Tussyadiah, 2013). In entrepreneurial endeavors, support from one's social milieu influences the individual's propensity to engage in entrepreneurial activities and succeed in business (Stam et al., 2014). Social support encompasses the anticipated assistance from various groups, including family, friends, experts, and consultants, when initiating a business venture (León et al., 2007). These supportive efforts from social networks can facilitate entrepreneurs, including those in nursing and midwifery clinics (Politis, 2005). Many nurse entrepreneurs heavily rely on social support from various sources, including family, friends, healthcare professionals, and community members (Edelman et al., 2016; Leung et al., 2020; Uzialko, 2022). Whether operational or emotional, this support plays a crucial role in helping entrepreneurs navigate the challenges of clinic ownership and maintain effective performance (Edelman et al., 2016; Leung et al., 2020; Uzialko, 2022). Particularly during a new clinic's initial setup and growth phases, the strength of these social networks may determine its survival and success (Abbas et al., 2019). Existing literature on entrepreneurial networks highlights the importance of support from friends, family, and other connections in stimulating

entrepreneurship opportunities and enhancing business performance (Kregar & Antoncic, 2014; Parker, 2018; Thepna et al., 2023b).

By exploring these associations, we aim to provide a comprehensive understanding of the underlying drivers of entrepreneurial success in Thailand's nursing and midwifery clinics and identify potential avenues for intervention and support. Specifically, we seek to elucidate how individual characteristics—such as The Big Five personality traits, transformational leadership, self-efficacy, and social support—influence business success, including business performance and quality of care. This study endeavors to uncover actionable insights that can inform policymakers, healthcare administrators, and nurse entrepreneurs in nursing and midwifery clinics about strategies to enhance business performance while maintaining high standards of patient care. Ultimately, our research aims to contribute to advancing nurse entrepreneurship in Thailand, fostering a conducive environment for innovation, growth, and sustainable healthcare delivery.

### **Conceptual framework**

This study was based on Human Capital Theory by Limsong et al. (2016), which emphasizes individual factors such as demographic attributes, personality traits, and competence characteristics that impact entrepreneurial performance and success. Specifically, the study focused on individual factors related to the Big Five personality traits (Costa & McCrae, 1992), transformational leadership (Bass, 1999), self-efficacy, and social support, which were identified through a comprehensive literature review. These individual factors are hypothesized to exert influence on the business success of nurse entrepreneurs within nursing and midwifery clinics (see Figure 1).



**Figure 3.1** Conceptual framework on individual factors influence business success among nurse entrepreneurs in nursing and midwifery clinics

### Objectives

This study aimed to determine the associations of individual factors, including The Big Five personality traits, transformational leadership, self-efficacy, and social support between business success (including business performance and quality of care) among nurse entrepreneurs in nursing and midwifery clinics.

### Questions and hypotheses

The study questions guiding this study were, ‘Is there a relationship among the Big Five personality traits (extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience), transformational leadership, self-efficacy, social support, and business success (business performance and quality of care) of nurse entrepreneurs who own nursing and

midwifery clinics in Thailand?’ and ‘What are the associations of business success in nurse entrepreneurs who own in nursing and midwifery clinics in Thailand?’.

The hypothesis was that the linear combination of independent variables, encompassing each dimension of the Big Five personality traits, transformational leadership, self-efficacy, and social support, would better associate the dependent variables, business success, comprising both business performance and the quality of care provided by nurse entrepreneurs who own nursing and midwifery clinics better than any single association variable alone.

## **Methods**

### ***Design***

This study used a cross-sectional correlational design. The study was conducted with nurse entrepreneurs in nursing and midwifery clinics in Thailand.

### ***Participants and procedures***

Participants in this study were nurse entrepreneurs who own nursing and midwifery clinics in Thailand. Inclusion criteria were that 1) nurses must currently have owned and managed a nursing and midwifery clinic in Thailand for at least one year; 2) the nursing and midwifery clinic was open and operating and had received accreditation from the Department of Health Service Support, the Ministry of Public Health, or the Health Provincial Offices; and 3) the nurse entrepreneurs also had access to an individual email address and the internet. Participants were recruited from the Thailand Nursing and Midwifery Council’s (TNMC) list of nurse entrepreneurs who own nursing and midwifery clinics. A projected sample size of 160 subjects was calculated using a G-power analysis (Faul et al., 2009) with a power of 0.95, a medium effect size of 0.15, a significance level of  $P < 0.05$ , and eight predictor variables. However, we recruited more than 160 participants to allow for participant attrition.

### ***Data collection***

Approval from the Institutional Review Board (IRB) at TNMC and exemption from the Human Subjects Division at the University of Washington were obtained before recruiting participants. The researchers obtained permission from TNMC to acquire a list of nurse entrepreneurs who own nursing and midwifery clinics. Subsequently, invitations were sent to 1,004 nurse entrepreneurs, comprising 98 emails, 340 clinic contacts on Facebook pages, and 566 clinics through the Line application—a freeware app for instant communication that is very popular in Thailand. Additionally, this study was utilized to reach out and engage potential participants (i.e., snowball methods). These invitations included an information sheet and the REDCap online survey link. A total of 366 participant responses to the REDCap survey were received. The surveys were screened for eligibility and missing data. We eliminated 176 surveys, including 17 removed for missing data on all demographic characteristics, 136 for missing data on all individual factors and business success, 11 for not meeting eligibility criteria, and 12 for duplications. After these surveys were eliminated, a total of 190 usable surveys, resulting in a usability rate of 51.9% of survey responses received, which provided an adequate sample size.

### ***Measures***

Data were collected in an online REDCap survey. The survey questionnaire encompassed three main instrument sections: 1) demographic characteristics; 2) individual factors, including the Big Five personality traits, transformational leadership, self-efficacy, and social support; and 3) business success, including business performance and quality of care. In total, the questionnaire comprised 56 items.

## **1) Demographic characteristics**

The first part of the survey contained questions about the nurse entrepreneur's demographic characteristics, including age, gender, marital status, the highest level of education, nurse practitioner certification, years of experience in nursing, work experience in business and entrepreneurship, the location of the clinic, years the clinic had been opened, the clinic opened as a part-time job, the number of employees in the clinic, monthly income for the clinic, and the financial status of the clinic.

## **2) Individual factor instruments**

*Personality traits* were measured using the Ten Item Personality Inventory (TIPI; Gosling et al, 2003). The TIPI includes ten items measuring the Big Five personality dimensions, including extraversion (2 items), agreeableness (2 items), conscientiousness (2 items), emotional stability (2 items), and openness to experience (2 items). Within each dimension, one item represents a positive pole and the other a negative pole. The scale uses a 7-point Likert scale from 1 = disagree strongly to 7 = agree strongly. The Cronbach's alpha reliability coefficient for TIPI in the current study is 0.70.

*Transformational leadership* was measured using the Global Transformational Leadership Scale (GTL; Carless et al., 2000) which evaluates the frequency of behaviors exhibited by the leader. The GTL is generally evaluated as an overall score, including seven items across four dimensions: 1) Idealized influence, 2) Individualized consideration, 3) Inspirational motivation, and 4) Intellectual stimulation (Bass, 1999). The instrument uses a 5-point Likert-type scale (1 = rarely or never to 5 = very frequently or always). The Cronbach's alpha reliability coefficient for the GTL in the current study is 0.92.

*Self-efficacy* was measured using The General Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 1995), a 10-item scale that measures self-efficacy. Item responses are rated on a 4-point Likert-type scale ranging from 1 = not at all true to 4 = exactly true. The Cronbach's alpha reliability coefficient for GSE in the current study is 0.87.

*Social support* was measured using a social support questionnaire (Al-Kwafi, et al., 1988). This is a 4-item questionnaire used to identify an individual's perceived level of social support. The scale uses a 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree. The Cronbach's alpha reliability coefficient for social support in the current is 0.70.

### **3) Business success instruments**

This study focused on business success as an overall outcome construct with two conceptual variables: business performance and quality of care.

*Business performance* was measured using the Business Performance Measurement from Soto-Acosta et al. (2016), consisting of financing (one item on business profitability) and non-financing (two items on business effectiveness from customers and business competitiveness). The ratings are based on a 5-point Likert-type scale ranging from 1 = very untrue to 5 = true. The Cronbach's alpha reliability coefficient for business performance in the current is 0.77.

*Quality of care* was measured using The Nurse Satisfaction with The Quality-of-Care Scale (The NSQC; Alilyyani et al., 2022). The NSQC is a 5-item questionnaire designed to measure nurse satisfaction with the quality of care they provide to their patients in the clinic. The scale uses a 5-point Likert-type scale from 1 (very dissatisfied) to 5 (very satisfied), with higher scores indicating higher satisfaction levels. The Cronbach's alpha reliability coefficient for the NSQC in the current is 0.89.

### ***Translation and back translation of instruments***

Data were collected from participants located in Thailand. Therefore, the standardized questionnaires included in the survey were first translated from English to Thai, as Thai is the language of business communication in Thailand. Validity of the instrument translation was established following procedures for back translation recommended by Hambleton (2005). Firstly, the researcher contacted the instrument owners to obtain permission to translate their questionnaires into Thai. Secondly, a language expert proficient in both English and Thai performed a forward translation of the questionnaires into Thai. After the translation by the language expert, the researcher analyzed the Thai version, and then a panel of three nurse entrepreneurs, who were specialists in the field and proficient in both English and Thai, provided feedback. The panel's feedback resulted in revising some items to enhance their relevance in the Thai context. Next, a language expert with an understanding of living in Thailand, as well as the language, conducted the back-translation of the scale. Finally, the original and translated versions were compared to assess their equivalence in terms of meaning.

### ***Statistical analysis***

Data were analyzed utilizing SPSS software. Data were first examined to determine if assumptions for the statistical analyses were met. The statistical methods used to analyze demographic data and answer the research questions were descriptive statistics, Pearson's correlation, and multiple regression. Statistical significance was determined at a p-value of 0.05. This study utilized multiple regression analyses employing a forward entry method to explore the influence of individual factors on business success. Business success consisted of two dependent variables: business performance and quality of care. Multicollinearity and residuals were

examined during the regression analyses. Demographics were included as control variables in the regression analyses.

## **Results**

### ***Characteristics of the participants***

Analysis of the demographic data of the 190 survey respondents indicated that 87.89% of the sample was female (n = 167) and 12.11% was male (n = 23). The ages of participants ranged from 24 to 66 years old (M = 45.61, SD = 9.77). Most participants were married (70.22%, n = 132). Most participants reported a bachelor's degree as their highest level of education (75.13%, n = 142), and 23.81% reported having a master's degree (n = 45). Those with nurse practitioner certificates comprised 68.78% (n = 130) of participants. Years of experience in nursing ranged from 2 to 44 years, with a mean of 23.28 years (SD = 10.22), and 82.6% had no previous experience in business and entrepreneurship (n = 157). The number of years the clinic had been established varied from 1 to 36 years, with a mean of 8.18 years (SD = 8.21). Regarding clinic locations, the data revealed that the northeast of Thailand accounted for 45.60% (n = 83) of clinics, 15.38% (n=28) were in the central region, 14.29% (n=26) in the north, 8.79% (n=16) in the south, 7.69% (n=14) in the west, 4.40% (n=8) in the east and 3.85% (n=7) in the capital and suburbs. Most participants opened the clinic as a part-time job, accounting for 85.19% (n=161). Teams of more than two people were found in 71.05% (n=135) of clinics. Moreover, participants reported number of visit cases (some of which might be repeated patients) ranging from 10 to 2000 per month (M = 212.51, SD = 233.09), while the income for nursing and midwifery clinics ranged from \$14.08 to \$8450.70 per month (The exchange rate from US Dollars to Thai Baht is approximately 1 USD = 35.5 THB). Most respondents reported that their clinics made a profit, accounting for 96.84% (n = 184) of the sample (Table 1).

**Table 3.1** Descriptive statistics of categorical and continuous demographic data

<b>Variable and categories</b>	<b>Frequency (n)</b>	<b>Percent (%)</b>	<b>Mean</b>	<b>SD</b>	<b>Range</b>
Gender (n=190)					
Male	23	12.11			
Female	167	87.89			
Age (years)	188	-	45.61	9.77	24-66
Marital status (n=188)					
Single	28	14.89			
Married	132	70.22			
Divorced/Widowed/Separated	28	14.89			
Highest level of education (n=189)					
Bachelor's degree	142	75.13			
Master's degree	45	23.81			
Doctor's degree	2	1.06			
Nurse practitioner certification (n=189)					
Yes	130	68.78			
No	59	31.22			
Work experience in nursing (years)	190	-	23.28	10.22	2-44
Work experience in business and entrepreneurship (n=190)					
Yes	33	17.4			
No	157	82.6			

<b>Variable and categories</b>	<b>Frequency (n)</b>	<b>Percent (%)</b>	<b>Mean</b>	<b>SD</b>	<b>Range</b>
Years that clinic has been open	190	-	8.18	8.21	1-36
Location of the clinics in Thailand (n=182)					
North	26	14.29			
Northeast	83	45.60			
East	8	4.40			
West	14	7.69			
South	16	8.79			
Central	28	15.38			
Capital and suburbs	7	3.85			
Opened up this clinic as a part-time job (n=189)					
Yes	161	85.19			
No	28	14.81			
Additional employees in nursing and midwifery clinic (n=190)					
Individuals worked alone	55	28.95			
Having team (more than two people)	135	71.05			
Number of visit cases in clinic (cases/monthly)	189	-	212.51	233.09	10-2000

Variable and categories	Frequency (n)	Percent (%)	Mean	SD	Range
Income for nursing and midwifery clinic (\$/monthly)	187	-	1114.56	1202.21	14.08-8450.70
The financial status of the clinic (n=190)					
Making a profit	184	96.84			
Having some losses	6	3.16			

***Means of individual factor and business success scores***

An analysis of the mean scores on the Big Five personality traits among nurse entrepreneurs in nursing and midwifery clinics revealed that the highest mean score was observed in the dimension of conscientiousness (Mean=5.71, SD=1.08). At the same time, openness to experience had the lowest mean score (Mean=5.11, SD=1.15). The mean score for transformational leadership was 4.30 (SD=0.57), while self-efficacy scored a mean of 3.44 (SD=0.36). Social support garnered a mean score of 4.38 (SD=0.69). Business performance and quality of care received an equal score of 4.19 (SD=0.48) (Table 2).

**Table 3.2** The mean scores on individual factor and business success of the nurse entrepreneur in nursing and midwifery clinics sample (N = 190)

Variable	Mean	SD	Min-Max
Big Five Model personality traits (The TIPI)			
Extraversion	5.47	1.23	1.00-7.00
Agreeableness	5.46	1.09	1.00-7.00
Conscientiousness	5.71	1.08	1.00-7.00

Variable	Mean	SD	Min-Max
Emotional stability	5.35	1.21	1.00-7.00
Openness to experience	5.11	1.15	1.00-7.00
Transformational leadership (the GTL)	4.30	0.57	1.00-5.00
Self-efficacy (The GSE)	3.44	0.36	1.00-4.00
Social support	4.38	0.69	1.00-5.00
Business performance	4.19	0.69	1.00-5.00
Quality of care (The NSQC)	4.19	0.48	2.00-5.00

**Note:** Abbreviation on TIPI, the Ten Item Personality Inventory; GTL, the Global

Transformational Leadership Scale; GSE, The General Self-Efficacy Scale; NSQC, The Nurse Satisfaction with The Quality-of-Care Scale.

### ***Correlations between individual factors and business success***

The personality traits of nurse entrepreneurs in nursing and midwifery clinics showed a moderate positive correlation between conscientiousness and emotional stability, with the highest correlation coefficient observed at  $r = 0.50$ . Additionally, a moderate positive significant relationship was observed between transformational leadership and self-efficacy ( $r = 0.48$ ), followed by another moderate positive correlation between transformational leadership and conscientiousness, measured at  $r = 0.46$ . Regarding business success, encompassing business performance and quality of care, a moderate positive correlation was found between self-efficacy and quality of care ( $r = 0.44$ ). In contrast, a weak positive relationship was identified between self-efficacy and business performance ( $r = 0.35$ ). All correlation coefficients reported were statistically significant at a p-value of 0.05 (Table 3).

**Table 3.3** Pearson’s correlations among individual factors and business success of nurse entrepreneurs in nursing and midwifery clinics (N=190)

Variables	1	2	3	4	5	6	7	8	9	10
1. Extraversion	1									
2. Agreeableness	.15*	1								
3. Conscientiousness	.43*	.30*	1							
4. Emotional stability	.26*	.50*	.33*	1						
5. Openness to experience	.40*	.23*	.39*	.31*	1					
6. Transformational leadership	.30*	.28*	.46*	.27*	.37*	1				
7. Self-efficacy	.11	.18*	.21*	.14	.20*	.48*	1			
8. Social support	.28*	.14*	.35*	.14	.22*	.25*	.17	1		
9. Business performance	.15*	.12	.04	.11	.12	.26*	.35*	.27*	1	
10. Quality of care	.24*	.06	.26*	.06	.19*	.30*	.44*	.34*	.33*	1

\*p-value < 0.05

***Multiple regression analysis of the influence of individual factors on business success***

In this study, we undertook a comprehensive analysis, employing multiple regression analyses using a forward entry method. We aimed to delve into the influence of individual factors on the crucial aspects of business success and quality of care provided by nurse entrepreneurs in nursing and midwifery clinics (Table 4).

Our analysis of the dependent variable, business performance, revealed that individual factors play a pivotal role in the success of nurse entrepreneurs. The demographic control variables – highest level of education, nurse practitioner certification, years of work experience

in nursing, years of work experience in business and entrepreneurship, years that the clinic has been open, opening up whether the clinic was opened as a part-time job, and additional employees in the clinic – were all found to be statistically significant. The regression analysis ( $F(3, 189) = 16.88, p < 0.001$ ) showed that self-efficacy ( $\beta = 0.32$ ), social support ( $\beta = 0.22$ ), and engaging in clinic ownership as a part-time job ( $\beta = -0.21$ ) collectively explained a substantial proportion of the variance in business success ( $R^2 = 0.21$ ). Notably, self-efficacy emerged as the strongest association, followed by social support. Interestingly, engaging in clinic ownership as a part-time job exhibited a negative association with business success, highlighting the importance of full-time commitment in this context. Turning to quality of care as the dependent variable, the demographic control variables – highest level of education, nurse practitioner certification, years of work experience in nursing, years that the clinic has been open, whether the clinic was opened as a part-time job, and additional employees – were all found to be significant. The regression analysis ( $F(3, 189) = 27.71, p < 0.001$ ) revealed that self-efficacy ( $\beta = 0.43$ ), social support ( $\beta = 0.26$ ), and work experience in nursing ( $\beta = -0.21$ ) collectively contributed to explaining a significant portion of the variance in quality of care ( $R^2 = 0.31$ ). Once again, self-efficacy emerged as a strong association, closely followed by social support. Interestingly, work experience in nursing displayed a negative association with quality of care.

Addressing the findings regarding multicollinearity and residuals, the analysis confirmed that multicollinearity was not an issue among the independent variables, with variance inflation factors (VIFs) consistently below the threshold of 10 (Hair et al. 1995). Additionally, residual analysis revealed no outliers. These findings validate the reliability of the model's estimates and the independent predictive contribution of selected variables.

**Table 3.4** Multiple regression analysis exploring the influence of individual factors on business success of nurse entrepreneurs in nursing and midwifery clinics (N=190)

Model	Variables	B	SE	$\beta$	t	p-value
<b>Dependent variable: Business performance</b>						
1	(Constant)	1.85	0.45		4.08	<0.001
	Self-efficacy	0.68	0.13	0.35	5.19	<0.001
2	(Constant)	1.13	0.49		2.28	0.02
	Self-efficacy	0.61	0.13	0.32	4.68	<0.001
	Social support	0.22	0.07	0.22	3.21	<0.001
3	(Constant)	1.44	0.49		2.93	<0.001
	Self-efficacy	0.62	0.13	0.32	4.86	<0.001
	Social support	0.22	0.07	0.22	3.26	<0.001
	Opened up this clinic as a part-time job	-0.40	0.12	-0.21	-3.18	<0.001
<b>Dependent variable: Quality of care</b>						
1	(Constant)	1.99	0.33		6.12	0.00
	Self-efficacy	0.64	0.09	0.44	6.80	<0.001
2	(Constant)	1.33	0.35		3.79	<0.001
	Self-efficacy	0.57	0.09	0.40	6.26	<0.001
	Social support	0.20	0.05	0.27	4.22	<0.001
3	(Constant)	1.46	0.34		4.25	<0.001
	Self-efficacy	0.61	0.09	0.43	6.81	<0.001
	Social support	0.20	0.05	0.26	4.13	<0.001

Model	Variables	B	SE	$\beta$	t	p-value
	Work experience in nursing	-0.01	0.00	-0.21	-3.35	<0.001

**Note:** Red font indicates variables included in the final model.

## Discussion

To our knowledge, this is the first study to evaluate individual factors—the Big Five personality traits, transformational leadership, self-efficacy, and social support—influencing business success concept (including business performance and quality of care) in nurse entrepreneurs in nursing and midwifery clinics. This study also provides a comprehensive overview of a significant workforce group, the nurse entrepreneurs in nursing and midwifery clinics in Thailand. The recent findings by TNMC revealed 4,884 nursing and midwifery clinics around Thailand owned by nurse entrepreneurs, including 2,127 in the Central region, 1,632 in the Northeast, 627 in the South, and 498 in the North (The National Health Security Office [NHSO], 2022). The study was conducted with 190 nurse entrepreneurs who own nursing and midwifery clinics, ensuring a diverse and representative sample across all geographic regions in Thailand. In this cross-sectional study, we found significant relationships among variables in nurse entrepreneurs. Conscientiousness showed a moderate positive relationship with emotional stability, while transformational leadership exhibited a similar relationship with self-efficacy. Moreover, self-efficacy was moderately linked to both quality of care and business performance, with a weak positive correlation between self-efficacy and business performance. These findings underscore the significance of self-efficacy and social support in maintaining business performance and quality of care.

Study finding indicated that part-time engagement in clinic ownership could hinder business performance. At the same time, work experience in nursing was negatively associated

with the quality of care among nurse entrepreneurs in nursing and midwifery clinics. Additionally, we did not find any association between the Big Five personality traits and transformational leadership with both business performance and quality of care in achieving business success.

### ***Overall findings***

#### **Self-efficacy, social support, and clinic ownership as a part-time job influencing business performance**

##### ***1) Self-efficacy***

In this study, the first individual factor linked to the business performance of nurse entrepreneurs is self-efficacy. As defined by Bandura (1977), self-efficacy refers to an individual's belief in their ability to execute behaviors necessary to achieve specific performance goals. It serves as a precursor to forming intentions; individuals who have faith in their capacity to reach a goal are more likely to develop the intention to achieve it (Melnik & Raderstorf, 2019). In the entrepreneurial context, self-efficacy pertains to an individual's perceived competence in accomplishing various entrepreneurial tasks (Chen et al., 1998). Entrepreneurs with high self-efficacy set challenging goals, persist, invest in tasks, and recover quickly from failures, positively influencing increasing performance and business success (Miao et al., 2017). Similarly, in nursing entrepreneurship, Colichi et al. (2019) found the importance of self-efficacy in impacting performance outcomes in nursing businesses. Transitioning from a nurse employee to an entrepreneur in nursing and midwifery clinics can be challenging, causing conflict and uncertainty in nursing roles. Without the required knowledge, skills, abilities, and experience, nurse entrepreneurs may lack self-efficacy when launching and managing a clinic, negatively impacting their performance by doubting their abilities and hesitating to make decisions, manage

staff, and attract clients (Lyons, 2014), potentially leading to adverse outcomes for their business's future (Sharp & Monsivais, 2014; Thepna et al., 2023b).

Conversely, nurse entrepreneurs with high self-efficacy when operating a clinic can significantly enhance their performance in nursing and midwifery clinics, improving the healthcare system. This fosters positive patient health outcomes and enhances the effectiveness of nursing services (Vannucci & Weinstein, 2017), resulting in increased business performance, such as a higher number of patients, income, and patient retention. Self-efficacy is also a key determinant of the success of a nurse entrepreneur's business venture (Wilson et al., 2012). Evidence on the self-efficacy of nurse entrepreneurs suggests that bolstering this concept is pivotal for their success. For instance, we underscored the significance of self-efficacy in nurse entrepreneurs, directly linking it to their ability to perform effectively and impact their business performance (Thepna et al., 2023b). This trait aligns with entrepreneurial leadership and management, which involves confident decision-making and persistent efforts, thereby positively shaping business performance, leading to profitability, improved service quality, and potentially avoiding financial losses, as noted by Applegate et al. (2016). Moreover, self-efficacy extends its influence beyond immediate business success, affecting sustainability in nursing businesses in the long term. High self-efficacy plays a significant role in influencing the business performance of nurse entrepreneurs, affecting their ability to set and achieve goals, persist through challenges, and positively influence the success of their clinics. This confidence in their abilities not only enhances immediate performance but also contributes to long-term sustainability and improves healthcare outcomes.

## **2) Social support**

Social support, the second individual factor associated with the business performance of nurse entrepreneurs in this study, is a powerful resource. It is defined as the strength individuals draw from their social relationships to enhance their business performance (Kim & Tussyadiah, 2013). This support, which includes the beliefs and expectations of potential entrepreneurs regarding the support they anticipate from family, friends, and other key relationships when establishing a business (León et al., 2007; Politis, 2005), can play a pivotal role in enabling nurse entrepreneurs within nursing and midwifery clinics to manage their operations effectively. Within the existing literature on nursing entrepreneurship, social support emerges as a significant individual-level factor influencing entrepreneurial performance (Vannucci & Weinstein, 2017). It carries behavioral implications in entrepreneurial ventures, affecting an individual's propensity to enter the entrepreneurial process and succeed in business (Stam et al., 2014). Family members, including parents, spouses, children, and relatives, can offer crucial emotional support to nurse entrepreneurs during stressful periods, helping them maintain perspective while managing the responsibilities of effective performance and running a successful business (Edelman et al., 2016; Leung et al., 2020; Uziarko, 2022). Nurse entrepreneurs may require substantial financial, operational, and emotional support to enhance business performance (Elsafty et al., 2020). Cardella (2020) highlights that family and friends support involves providing financial, informational, and emotional backing for entrepreneurs, thereby aiding them in meeting business performance goals. The support and encouragement received from family and friends can significantly influence nurse entrepreneurs' confidence and motivation during the establishment and operation of clinics (Leung et al., 2020; Uziarko, 2022). Emotional support from friends can

help alleviate the stress and anxiety associated with entrepreneurship, fostering a positive mindset conducive to effective clinic management (Edelman et al., 2016).

Moreover, guidance and mentorship from experienced nurses who have successfully launched their clinics can offer novice nurse entrepreneurs invaluable insights and practical advice. Drawing from their own experiences, these mentors can provide valuable strategies for overcoming common challenges and pitfalls in clinic management. They can facilitate sharing and discussing issues related to finances, medical supply stocks, scope of practice, and marketing. This form of social support creates a sense of community and belonging, which can be invaluable for learning, thereby enhancing business performance (Wall, 2014). During the launch and growth phases of a clinic, networking power can determine its survival and success (Abbas et al., 2019). Nurse entrepreneurs perceive the network as a blend of business friendships and experts as experienced nurses who have successfully launched their clinics, stimulating entrepreneurial opportunities and performance through business contacts (Kregar & Antoncic, 2014; Parker, 2018). A supportive work environment fosters collaboration, reduces stress, and enhances overall clinic performance (Abbas et al., 2019). Ultimately, all social support networks can play a crucial role in marketing and promoting nursing and midwifery clinics within the community. Word-of-mouth recommendations from satisfied patients and positive referrals from others can significantly boost clinic visibility and reputation, ultimately driving patient volume and income generation (Soare et al., 2022). Social support from family, friends, experienced nurses, and multidisciplinary healthcare teams can profoundly impact the business performance of nursing and midwifery clinics. By fostering a supportive environment and leveraging collaborative relationships, nurse entrepreneurs can enhance patient satisfaction, attract more patients, and ultimately improve clinic profitability. Therefore, nurturing and leveraging social support

networks should be considered an essential component of the business strategy for nurse-led clinics.

### ***3) Clinic ownership as a part-time job***

In this study, we found a negative association between engagement in clinic ownership as a part-time job and business performance in nursing and midwifery clinics ( $\beta = -0.21$ ). This finding suggests that nurse entrepreneurs who own and manage clinics part-time may experience challenges that detract from effective clinic management, leading to decreased business performance. Consistent with effective time management, it is essential for completing tasks efficiently and effectively in business (Chaudhari, 2022). This involves arranging, organizing, scheduling, planning, and budgeting time spent on specific tasks (Bahadori et al., 2015; Hussain et al., 2019; Meiring, 2017). This concept links with engagement in clinic ownership as a part-time job in nursing and midwifery clinics because such situations might result in insufficient time commitment to clinic management, divided focus due to other professional or personal responsibilities, conflicting interests impacting decision-making, and a lack of expertise in healthcare management among part-time clinic owners. Nurse entrepreneurs in nursing and midwifery clinics require effective time management for managing healthcare services within healthcare standards and the scope of practice, and limited commitment may hinder growth and sustainability (Addis et al., 2023). Gordon & Borkan (2014) mentioned that if entrepreneurs cannot manage time, it could affect networking and strategic planning, impacting competitiveness and limiting growth opportunities and service expansion. It can result in reduced healthcare quality due to limited attention to effective clinic management, which then affects patient satisfaction and overall operational efficiency.

## **Self-efficacy, social support, and nursing experience influencing quality of care**

### ***1) Self-efficacy***

The pivotal role of self-efficacy among nurse entrepreneurs is underscored by its impact on the quality of care in nursing and midwifery clinics. Self-efficacy is not just a desirable trait but a crucial factor in the entrepreneurial journey of nurses. By incorporating self-efficacy principles into their professional practice, nurse entrepreneurs can effectively steer through the intricate web of healthcare regulations and innovate in healthcare delivery to uphold high standards of care (Thepna et al.,2023b). With its paramount responsibility of safeguarding lives, the healthcare industry operates under stringent guidelines dictated by the standard of care, scope of practice, and regulatory requirements. Understanding and adhering to these unique regulations and demands is a prerequisite for businesses serving patients. Furthermore, nursing and midwifery clinics play a pivotal role in primary care systems, offering diverse healthcare services, including first-aid treatments, home healthcare, immunization, referral services, and healthcare consultations (Thailand Nursing & Midwifery Council [TNMC], 2014). The nature of self-efficacy varies across healthcare professions due to differences in the scope of practice. Nursing entrepreneurship, in particular, necessitates a unique blend of skills in health promotion, disease prevention, treatment, and rehabilitation to ensure the delivery of safe, high-quality, patient-centered, and accessible care, coupled with practical business management and innovation (Neergard, 2021; Thepna et al., 2023b). We noted that heightened self-efficacy among nurse entrepreneurs, especially women, has led to significant improvements in the healthcare industry, fostering positive health outcomes for patients and bolstering the effectiveness of nursing services (Thepna et al., 2023 b). Similarly, Layton et al. (2022) conducted an assessment of learning needs to identify deficiencies in business and operational skills among advanced practice registered

nurses (APRNs) in the Southeast. This study recommended educational interventions in areas such as daily business operations, marketing services, financial management, and regulatory compliance, aiming to instill confidence and self-efficacy in nurses to enhance the quality of care provided. These findings strongly indicate that nurses with high levels of self-efficacy are more likely to initiate and sustain entrepreneurial ventures to improve healthcare quality. They demonstrate resilience in the face of challenges, possess robust problem-solving skills, and proactively address patient care needs. These entrepreneurial endeavors often result in the introduction of innovative solutions, streamlined processes, and improved patient outcomes within nursing and midwifery clinics. Given their direct involvement in patient care, nurse entrepreneurs in these clinics not only enhance access to care but also ensure efficient clinic management, thereby upholding the quality of care and service for clinic visitors. Their unwavering belief in self-efficacy significantly improves health outcomes and overall patient satisfaction.

## ***2) Social support***

Study findings highlighted the influence of high social support on the quality of care in nursing and midwifery clinics. Social support is crucial to the success and quality of care provided in nursing and midwifery clinics. Various forms of social support can be present, including support from family, friends, experienced nurse clinics, community leaders, and multidisciplinary professionals. This rich support network significantly influences patient experience and outcomes (Politis, 2005). The emotional support provided by family and friends not only benefits patients but also healthcare providers, alleviating stress and anxiety. This, in turn, enhances patient compliance and satisfaction with the care received (Reblin & Uchina, 2008), painting a hopeful picture of improved health outcomes. Moreover, involving family

members in the care process can enhance patient education and adherence to treatment plans, thereby improving health outcomes (Patrick et al., 2017). Experienced nurse clinics play a pivotal role in mentoring and guiding nurse entrepreneurs in establishing and managing their clinics effectively. These mentors offer valuable insights and practical advice based on their own experiences, which can help new entrepreneurs navigate challenges and avoid common pitfalls in clinic management (Minguez Moreni et al., 2023). As nursing and midwifery clinics are primary care services contributing directly to communities, community leaders and member involvement are essential for promoting trust and engagement within the local community. Collaborating with community leaders can facilitate access to healthcare services and promote health education initiatives, thereby improving health literacy and preventive care practices among community members (Alderwick et al., 2021). Furthermore, multidisciplinary collaboration among healthcare professionals is critical for delivering comprehensive and holistic care in nursing and midwifery clinics. By working together, nurses, midwives, physicians, and other allied health professionals can leverage their diverse expertise to address the complex needs of patients more effectively (Karam et al., 2021). In its various forms, social support plays a central role in enhancing the quality of care provided in nursing and midwifery clinics. Nurse entrepreneurs can create environments that prioritize patient-centered care and promote positive health outcomes by fostering collaboration, mentorship, community engagement, and interdisciplinary teamwork.

### ***3) Nursing experience***

The findings of this study are significant as they reveal a negative association between years of work experience in nursing and the quality of care in nursing and midwifery clinics ( $\beta = -0.21$ ). This suggests that nurse entrepreneurs with more extensive work experience in nursing may deliver lower-quality care than those with less experience. This finding challenges the

general standard view that nurse entrepreneurs with more nursing experience can provide better quality care or service compared to new nurses or those with less nursing experience. Supporting this finding, some studies have found that more extensive nursing work experience might reduce patient care quality. For instance, Bowden et al. (2019) studied the impact of the level of nurse experience on falls in medical-surgical units. They found that a larger proportion of falls occur among patients cared for by nurses with  $\geq 5$  years of experience when comparing new nurses with  $\leq 1$  year of experience. This finding suggests that nurses with  $\leq 5$  years of experience may be more engaged in their work, leading to a lower quality of care for patients. From the study, it is possible that nurses with more experience in nursing might not focus as much on the quality of care compared to those with less experience, who may prioritize being a good nurse. Nurse entrepreneurs with more nursing experience may be more aware of other factors like clinic management (e.g., networking, marketing, finance, services), which could affect the perceived ideal quality of care and prioritize enhancing clinic success over aspects of quality care. Conversely, nurses with less experience in nursing may prioritize patient care quality over clinic management. This aligns with Layton et al., 2022, who suggested that challenges in clinic management may affect the quality of care provided, potentially leading to disengagement from patient care and decreased satisfaction among nurses with longer tenures (Blegen et al., 2001). Furthermore, experienced nurses transitioning to entrepreneurship may face challenges in adapting from clinical to managerial roles, leading to gaps in leadership or business expertise that could impact healthcare delivery quality (Sharp & Monsivais, 2014). It is important to note that this study utilized a quality-of-care survey to ascertain nurses' perceptions of patient care. This method acknowledges the subjective nature of care quality and offers insights beyond objective metrics. The survey comprised six items covering aspects such as care type, service timeliness,

staffing, resources, and overall care quality. Nurses' varying perceptions, influenced by their nursing experience, need to be considered, especially given the complexity of assessing care quality and its potential impact on associations with nursing experience. Therefore, attention to direct patient care quality, including factors such as patient satisfaction, safety, and regulatory compliance, may vary between nurse entrepreneurs with extensive experience and those with less experience.

### **No association between the Big Five personality model and transformational leadership with both business performance and quality of care in business success**

Surprisingly, the Big Five personality model and transformational leadership showed no association with either business performance or quality of care in business success, including business performance and quality of care among nurse entrepreneurs in nursing and midwifery clinics. The Big Five personality model is a widely accepted psychological framework that describes human personality across five dimensions: openness to experience, conscientiousness, extraversion, agreeableness, and emotional stability (Costa & McCrae, 1992). These dimensions capture different aspects of an individual's personality and have been linked to various outcomes in both personal and professional contexts. They are often associated with positive organizational outcomes such as job satisfaction, commitment, and performance (Theresa & Vijiyabanu, 2014; Wildevuur & Simonse, 2014). On the other hand, transformational leadership is characterized by inspiring and motivating followers to achieve higher performance levels through idealized influence, inspirational motivation, intellectual stimulation, and individual consideration (Bass, 1999). It is often associated with positive organizational outcomes such as employee satisfaction, commitment, and performance (Boamah, 2018; Boamah et al., 2018). The lack of association between the Big Five personality model, transformational leadership, and business

performance/quality of care among nurse entrepreneurs in nursing and midwifery clinics suggests that these traditional associations of success may be less relevant in this specific context. Nursing and midwifery clinics operate within a highly regulated and complex healthcare environment. Success in this setting may depend more on factors such as healthcare policy, adherence to standards of care, regulatory compliance, and patient outcomes, especially in the context of nurse entrepreneurs (Cooper et al., 1992; Limsong et al., 2016; Seet et al., 2021; Thepna et al., 2023b), rather than individual personality traits or leadership style alone. In addition, nurse entrepreneurs may prioritize operational aspects and clinic management, such as staffing, scheduling, resource management, and patient satisfaction, to enhance the quality of service and patient outcomes (Bhati et al., 2023) over personal characteristics or leadership behaviors. In a healthcare setting, the ability to efficiently manage resources and provide high-quality care to patients could overshadow the influence of individual personalities or leadership approaches. While the lack of association between the Big Five personality model, transformational leadership, and business performance/quality of care may seem surprising, it highlights the need for a more nuanced understanding of success factors in healthcare entrepreneurship.

## **Strengths and limitations**

### ***Strengths***

The strengths of this study include its representative sample size, effectively representing nurse entrepreneurs in nursing and midwifery clinics across Thailand. It encompassed representative numbers from different regions.

### ***Limitations***

Study limitations included its cross-sectional design. This study cannot ascertain cause-and-effect relationships using one-time quantitative survey measures. In addition, the

sample did not include all nurse entrepreneurs in nursing and midwifery clinics systematically or using a random sample. Nursing and midwifery clinic owners on the TNMC list were invited to participate, and participants were also recruited by group networking word-of-mouth and emails. Another limitation of the study was the use of self-rated measures of quality of care from the nurse's perspective rather than also incorporating assessments from patients and use of more objective measures. Response bias or overestimating performance is a concern when using self-rated instruments and subjective measures, leading to potential inaccuracies in the evaluation of quality of care (Mills, 2009). Integrating patient assessments and objective metrics could offer a more comprehensive understanding of care quality. In addition, this study did not include nurse entrepreneurs who owned clinics that were not successful (e.g., clinics that had to close or experienced losses or lack of profitability that limited length of ownership).

## **Implications**

### ***Future research***

Conducting a longitudinal study to explore changes over time and establish causal relationships between variables involves following nurse entrepreneurs and their clinics over an extended period, collecting data at multiple points to track changes in quality of care, business success, and other relevant factors. To ensure a more representative sample, one could systematically sample nurse entrepreneurs from a broader range of nursing and midwifery clinics. This could involve collaborating with professional organizations or regulatory bodies to access comprehensive lists of nurse-owned clinics and employing random sampling techniques to recruit participants. Supplementing self-rated measures with objective indicators of quality of care, such as clinical outcomes, patient satisfaction scores, and adherence to evidence-based guidelines, can help mitigate response bias and provide more robust evidence of the relationship between nurse

entrepreneurship and quality of care. Additionally, incorporating assessments of the quality of care from multiple stakeholders, including patients, family members, and other healthcare professionals, would provide a more holistic view of care quality and help identify areas for improvement from different viewpoints. While the lack of association between the Big Five personality traits, transformational leadership, and business performance/quality of care may seem surprising, it underscores the need for a more nuanced understanding of success factors in healthcare entrepreneurship. Future research should explore alternative models such as transactional leadership, contextual variables, and industry-specific measures to better elucidate the determinants of success in nursing and midwifery clinics. Additionally, exploring factors or barriers in nursing and midwifery clinics experiencing losses or lack of profitability is crucial for the development of these clinics. The next steps for this study should involve employing mixed methods research to gain a deeper understanding of the complex relationships between individual factors and other influences that impact the business success experiences of nurse entrepreneurs. This will be achieved by triangulating nurse entrepreneurs' qualitative perceptions with quantitative findings, leading to comprehensive evidence-based recommendations for developing nurse entrepreneurs in nursing and midwifery clinics. Lastly, exploring the factors or barriers contributing to closures, losses or lack of profitability in nursing and midwifery clinics is crucial in future research. This understanding, in particular, can shed light on the possible influence of personality traits and leadership on business success.

### ***Education***

Developing a comprehensive training program and curriculum for aspiring nurse entrepreneurs is crucial. This preparation will equip them with the knowledge and skills needed to enhance their self-efficacy, including clinic management, financial management, marketing,

staff planning, and entrepreneurship skills. By boosting their clinic management confidence, we can see a direction toward the business success of nursing and midwifery clinics.

### *Nursing practice*

In this study, we uncovered new perspectives for nursing management, particularly in business success. We found that their self-efficacy deeply influences business performance and quality of care among nurse entrepreneurs in nursing and midwifery clinics. This personal belief in their ability to succeed is a key factor in enhancing nursing management and contributing to business success. However, nurse entrepreneurs often need help with barriers, such as requiring more necessary knowledge and skills and concerns about clinic management. These challenges can significantly impact their self-efficacy. Furthermore, our research revealed the crucial role of social support in the success of nurse entrepreneurs. Building and fostering these social connections, whether from family, friends, or professional networks, is key. Networking with experienced nurses who have opened their own clinics can be particularly beneficial if these connections include counseling and mentorship to discuss strategic clinic management and primary healthcare service. Moreover, healthcare professionals' support, including counseling and patient referrals, is essential for patient safety and quality of care. Community engagement is also a significant factor. These ongoing support efforts empower nurse entrepreneurs to balance patient care and business responsibilities, leading to improved clinic performance and quality of care for people. Additionally, considering the unique time management challenges faced by nurse entrepreneurs who own clinics part-time is crucial, as it directly affects clinic management. Effective time management and planning strategies can help nurse entrepreneurs navigate this situation, and experienced nurses can provide valuable insights into maintaining the quality and standards of clinic services. Overall, our study findings offer actionable insights and information

that can inform policymakers regarding public policy, education, healthcare administrators, and nurse entrepreneurs in nursing and midwifery clinics about strategies to enhance business performance while maintaining high standards of patient care and for future research in this area. Ultimately, our research aims to contribute to advancing nurse entrepreneurship in Thailand, fostering a conducive environment for innovation, growth, and sustainable healthcare delivery, and enhancing healthcare for Thai populations and more globally.

## **Conclusions**

The study explored the influence of individual factors such as personality traits, leadership styles, self-efficacy, and social support on business success among nurse entrepreneurs in nursing and midwifery clinics in Thailand. It revealed that self-efficacy and social support significantly impact business performance and care quality. Additionally, part-time clinic ownership affects business performance, while nursing work experience influences the quality of care. The findings highlighted the importance of fostering self-efficacy and social support for nurse entrepreneurs to enhance business success and improve patient care quality. Integrating these factors into nursing education and training programs can bolster managerial skills and competency and provide actionable insights and information that can inform policymakers, healthcare administrators, and nurse entrepreneurs in nursing and midwifery clinics about strategies to enhance business performance while maintaining high standards of patient care and for future research in this area, ultimately benefiting healthcare outcomes locally and globally.

## References

- Abbas, J., Raza, S., Nurunnabi, M., Minai, M. S., & Bano, S. (2019). The impact of entrepreneurial business networks on firms' performance through a mediating role of dynamic capabilities. *Sustainability, 11*(11), 3006. <https://doi.org/10.3390/su11113006>.
- Addis, B. A., Eyowas, F. A., Bogale, T. W., Aynalem, Z. B., & Guadie, H. A. (2023). Time wasted by health professionals is time not invested in patients: Time management practice and associated factors among health professionals at public hospitals in Bahir Dar, Ethiopia: a multicenter mixed method study. *Frontiers in Public Health, 11*, 1159275. <https://doi.org/10.3389/fpubh.2023.1159275>.
- Al-Kwafi, O. S., Tien Khoa, T., Ongsakul, V., & Ahmed, Z. U. (2020). Determinants of female entrepreneurship success across Saudi Arabia. *Journal of Transnational Management, 25*(1), 3-29. <https://doi.org/10.1080/15475778.2019.1682769>
- Alderwick, H., Hutchings, A., Briggs, A., & Mays, N. (2021). The impacts of collaboration between local health care and non-health care organizations and factors shaping how they work: A systematic review of reviews. *BMC Public Health, 21*(1), 753. <https://doi.org/10.1186/s12889-021-10630-1>
- Alilyyani, B.; Kerr, M.; Wong, C.; Wazqar, D. A (2022). Psychometric analysis of the nurse satisfaction with the quality of care scale. *Healthcare, 10*, 1145. <https://doi.org/10.3390/healthcare10061145>.
- Applegate, L., Kraus, J., & Butler, T. (2016). *Skills and behaviors that make entrepreneurs successful*. Harvard Business School, Boston.
- Bahadori, M., Salesi, M., Ravangard, R., Hosseini, S. M., Raadabadi, M., Hojati Dana, A., & Ameryoun, A. (2015). Prioritization of factors affecting time management among health

- managers. *International Journal of Travel Medicine and Global Health*, 3(4), 159-164.  
<https://doi.org/10.20286/ijtmgh-0304142>.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Bass, B. M. (1999). Two decades of research and development in transformational leadership. *European Journal of Work and Organizational Psychology*, 8(1), 9-32.  
<https://doi.org/10.1080/135943299398410>.
- Bhati, D., Deogade, M. S., & Kanyal, D. (2023). Improving patient outcomes through effective hospital administration: A comprehensive review. *Cureus*, 15(10), e47731.  
<https://doi.org/10.7759/cureus.47731>
- Blegen, M. A., Vaughn, T. E., & Goode, C. J. (2001). Nurse experience and education: Effect on quality of care. *JONA: The Journal of Nursing Administration*, 31(1), 33-39. <https://doi.org/10.1097/00005110-200101000-00007>.
- Boamah, S. (2018). Linking nurses' clinical leadership to patient care quality: The role of transformational leadership and workplace empowerment. *Canadian Journal of Nursing Research*, 50(1), 9-19. <https://doi.org/10.1177/0844562117732490>
- Boamah, S. A., Laschinger, H. K. S., Wong, C., & Clarke, S. (2018). Effect of transformational leadership on job satisfaction and patient safety outcomes. *Nursing Outlook*, 66(2), 180-189. <https://doi.org/10.1016/j.outlook.2017.10.004>
- Bowden, V., Bradas, C., & McNett, M. (2019). Impact of level of nurse experience on falls in medical surgical units. *Journal of Nursing Management*, 27(4), 833-839.  
<https://doi.org/10.1111/jonm.12742>.

- Brüderl, J., & Preisendörfer, P. (1998). Network support and the success of newly founded business. *Small Business Economics*, 10, 213-225. <https://doi.org/10.1023/A:1007997102930>
- Burns, J.M (1978). *Leadership*. NY: Harper & Row.
- Cardella, G. M., Hernández-Sánchez, B. R., & Sanchez Garcia, J. C. (2020). Entrepreneurship and family role: A systematic review of a growing research. *Frontiers in Psychology*, 10, 29-39. <https://doi.org/10.3389/fpsyg.2019.02939>
- Carless, S. A., Wearing, A. J., & Mann, L. (2000). A short measure of transformational leadership. *Journal of Business and Psychology*, 14(3), 389-405. <https://doi.org/10.1023/A:1022991115523>
- Chaudhari, T. (2022). Time management essentials and importance. *International Journal of Commerce and Management Research*, 8(5), 6-8.
- Chen, C. C., Greene, P. G., & Crick, A. (1998). Does entrepreneurial self-efficacy distinguish entrepreneurs from managers? *Journal of Business Venturing*, 13(4), 295-316. [https://doi.org/10.1016/S0883-9026\(97\)00029-3](https://doi.org/10.1016/S0883-9026(97)00029-3)
- Cherrington, D.J. (1989). *Organizational behavior: The management of individual and organizational performance*. Allyn & Bacon.
- Ciavarella, M. A., Buchholtz, A. K., Riordan, C. M., Gatewood, R. D., & Stokes, G. S. (2004). The Big Five and venture survival: Is there a linkage? *Journal of Business Venturing*, 19(4), 465-483. <https://doi.org/10.1016/j.jbusvent.2003.03.001>
- Colichi, R. M. B., Bonini, A. B. B., & Lima, S. A. M. (2019). Entrepreneurship and nursing: Integrative review. *Revista Brasileira de Enfermagem*, 72, 321-330. <https://doi.org/10.1590/0034-7167-2018-0498>

- Collins, E., Owen, P., Digan, J., & Dunn, F. (2020). Applying transformational leadership in nursing practice. *Nursing Standard (Royal College of Nursing (Great Britain): 1987)*, 35(5), 59–66. <https://doi.org/10.7748/ns.2019.e11408>
- Cooper, A. C., Folta, T., Gimeno-Gascon, J., & Woo, C. Y. (1992). Entrepreneurs' exit decisions: The role of threshold exceptions. *Academy of Management Proceedings (1)*, 75-79. <https://doi.org/10.5465/AMBPP.1992.4977477>
- Costa, P. T., & McCrae, R. R. (1992). The five-factor model of personality and its relevance to personality disorders. *Journal of Personality Disorders*, 6(4), 343 - 359. <https://doi.org/10.1521/pedi.1992.6.4.343>
- Edelman, L. F., Manolova, T., Shirokova, G., & Tsukanova, T. (2016). The impact of family support on young entrepreneurs' start-up activities. *Journal of Business Venturing*, 31(4), 428-448. <https://doi.org/10.1016/j.jbusvent.2016.04.003>
- Ejimabo, N. O. (2015). The influence of decision making in organizational leadership and management activities. *Journal of Entrepreneurship & Organization Management*, 4(2), 2222-2839. <https://doi.org/10.4172/2169-026X.1000138>
- Elango, B., Hunter, G. L., & Winchell, M. (2007). Barriers to nurse entrepreneurship: A study of the process model of entrepreneurship. *Journal of the American Academy of Nurse Practitioners*, 19(4), 198-204. <https://doi.org/10.1111/j.1745-7599.2007.00215.x>
- Elsafty, A., Abadir, D., & Shaarawy, A. (2020). How does the entrepreneurs' financial, human, social and psychological capitals impact entrepreneur's success. *Business and Management Studies*, 6(3), 55-71. <https://doi.org/10.11114/bms.v6i3.4980>

- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G\* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149-1160. <https://doi.org/10.3758/BRM.41.4.1149>
- Franco, M., & Prata, M. (2019). Influence of the individual characteristics and personality traits of the founder on the performance of family SMEs. *European Journal of International Management*, *13*(1), 41-68. <https://doi.org/10.1504/EJIM.2019.096498>
- Freitas, J. S. D., Silva, A. E. B. D. C., Minamisava, R., Bezerra, A. L. Q., & Sousa, M. R. G. D. (2014). Quality of nursing care and satisfaction of patients attended at a teaching hospital. *Revista Latino-americana De Enfermagem*, *22*, 454-460. <https://doi.org/10.1590/0104-1169.3241.2437>
- Gordon, C. E., & Borkan, S. C. (2014). Recapturing time: a practical approach to time management for physicians. *Postgraduate Medical Journal*, *90*(1063), 267-272. <https://doi.org/10.1136/postgradmedj-2013-132012>
- Gosling, S. D., Rentfrow, P. J., & Swann Jr, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, *37*(6), 504-528. [https://doi.org/10.1016/S0092-6566\(03\)00046-1](https://doi.org/10.1016/S0092-6566(03)00046-1)
- Hachana, R., Berraies, S., & Ftiti, Z. (2018). Identifying personality traits associated with entrepreneurial success: does gender matter? *Journal of Innovation Economics Management*, *(3)*, 169-193. <https://doi.org/10.3917/jie.027.0169>
- Hair, J. F. Jr., Anderson, R. E., Tatham, R. L. & Black, W. C. (1995). *Multivariate data analysis* (3rd ed). New York: Macmillan.
- Halim, M. A. S. A., Muda, S., & Amin, W. A. A. W. M. (2011). The measurement of entrepreneurial personality and business performance in Terengganu creative

- industry. *International Journal of Business and Management*, 6(6), 183.  
<https://doi.org/10.5539/ijbm.v6n6p183>
- Hambleton, R. K. (2005). Issues, designs, and technical guidelines for adapting tests into multiple languages and cultures. In R. K. Hambleton, P. F. Merenda, & C. D. Spielberger (Eds.), *Adapting educational and psychological tests for cross-cultural assessment* (pp. 3–38). Mahwah, NJ: Lawrence Erlbaum.
- Hayat, A., Latif, A., Humayon, A. A., Ahmed, M., & Azeem, M. (2019). The mediating role of entrepreneurial leadership in the relationship between entrepreneurial orientation and firm performance of ICTs SMEs. *Journal of Multidisciplinary Approaches in Science*, 5(1), 16-23.
- Hussain, K., Bakhsh, K., & Sabir, H. M. (2019). Time management practices and administrative satisfaction among higher secondary School principals in Punjab. *Journal of Managerial Sciences*, 13(2).
- Islam, M. A., Khan, M. A., Obaidullah, A. Z. M., & Alam, M. S. (2011). Effect of entrepreneur and firm characteristics on the business success of small and medium enterprises (SMEs) in Bangladesh. *International Journal of Business and Management*, 6(3), 289.  
<https://doi.org/10.5539/ijbm.v6n3p289>
- İspir, Ö., Elibol, E., & Sönmez, B. (2019). The relationship of personality traits and entrepreneurship tendencies with career adaptability of nursing students. *Nurse Education Today*, 79, 41-47. <https://doi.org/10.1016/j.nedt.2019.05.017>
- Judge, T. A., & Zapata, C. P. (2015). The person–situation debate revisited: Effect of situation strength and trait activation on the validity of the Big Five personality traits in predicting

- job performance. *Academy of Management Journal*, 58(4), 1149-1179.  
<https://doi.org/10.5465/amj.2010.0837>
- Karam, M., Chouinard, M. C., Poitras, M. E., Couturier, Y., Vedel, I., Grgurevic, N., & Hudon, C. (2021). Nursing care coordination for patients with complex needs in primary healthcare: A scoping review. *International Journal of Integrated Care*, 21(1), 16.  
<https://doi.org/10.5334/ijic.5518>
- Kerr, S. P., Kerr, W. R., & Xu, T. (2018). Personality traits of entrepreneurs: A review of recent literature. *Foundations and Trends in Entrepreneurship*, 14(3), 279-356.  
<https://doi.org/10.1561/03000000080>
- Kenneth, R. K. (2019). The influence of transformational leadership on entrepreneurship. *Scholedge International Journal of Management & Development*, 6(6), 90-97.
- Kim, J., & Tussyadiah, I. P. (2013). Social networking and social support in tourism experience: The moderating role of online self-presentation strategies. *Journal of Travel and Tourism Marketing*, 30(1-2), 78-92. <https://doi.org/10.1080/10548408.2013.751220>
- Kraczla, M. (2017). Personality profiling according to the big five model by PT Costa and RR McCrae: Comparison analysis of managers and specialists. *Regional Formation and Development Studies*, 22(2), 77-91. <https://doi.org/10.15181/rfds.v22i2.1479>
- Kregar, T. B., & Antoncic, B. (2014). Entrepreneurial networks: The multiplexity of exchange content. *Economic and Social Development: Book of Proceedings*, 389.
- Layton, S. S., Blakely, K. K., Patel, B., & Miltner, R. S. (2022). Assessing Southeastern Advanced Practice Registered Nurses' Business and operational skill sets. *The Journal for Nurse Practitioners*, 16(6), 636-639. <https://doi.org/10.1016/j.nurpra.2022.02.019>

- León, J. A. M., Descals, F. J. P., & Domínguez, J. F. M. (2007). The psychosocial profile of the university entrepreneur. *Psychology in Spain*, 1(1), 72–84.
- Leung, Y. K., Mukerjee, J., & Thurik, R. (2020). The role of family support in work-family balance and subjective well-being of SME owners. *Journal of Small Business Management*, 58(1), 130-163. <https://doi.org/10.1080/00472778.2019.1659675>
- Limsong, S., Seang, S., Sambath, P., & Hong, S. (2016). Model of entrepreneurial success: Linking theory and practice. In International Conference on Enterprise Marketing and Globalization (EMG). Proceedings. *Global Science and Technology Forum*, 97. [https://doi.org/10.5176/2251-2039\\_IE16.29](https://doi.org/10.5176/2251-2039_IE16.29).
- Lucky, E. O. I., Olusegun, A. I., & Bakar, M. S. (2012). Determinants of Business Success: Trust or Business Policy?. *Researchers World*, 3(3), 37.
- Lyons, C. (2014). Entrepreneurship in nursing. *The Oklahoma Nurse*, 59(1), 1.
- McGee, J. E., Dowling, M. J., & Megginson, W. L. (1995). Cooperative strategy and new venture performance: The role of business strategy and management experience. *Strategic Management Journal*, 16(7), 565-580.
- McShane, S. L., & Von Glinow, M. (2010). *Organizational behaviour: Emerging knowledge and practice for the real world* (5th ed.). New York: McGraw-Hill/Irwin.
- Meiring, A. (2017). Time management: how to improve outcomes through management inputs. *Professional Nursing Today*, 21(3), 2-3.
- Melnyk, B. M., & Raderstorf, T. (2019). *Evidence-based leadership, innovation and entrepreneurship in nursing and healthcare: A practical guide to success*. Springer Publishing Company.

- Miao, C., Qian, S., & Ma, D. (2017). The relationship between entrepreneurial self-efficacy and firm performance: A meta-analysis of main and moderator effects. *Journal of Small Business Management*, 55(1), 87-107. <https://doi.org/10.1111/jsbm.12240>
- Mills L.B. (2009) A meta-analysis of the relationship between emotional intelligence and effective leadership. *Journal of Curriculum and Instruction*, 3 (2), 22–38. <https://doi.org/10.3776/joci.2009.v3n2p22-38>
- Mínguez Moreno, I., González de la Cuesta, D., Barrado Narvi3n, M. J., Arnaldos Esteban, M., & Gonz3lez Cantalejo, M. (2023). Nurse mentoring: a scoping review. *Healthcare (Basel, Switzerland)*, 11(16), 2302. <https://doi.org/10.3390/healthcare11162302>
- Moriano, J. A., Molero, F., Topa, G., & L3vy Mangin, J. P. (2014). The influence of transformational leadership and organizational identification on intrapreneurship. *International Entrepreneurship and Management Journal*, 10(1), 103-119. <https://doi.org/10.1007/s11365-011-0196-x>
- Murphy, G. B., Trailer, J. W., & Hill, R. C. (1996). Measuring performance in entrepreneurship research. *Journal of Business Research*, 36(1), 15-23. <https://doi.org/10.1016/j.ijnurstu.2007>.
- Neergard, G. B. (2021). Entrepreneurial nurses in the literature: A systematic literature review. *Journal of Nursing Management*, 29(5), 905-915. <https://doi.org/10.1111/jonm.13210>.
- Parker, S. C. (2018). *The economics of entrepreneurship*. Cambridge University Press.
- Politis, D. (2005). *Entrepreneurship, career experience, and learning-developing our understanding of entrepreneurship as an experiential learning process*. Lund University.

- Razmus, W., & Laguna, M. (2018). Dimensions of entrepreneurial success: A multilevel study on stakeholders of micro-enterprises. *Frontiers in Psychology, 9*, 370133. <https://doi.org/10.3389/fpsyg.2018.00791>
- Reblin, M., & Uchino, B. N. (2008). Social and emotional support and its implication for health. *Current Opinion in Psychiatry, 21*(2), 201–205. <https://doi.org/10.1097/YCO.0b013e3282f3ad89>
- Sanders, E., & Kingma, M. (2012). *Handbook on entrepreneurial practice: Nurse creating opportunities as entrepreneurs and intrapreneurs*. International Council of Nurses, Geneva.
- Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, *Measures in health psychology: A user portfolio. Causal and control beliefs* (pp. 35-37). Windsor, England: NFER-NELSON.
- Seet, P. S., Lindsay, N., & Kropp, F. (2021). Understanding early-stage firm performance: The explanatory role of individual and firm level factors. *International Journal of Manpower, 42*(2), 260-285. <https://doi.org/10.1108/IJM-02-2019-0112>
- Sharp, D. B., & Monsivais, D. (2014). Decreasing barriers for nurse practitioner social entrepreneurship. *Journal of the American Association of Nurse Practitioners, 26*(10), 562-566. <https://doi.org/10.1002/2327-6924.12126>
- Soare, T., Ianovici, C., Gheorghe, I. R., Purcărea, V. L., & Soare, C. M. (2022). A word-of-mouth perspective on consumers of family medicine services: A case study. *Journal of Medicine and Life, 15*(5), 655–660. <https://doi.org/10.25122/jml-2022-0098>
- Soto-Acosta, P., Cismaru, D. M., Vătămănescu, E. M., & Ciochină, R. S. (2016). Sustainable entrepreneurship in SMEs: A business performance perspective. *Sustainability, 8*(4), 342. <https://doi.org/10.3390/su8040342>

- Stam, W., Arzlanian, S., & Elfring, T. (2014). Social capital of entrepreneurs and small firm performance: A meta-analysis of contextual and methodological moderators. *Journal of Business Venturing*, 29(1), 152-173. <https://doi.org/10.1016/j.jbusvent.2013.01.002>
- Subedi, R. (2021). Entrepreneurial performance construct, its dimensions, measures, and issues. *Interdisciplinary Journal of Management and Social Sciences*, 2(1), 172-179. <https://doi.org/10.3126/IJMSS.V2I1.36756>
- Thailand Nursing and Midwifery Council [TNMC] (2014). *Nursing and Midwifery Profession Act 1985 and amended (No. 2) 1997 according to the ministerial regulations and regulations of the Ministry of Public Health and the announcement Nursing Council No.3*. Nonthaburi: Jud Thong Company Limited.
- Thailand Nursing and Midwifery Council [TNMC] (2022, July). *Nursing and Midwifery Clinics*. <https://www.tnmc.or.th/news/407>.
- The National Health Security Office [NHSO] (2022, August,31). Operational guidelines Nursing and midwifery. <https://www.tnmc.or.th/images/userfiles/files/2566/nhso/05/01.pdf>.
- Thepna, A., Cochrane, B. B., & Salmon, M. E. (2023a). Advancing nursing entrepreneurship in the 21st century. *Journal of Advanced Nursing*. <https://doi.org/10.1111/jan.15563>.
- Thepna, A., Cochrane, B. B., & Salmon, M. E. (2023b). Self-efficacy in nurse entrepreneurs: A concept analysis. *Nursing Outlook*, 71(6), 102053. <https://doi.org/10.1016/j.outlook.2023.102053>.
- Therasa, C., & Vijayabanu, C. (2015). The impact of Big Five personality traits and positive psychological strengths towards job satisfaction: A review. *Periodica Polytechnica Social and Management Sciences*, 23(2), 142-150. <https://doi.org/10.3311/PPso.7620>

- Umrani, W. A., Kura, K. M., & Ahmed, U. (2018). Corporate entrepreneurship and business performance: The moderating role of organizational culture in selected banks in Pakistan. *PSU Research Review*, 2(1), 59-80. <https://doi.org/10.1108/PRR-12-2016-0011>.
- Uzialko, A. (2022). Family and Friends Provide a Key Lifeline for Entrepreneurs. <https://www.businessnewsdaily.com/9617-friends-family-business-support.html>
- Vannucci, M. J., & Weinstein, S. M. (2017). The nurse entrepreneur: Empowerment needs, challenges, and self-care practices. *Nursing: Research & Reviews*, 7, 57-66. <https://doi.org/10.2147/NRR.S98407>
- Wall, S. (2014). Self-employed nurses as change agents in healthcare: Strategies, consequences, and possibilities. *Journal of Health Organization Management*, 28(4), 511-531. <https://doi.org/10.1108/jhom-03-2013-0049>
- Wildevuur, S. E., & Simonse, L. W. (2015). Information and communication technology-enabled person-centered care for the "big five" chronic conditions: scoping review. *Journal of medical Internet research*, 17(3), e77. <https://doi.org/10.2196/jmir.3687>
- Wilson, A., Averis, A., & Walsh, K. (2003). The influences on and experiences of becoming nurse entrepreneurs: A Delphi study. *International Journal of Nursing Practice*, 9(4), 236–245. <https://doi.org/10.1046/j.1440-172x.2003.00426.x>.
- Wilson, A., Whitaker, N., Whitford, D., Wilson, A., Whitaker, N., & Whitford, D. (2012). Rising to the challenge of health care reform with entrepreneurial and intrapreneurial nursing initiatives. *Online Journal Issues Nursing*, 17(2), 5. <https://doi.org/10.3912/OJIN.Vol17No02Man05>

- Yukl, G. (2012). Effective leadership behavior: What we know and what questions need more attention. *Academy of Management Perspectives*, 26(4), 66-85. <https://doi.org/10.5465/amp.2012.0088>
- Zhao, H., Seibert, S. E., & Lumpkin, G. T. (2010). The relationship of personality to entrepreneurial intentions and performance: A meta-analytic review. *Journal of Management*, 36(2), 381-404. <https://doi.org/10.1177/0149206309335187>
- Zhou, M., Zhou, Y., Zhang, J., Obschonka, M., & Silbereisen, R. K. (2019). Person–city personality fit and entrepreneurial success: An explorative study in China. *International Journal of Psychology*, 54(2), 155-163. <https://doi.org/10.1002/ijop.12451>.
- Zin, M. L. M., & Ibrahim, H. (2020). The influence of entrepreneurial supports on business performance among rural entrepreneurs. *Annals of Contemporary Developments in Management & HR*, 2(1), 31-41. <https://doi.org/10.33166/ACDMHR.2020.01.004>

**Chapter 4. Individual factors influencing business success of nurse entrepreneurs in  
nursing and midwifery clinics:  
A sequential explanatory mixed methods study**

## **Abstract**

**Background:** Launching and running nursing and midwifery clinics successfully can be challenging due to various factors that impact business success. When entrepreneurs establish new nursing and midwifery clinics, individual factors can become important determinants influencing business success. Individual factors exert a complex and significant effect on behavior, which can be crucial for achieving success in the business. However, there has been a lack of studies examining or identifying these individual factors specifically in the context of nursing entrepreneurship and particularly in mixed methods research.

**Objective:** The aim of this study was to elaborate on individual factors, including personality traits, transformational leadership, self-efficacy, social support, and others, that influence business success experiences of nurse entrepreneurs by triangulating nurse entrepreneurs' qualitative perceptions with findings from quantitative analyses.

**Design:** A sequential explanatory mixed-methods design.

**Methods:** The earlier quantitative analysis findings (see chapter 3) were used as a foundation for this analysis. Qualitative data were obtained through in-depth interviews with 20 respondents to the online survey, further elucidating their experiences in running a nursing and midwifery clinic. Directed content analysis of the qualitative data was then used to explain the quantitative findings further through a process of data elaboration and triangulation. This mixed methods analysis involved collaboration with a Thai colleague for the translation of Thai interviews to English, consensual validation of the coding and themes on a transcript from an experienced co-investigator, and member checks with 5 of the interview participants. Through this process, the qualitative themes provided context and depth to the quantitative results.

**Results:** This study's overall findings emphasized seven comprehensive themes (and sub-themes):

1. Enhancing personality traits of conscientiousness and emotional stability (with subthemes careful and accurate in the patient care and safety, effective organized clinic management, and resilience in the face of challenges);
2. Self-efficacy promotes effective transformational leadership;
3. Conscientiousness enhances transformational leadership (idealized Influence, inspirational motivation, intellectual stimulation, and individualized consideration);
4. Self-efficacy for quality of care (confidence in providing quality care and having mission and passion for healthcare);
5. Self-efficacy enhances business performance;
6. Enhancing business performance (role of self-efficacy, role of social support, and time management when clinic ownership is part-time) and
7. Enhancing quality of care (role of self-efficacy, role of social support, and work experience in nursing).

**Conclusions:** This study sheds light on the critical individual factors influencing the success of nursing and midwifery clinics run by entrepreneurs. Seven themes were identified, emphasizing the importance of enhancing these factors for improved business performance and quality of care. These findings highlight insights for future research, inform practice and education initiatives, and development programs specific for nurse entrepreneurs, ultimately improving healthcare delivery, particularly in rural areas.

**Keywords:** personality traits, transformational leadership, self-efficacy, social support, business success, business performance, quality of care, nurse entrepreneur, nursing and midwifery clinics

## **Background**

In recent times, nurses have had the opportunity to expand their skill set beyond the bedside, exploring entrepreneurship opportunities and emerging as drivers and leaders in population health management. This shift has led to nurse entrepreneurs playing an increasingly important role in creating value, autonomy, and quality for nursing care within the healthcare system, including delivering direct nursing services to those facing healthcare access challenges. Consequently, many nurses are interested in establishing their healthcare businesses, with nursing clinics being a prominent service.

### **Nurse entrepreneurs in Thailand's nursing and midwifery clinics**

Nursing clinics are known as nursing and midwifery clinics in Thailand. Nursing and midwifery clinics are specialized healthcare facilities established and run by registered nurses (RNs). Nursing and midwifery clinics are integral components of the primary healthcare system, providing a one-stop service for health promotion, prevention, rehabilitation, first-aid treatment, home health care, immunization, referrals, prenatal and postnatal care, and healthcare consultations (Thailand Nursing & Midwifery Council [TNMC], 2014). Based on recent data, there are 4,884 nursing and midwifery clinics across Thailand (TNMC, 2022), which reflects the policy of the Thai government to support the healthcare system, enabling people to access services in the community without having to go to the hospital. This saves on travel expenses and reduces congestion in hospitals, particularly in underserved communities and rural areas. This healthcare system addresses an essential need for healthcare for people but also helps support the expansion of clinics, with nurse entrepreneurs being offered the opportunity to develop their nursing roles and serve as key change agents to enact health policy, address disparities, and improve accessibility to healthcare (Thepna et al., 2023a).

## **Business success including business performance and the quality of care**

Despite nurse entrepreneurs' expertise in caring for patients, they may face important challenges in their clinics. Business success can be defined as the ability to achieve stated objectives, encompassing the overall accomplishment of business goals from performance and ultimately leading to sustainability in the business (Lucky et al., 2012). Therefore, it is necessary to understand the construct of business success. Businesses that understand and adopt this concept will be in a better position to compete in the market (Razmus & Laguna, 2018).

Business performance is the effectiveness of an organization and is an indication of how it is performing effectively to achieve its goals and enhance business success (Cherrington, 1989). Thus, business performance is related to work accomplishment, entrepreneurial success, and business outcomes (Subedi, 2021). Many entrepreneurs use business performance as the outcome variable in measuring their business success (Brüderl & Preisendörfer, 1998; Halim et al., 2011; Islam et al., 2011). A literature review identified two main categories of indicators used to measure business performance: financial and non-financial. Financial indicators, such as income and profits, are commonly used to assess business performance (McGee et al., 1995; Murphy et al., 1996; Zhou et al., 2019; Zin & Ibrahim, 2020). On the other hand, non-financial indicators include marketing strategies, growth, and product or service quality (Hayat et al., 2019; Umrani et al., 2018; Zin & Ibrahim, 2020).

Certainly, in the context of nursing and midwifery clinics as healthcare businesses, it is important to assess the non-financial quality of care indicator. The evaluation of care quality aids in determining the effectiveness of treatments and assessing care delivery to patients (Freitas et al., 2014; Zin & Ibrahim, 2020). Assessing satisfaction with the quality of care from the nurse's perspective is vital as it is a valid and reliable indicator of care quality (Alilyyani et al., 2022).

Alilyyani et al. highlighted that ensuring quality care involved the type of services, adequate time, staff, resources, and overall quality of care patients receive. These efforts are crucial for upholding high standards of care and bolstering the clinic's reputation and competitiveness within the healthcare service. Ultimately, by emphasizing the quality of care, these clinics can maintain high service standards, fostering long-term success and sustainability in business (Wilson et al., 2003). Therefore, this study focused on the overarching construct of business success, which encompasses both business performance and the quality of care concepts within nursing and midwifery clinics.

### **Individual factors that influence business success in nursing entrepreneurship**

When running and managing nursing and midwifery clinics, multiple contextual factors such as healthcare policy, financing, the nursing educational system, gender roles, geographic location, (Alamshahi et al., 2017; Jakobsen et al., 2021; Nurluöz et al., 2019; Perex et al, 2015; Salmon & Maeda, 2016; Sharp & Monsivais, 2014; Thepna et al., 2023a), as well as individual factors of the entrepreneurs themselves (Cooper et al.,1992; Limsong et al.,2016; Seet et al., 2021). The individual factors can play a crucial role in influencing business success on both business performance and the quality of care provided, especially concerning entrepreneurs. This perspective is consistent with a study by Seet et al. (2021) focusing on a theoretical model linking the individual characteristics of founders or leading innovative entrepreneurs of start-up ventures. The authors found that entrepreneur characteristics, including attitudes, personality traits, and self-efficacy, play a significant role in business performance and success.

In the context of establishing a nursing and midwifery clinic in Thailand, specific attention to individual factors becomes paramount. The Thai Department of Health Service Support identified accreditation criteria for nurses seeking to set up a clinic, which must include educational qualifications in nursing, registration as a nurse with a valid nursing license, and/or

nurse practitioner certification. These criteria highlight the importance of nursing professionals possessing the knowledge and background needed to operate a clinic. These individual factors are consistent with Limsong et al. (2016) findings describing Human Capital Theory, which emphasizes individual factors such as demographic attributes, personality traits, and competence characteristics that impact entrepreneurial success. A comprehensive review of the literature also highlighted individual factors specific to personality traits, leadership, self-efficacy, and social support (D'Souza & Scahill, 2020; Kagan et al., 2023; Sharp & Monsivais, 2014; Thepna et al, 2023b; Vannucci & Weinstein, 2017; Wall, 2015) to influence business success.

### ***1) The Big Five model of personality traits***

Personality traits reflect a person's characteristic thoughts, feelings, and behaviors, implying consistency and stability (McShane & Von Glinow, 2010). In the context of entrepreneurship, the Big Five personality model is widely studied because it can identify specific configurations of key personality traits that contribute to the development or enhancement of performance (Hachana et al. 2018). The Big Five model from Costa & McCrae (1992) includes five broad traits: extraversion, agreeableness, conscientiousness, neuroticism vs. emotional stability, and openness to experience (McShane & Von Glinow, 2010). Currently, there is a significant amount of literature on the Big Five model in relation to entrepreneurs' business performance (Lee & Yang, 2013; Sarwoko & Nurfarida, 2021; Zhao et al., 2010). The study of the founder on SMEs by Franco and Prata (2019) suggested that specific personality traits enable them to capitalize on new opportunities and effectively manage their resources. These personality traits are deemed valuable, rare, and irreplaceable, providing entrepreneurs with a competitive edge that enhances business performance. While there is not much literature on business success in the nursing context using the Big-5 Model, an intriguing study by Ispir et al. (2019) examined

the relationship of personality traits and entrepreneurship tendencies with career adaptability of nursing students. The study highlighted that conscientiousness was the dominant trait among nurses, while emotional stability ranked the lowest. The authors proposed that nursing education should prioritize the development of positive personality traits, particularly those outlined in the Big 5 Model, to foster entrepreneurial skills and enhance entrepreneurial performance, leading to business success.

## ***2) Transformational leadership***

Entrepreneurship requires effective leaders who understand the complexities of rapidly changing global environments (Naharandi, 2002). Entrepreneurs are familiar with various leadership styles, including transactional and transformational leadership; both styles are observed in studies of entrepreneurial leaders. A particular leader may demonstrate varying degrees of both transformational and transactional leadership. These styles are not mutually exclusive, and some combination of both may enhance effective leadership (Aarons, 2006).

However, when considering the leadership roles of nurse entrepreneurs in nursing and midwifery clinics, a capable leader is necessary who can make quick decisions, take decisive action, and leverage their expertise to achieve organizational goals (Ejimabo, 2015). Leadership should encompass a range of behaviors, attitudes, and actions aimed at influencing and motivating subordinates to achieve specific objectives (Yukl, 2012), with these leadership skills align with transformational leadership. Moreover, Kenneth (2019) mentioned that a transformational leader can create a conducive environment for business success. This leader uses entrepreneurial characteristics rather than transactional or some other type of leadership. Thus, this study focused on transformational leadership rather than transactional leadership.

In recent years, the importance of transformational leadership has become increasingly apparent. This leadership style offers significant benefits by encouraging, inspiring, and motivating employees to perform in ways that drive meaningful change and help achieve the goals of the business (Bass, 1999). Transformational leadership is based on four related dimensions: 1) Idealized influence, in which the leader serves as an admirable and convincing role model for subordinates; 2) Inspirational motivation, involving the articulation of an appealing and inspiring vision; 3) Intellectual stimulation, encouraging creativity among subordinates; and 4) Individual consideration, attending to and supporting individual needs (Bass, 1999). These dimensions highlight transformational leadership's potential to foster entrepreneurship and drive effective business performance. For example, Moriano et al. (2014) discovered that transformational leadership encourages employees' creativity and innovation, ultimately contributing to improved business performance. Transformational leaders prioritize higher or intrinsic needs, motivating followers with a vision that extends beyond their immediate self-interest. Therefore, entrepreneurial leadership shares many similarities with transformational leadership, as it also inspires superior performance by appealing to the higher needs of followers (Gupta et al., 2004).

Therefore, transformational leadership plays a pivotal role with nurse entrepreneurs in nursing and midwifery clinics. Nurse entrepreneurs who embody transformational leadership qualities inspire their teams to share a vision of delivering exceptional care. They motivate staff to surpass expectations, fostering innovation and continuous skill enhancement, cultivating an environment of trust and open communication, leading to higher employee satisfaction and better patient outcomes (Steinmann et al, 2018). Ultimately, transformational leadership in nurse entrepreneurs in nursing and midwifery clinics can help effectively manage clinics, facilitate

collaborative decision-making, leverage diverse perspectives to tackle complex challenges and drive improvements in business performance and success (Collins et al, 2020).

### ***3) Self-efficacy***

Self-efficacy reflects confidence in one's ability to exert control over one's own motivation, behavior, and social environment. Consistent with Bandura's early, influential work on this concept, self-efficacy refers to an individual's belief in their capacity to execute behaviors necessary to achieve specific performance accomplishments (Bandura, 1977). It is viewed as an antecedent to the formation of intentions. If individuals believe they can achieve a goal, they are more likely to develop the intention to achieve it. By contrast, if individuals think that they cannot reach a goal, they are less likely to form such intentions (Melnyk & Raderstorf, 2019). Self-efficacy in entrepreneurship refers to an individual's perception of their capacity to accomplish various entrepreneurial tasks (Chen et al., 1998). Entrepreneurs with high self-efficacy set challenging goals, persist in endeavors, invest in tasks, and recover quickly from failures, positively influencing performance and business success (Miao et al., 2017). In the context of nursing and midwifery clinics, nurse entrepreneurs must deal with any situation, so increased self-efficacy can support effective nursing management. Nurse entrepreneurs with high self-efficacy set challenging goals, persist, invest in tasks, and recover quickly from failures, positively influencing a high-performing business and business success (Applegate et al., 2016; Kim-Soon et al., 2022; Lyons, 2014; Miao et al., 2017; Thepna et al, 2023b; Zulkosky, 2009). However, some nurse entrepreneurs face barriers such as a lack of the necessary knowledge and skills to manage a healthcare business and perceived fears about running a healthcare business. These can affect self-confidence or self-efficacy (Elango et al., 2007).

#### ***4) Social support***

Social support refers to the benefits individuals gain from their social relationships, which they utilize when faced with challenges to their business performance (Kim & Tussyadiah, 2013). Within entrepreneurial endeavors, the support garnered from one's social milieu yields behavioral benefit and influences the individual's propensity to engage in entrepreneurial activities and succeed in business (Stam et al., 2014). Specifically, social support helps frame assistance for potential entrepreneurs from various groups, including family, friends, and other significant relationships such as experts and consultants, when initiating a business venture (León et al., 2007). These supportive efforts from social networks can facilitate entrepreneurs to effectively launch and manage their business ventures (Politis, 2005), including those in nursing and midwifery clinics. This support, whether instrumental or emotional, plays a crucial role in helping entrepreneurs navigate the challenges of entrepreneurship and enhance business success (Edelman et al., 2016; Leung et al., 2020; Uziarko, 2022). According to Cardella (2020), family and friends offer financial, informational, and emotional support to entrepreneurs, which can significantly contribute to meeting business performance goals. Particularly during the initial setup and growth phases of a new clinic, the strength of these social networks may influence the clinic's survival and success (Abbas et al., 2019). Existing literature on entrepreneurial networks highlights the importance of support from friends, family, and other connections in stimulating entrepreneurship opportunities and enhancing business performance through valuable contacts (Kregar & Antoncic, 2014; Parker, 2018; Thepna et al, 2023b). Therefore, nurse entrepreneurs who recognize having a robust social support network can better identify clinic opportunities and achieve business success.

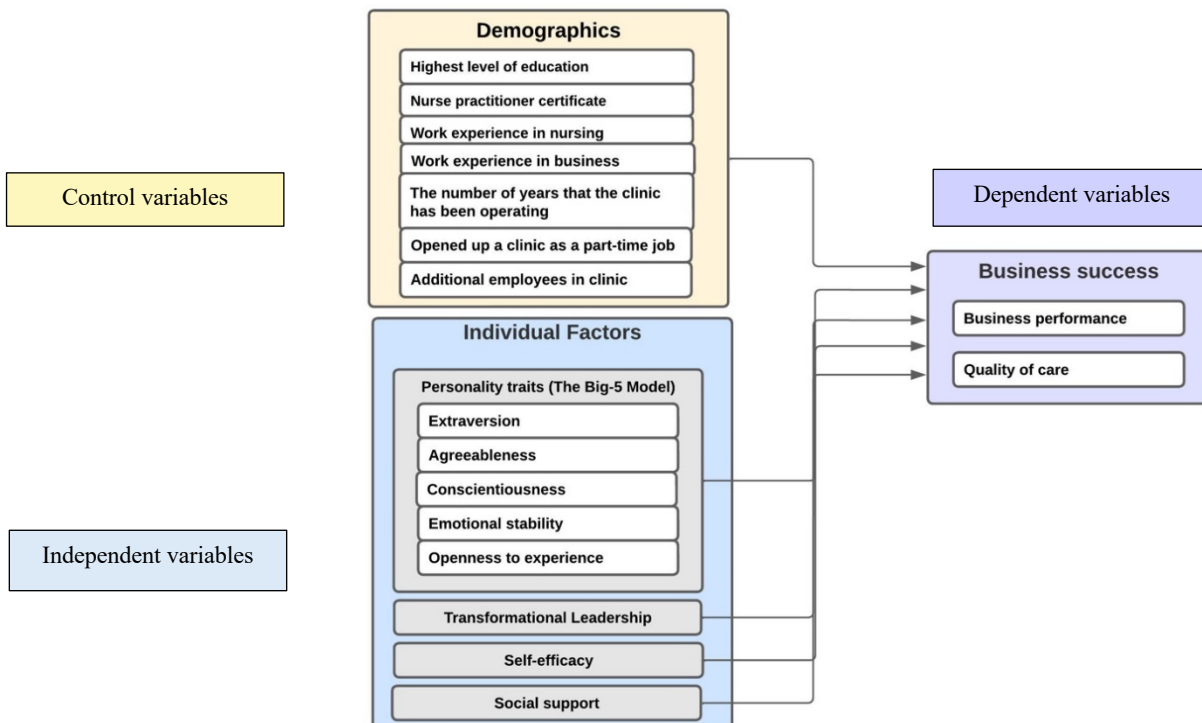
### **Individual factors influencing business success in mixed methods study**

The researcher conducted a quantitative study (see in Chapter 3) to determine the associations between individual factors, including the Big Five personality traits, transformational leadership, self-efficacy, social support, and business success (comprising business performance and quality of care) among nurse entrepreneurs in nursing and midwifery clinics. The findings of the quantitative analysis revealed the relationship between conscientiousness and emotional stability, transformational leadership and self-efficacy, and transformational leadership and conscientiousness.

Multiple regression analyses were conducted to examine associations, which indicated that self-efficacy, social support, and engaging in clinic ownership as a part-time job collectively explain a substantial proportion of the variance in business performance ( $F(3, 189) = 16.88, p < 0.001, R^2 = 0.21$ ). In addition, self-efficacy, social support, and work experience in nursing together explained a significant portion of the variance in quality of care ( $F(3, 189) = 27.71, p < 0.001, R^2 = 0.31$ ). These quantitative findings help clarify the associations of individual factors contributing to the business success of nurse entrepreneurs in nursing and midwifery clinics. However, their scope might be limited to providing more detailed descriptions and understanding of individual factors that influence business success. Therefore, a mixed-method design is a future next step. These quantitative findings serve as preliminary data, laying the foundation for the in-depth interviews and qualitative analysis reported in the current chapter. The quantitative findings were utilized to explore nurse entrepreneurs' experiences by triangulating their qualitative perceptions and further elaborating on the quantitative findings.

## Conceptual framework

This study was based on the Human Capital Theory by Limsong et al. (2016), which emphasizes individual factors such as demographic attributes, personality traits, and competence characteristics that impact business success. The study highlighted individual factors specific to the Big Five model personality traits (Costa & McCrae, 1992), transformational leadership (Bass, 1999), self-efficacy (Bandura, 1977), and social support (León et al., 2007), which were identified based on a comprehensive review of the literature (D'Souza & Scahill, 2020; Kagan et al., 2023; Sharp & Monsivais, 2014; Thepna et al, 2023b; Vannucci & Weinstein, 2017; Wall, 2015). It was also based on the preliminary work from the quantitative survey analysis (see Chapter 3). All these individual factors are posited to influence business success (performance and quality of care) among nurse entrepreneurs in nursing and midwifery clinics (Figure 1).



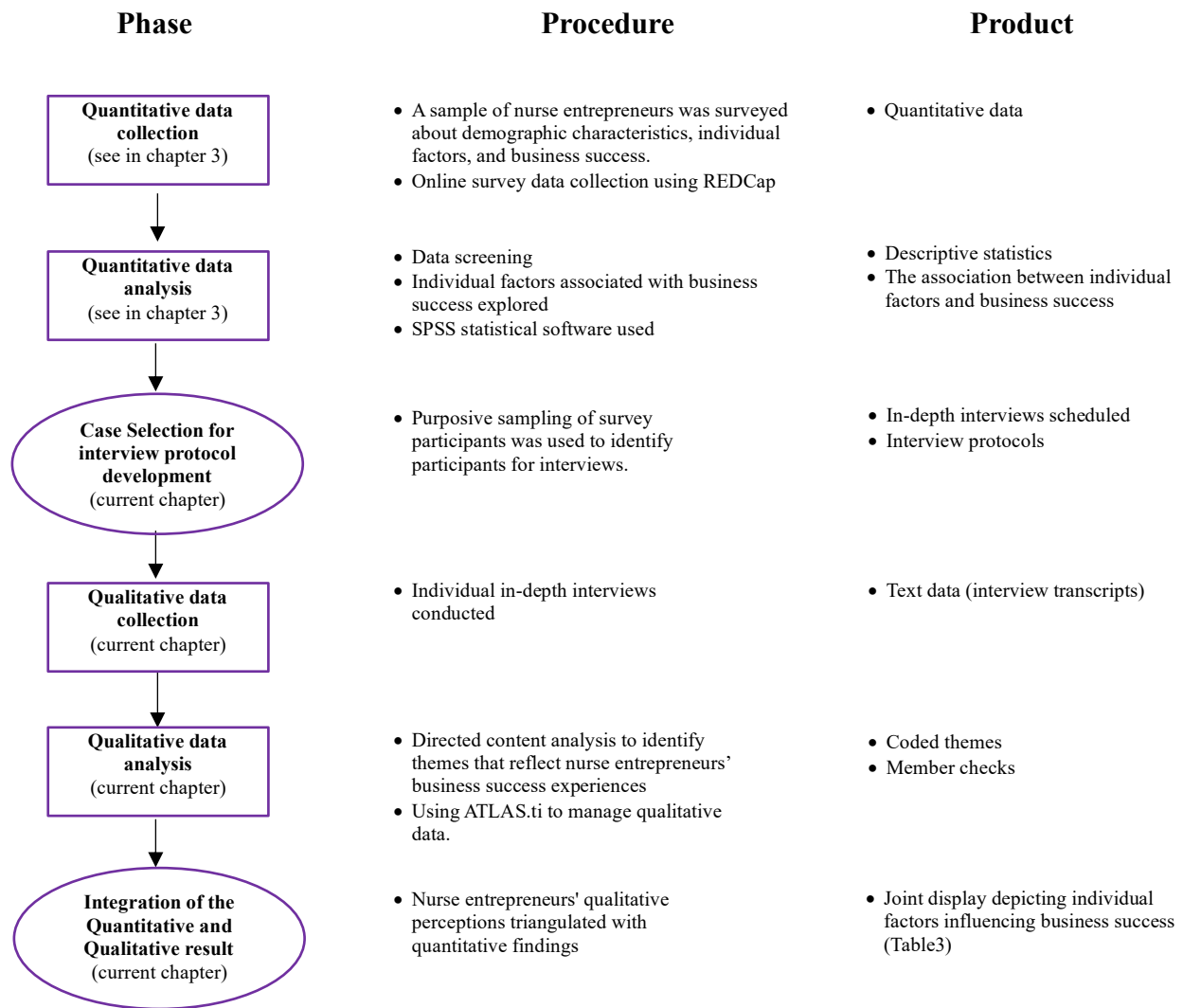
**Figure 4.1** Conceptual framework on individual factors that influence business success among nurse entrepreneurs in nursing and midwifery clinics (see Chapter 3)

## **Objectives**

The objective of this study was to elaborate on individual factors that influence the business success experiences (business performance and quality of care) of nurse entrepreneurs in nursing and midwifery clinics by triangulating nurse entrepreneurs' qualitative perceptions with findings from quantitative analyses.

## **Methods**

A sequential explanatory mixed-methods design (*QUAN* → *qual*; Figure 2; Creswell & Clark, 2018) was used to explore individual factors and their influence on business success with nurse entrepreneurs in nursing and midwifery clinics. This study design is particularly suitable for gaining a breadth of understanding to guide future research to enhance these factors. Data were collected from online surveys and analyzed (see Chapter 3). Findings from the quantitative analysis then served as a foundation for the in-depth interviews and qualitative analysis reported in this chapter and used to explore nurse entrepreneurs' experiences and further elaborate on the quantitative findings.



**Figure 4.2** A sequential, explanatory mixed-methods design

***Overview of quantitative phase: online survey***

The quantitative phase of this overall study focused on factors that influence business performance of nurse entrepreneurs in nursing and midwifery clinics (see Chapter 3). Data were collected in an online survey that encompassed three main instrument sections: 1) demographic characteristics; 2) individual factors, including the Big Five model of personality traits, transformational leadership, self-efficacy, and social support; and 3) business success, including

business performance and quality of care. Survey respondents were recruited from a Thailand Nursing & Midwifery Council list of nurse entrepreneurs who own their own clinics.

### ***Overview of qualitative phase: interviews***

The qualitative phase built on the findings from the quantitative phase to address the current study objective described earlier, using semi-structured interviews with a subset of survey respondents regarding their individual factors and experiences with business success in nursing and midwifery clinics.

### **Sample**

Participants in the current study were recruited first for the quantitative survey, which included nurse entrepreneurs who own nursing and midwifery clinics in Thailand. Inclusion criteria were that: 1) nurses must currently have owned and managed a nursing and midwifery clinic in Thailand for at least one year; 2) the nursing and midwifery clinic was open and operating and had received accreditation from the Department of Health Service Support, the Ministry of Public Health, or the Health Provincial Offices; and 3) the nurse entrepreneurs also had access to an individual email address and the internet. Participants were recruited from the Thailand Nursing and Midwifery Council's (TNMC) list of nurse entrepreneurs who own nursing and midwifery clinics. A total of 190 nurse entrepreneurs completed the online survey. For the qualitative interviews, purposive sampling was utilized to select 20 of the nurse entrepreneur survey respondents who were interested in having the qualitative interviews and who represented diverse clinic locations, individual factors, and business success scores. Invitations for in-depth interviews were sent via email, allowing participants to ask questions and schedule convenient interview times by confidential Zoom or phone interviews, with consent for recording obtained beforehand.

## **Ethical considerations**

This study was determined to be exempt by the University Human Subjects Division and approved by the Institutional Review Board at TNMC. Consent was initially obtained from survey respondents before completing the online surveys and then from interviewees before commencing interview data collection.

## **Data analysis**

### ***Qualitative analysis***

The semi-structured interviews were transcribed and entered into ATLAS.ti. The directed content analysis began with a thorough reading of the transcripts, identifying and coding units of meaning, categorizing units, and identifying emergent substantive themes (Creswell & Poth, 2016; Hsieh & Shannon, 2005). Coding was carried out first within each case, to understand the specifics of individual experiences and then comparing among cases. A colleague who spoke and read Thai and had training in qualitative research, translated one of the transcripts into English and then carried out consensual validation of the coding and themes. In addition, consensual validation of codes and themes of the English-translated transcript was carried out by an English-speaking co-investigator. After completing the analysis, the researcher returned to five participants selected from varied clinic locations across different regions and demographics to represent the diversity of the nurse entrepreneurs. The researcher provided them with a summary sheet outlining the themes derived from the analysis and conducted interviews to obtain feedback on the findings as member checks to ensure the validity and credibility of the research.

### ***Explanatory mixed method analysis***

The conceptual framework and previous quantitative findings (as in Figure 2) served as a foundation for the qualitative directed content analysis, which was used to explain the quantitative

findings further. Coded themes from the qualitative responses were matched to individual factors in a matrix table and compared against each other. A joint display was used to triangulate results, showing quantitative and qualitative findings in a side-by-side process to support the interpretation of the overall findings (Creswell & Clark, 2018). Quantitative and qualitative findings were then further integrated to provide a more detailed description and understanding of individual factors that influence business success.

## **Results**

Findings from the quantitative phase are described in the Background. Chapter 3 includes full details of the quantitative analysis and results, along with a description of the survey respondents' demographic characteristics. Table 1 identifies the demographic characteristics of the qualitative interview participants.

Analysis of the demographic data of the 20 survey respondents indicated that 75% of the sample was female ( $n = 15$ ) and 25% was male ( $n = 5$ ). Participants ranged from 28 to 59 years old ( $M = 43.10$ ,  $SD = 10.28$ ). Most participants were married and had a bachelor's degree as their highest level of education (60%,  $n = 12$ ). Those who held nurse practitioner certification comprised 80% ( $n = 16$ ) of participants. Years of experience in nursing ranged from 5 to 39 years, with a mean of 20.50 years ( $SD = 11.02$ ), and 80% ( $n = 16$ ) had no experience in business and entrepreneurship. The number of years the clinic had been established varied from 1 to 25 years, with a mean of 8.55 years ( $SD = 7.85$ ). Regarding clinic locations, the data revealed that the northeast of Thailand accounted for 25% ( $n = 5$ ) of clinics, 20% ( $n=4$ ) were in the north and capital suburbs region, 15% ( $n=3$ ) in the south, 10% ( $n=2$ ) in the central and 5% ( $n=1$ ) in the west and the east. Most participants opened the clinic as a part-time job, accounting for 85% ( $n=17$ ). Teams of more than two people were found in 70% ( $n=14$ ) of clinics. Moreover, participants reported

number of visit cases (some of which might be repeated patients) ranging from 20 to 800 per month (M = 316, SD = 224.84), while the income for nursing and midwifery clinics ranged from \$197.18 to \$4225.35 per month (M = 1567.09, SD = 1332.77). The exchange rate from US Dollars to Thai Baht is approximately 1 USD = 35.5 THB. The respondents reported that their clinics made a profit, accounting for 100% (n = 20) of the sample (Table 1).

**Table 4.1** Qualitative interview participants' demographic characteristics (n=20)

<b>Variable and categories</b>	<b>Frequency (n)</b>	<b>Percent (%)</b>	<b>Mean</b>	<b>SD</b>	<b>Range</b>
Gender					
Male	5	25.00			
Female	15	75.00			
Age (years)	20	-	43.10	10.28	28-59
Marital status					
Single	4	20.00			
Married	12	60.00			
Divorced/Widowed/Separated	4	20.00			
Highest level of education					
Bachelor's degree	12	60.00			
Master's degree	7	35.00			
Doctor's degree	1	5.00			
Nurse practitioner certification					
Yes	16	80.00			
No	4	20.00			

<b>Variable and categories</b>	<b>Frequency (n)</b>	<b>Percent (%)</b>	<b>Mean</b>	<b>SD</b>	<b>Range</b>
Work experience in nursing (years)	20	-	20.50	11.02	5-39
Work experience in business and entrepreneurship					
Yes	4	20.00			
No	16	80.00			
Years that clinic has been open	20	-	8.55	7.85	1-25
Location of the clinics in Thailand					
North	4	20.00			
Northeast	5	25.00			
East	1	5.00			
West	1	5.00			
South	3	15.00			
Central	2	10.00			
Capital and suburbs	4	20.00			
Opened up this clinic as a part-time job					
Yes	17	85.00			
No	3	15.00			
Additional employees in nursing and midwifery clinic					
Individuals worked alone	6	30.00			
Having team (more than two people)	14	70.00			

<b>Variable and categories</b>	<b>Frequency (n)</b>	<b>Percent (%)</b>	<b>Mean</b>	<b>SD</b>	<b>Range</b>
Number of visit cases in clinic (cases/monthly)	20	-	316	244.84	20-800
Income for nursing and midwifery clinic (\$/monthly)	20	-	1567.09	1332.77	197.18- 4225.35
The financial status of the clinic					
Making a profit	20	100.00			
Having some losses	0	0.00			

***Qualitative findings***

The directed content focused on participant responses and insights that aligned with the study conceptual framework (Figure 1) to explain and expand upon the quantitative findings. For a comprehensive overview of these findings, refer to Table 2. The table was categorized into two main topics: individual factors in nursing entrepreneurship and business success in clinics. Each concept has been identified with detailed categories within each concept. More detailed quotations from interview participants derived from these qualitative findings can be found in Table 3.

**Table 4.2** Categories from the directed content analysis of interviews with nurse entrepreneurs regarding individual factors and business success

<b>Constructs</b>	<b>Concepts</b>	<b>Qualitative sub-category</b>
<b>1. Individual factors in nurse entrepreneur</b>		
	Extraversion	• Extraverted/sociable

Constructs	Concepts	Qualitative sub-category
<b>The Big five personality traits</b>		<ul style="list-style-type: none"> <li>• Enthusiastic/active</li> <li>• Communicative (verbal and nonverbal communication)</li> </ul>
	Agreeableness	<ul style="list-style-type: none"> <li>• Compassionate</li> <li>• Empathetic</li> <li>• Warm</li> </ul>
	Conscientiousness	<ul style="list-style-type: none"> <li>• Careful and accurate</li> <li>• Responsible</li> <li>• Self-disciplined</li> <li>• Organized</li> </ul>
	Emotional stability	<ul style="list-style-type: none"> <li>• Controlled emotion</li> <li>• Calm</li> <li>• Resilience</li> </ul>
	Openness to experience	<ul style="list-style-type: none"> <li>• Openness to new experience</li> <li>• Thinking outside the box</li> <li>• Up to date</li> <li>• Unconventional</li> <li>• Creativity and innovation</li> </ul>
<b>Transformational leadership</b>	Idealized Influence	<ul style="list-style-type: none"> <li>• Role modeling</li> <li>• Building trust</li> <li>• Ethical/morality-based caring</li> </ul>

Constructs	Concepts	Qualitative sub-category
	Inspiration motivation	<ul style="list-style-type: none"> <li>• Setting vision and goal driven</li> <li>• Communication and teamwork</li> </ul>
	Intellectual stimulation	<ul style="list-style-type: none"> <li>• Encouraging innovation staff</li> <li>• Promotion learning</li> </ul>
	Individualized consideration	<ul style="list-style-type: none"> <li>• Supporting growth</li> <li>• Recognizing contributions</li> <li>• Fostering staff empowerment</li> </ul>
<b>Self-efficacy</b>	Confidence/ self-trust	<ul style="list-style-type: none"> <li>• Gained relevant knowledge and work experience</li> <li>• Belief in abilities</li> <li>• Extensive (or thorough) preparation</li> </ul>
	Passion/ motivation	<ul style="list-style-type: none"> <li>• Desired to own clinic</li> </ul>
<b>Social support</b>	Family	<ul style="list-style-type: none"> <li>• Parents</li> <li>• Spouse</li> </ul>
	Friends	<ul style="list-style-type: none"> <li>• Close friends</li> <li>• Nurse friends</li> </ul>
	Experienced nurse entrepreneurs	<ul style="list-style-type: none"> <li>• Seeking mentor from experienced nurses who have opened own clinics before.</li> </ul>
	Community people	<ul style="list-style-type: none"> <li>• Community leaders</li> <li>• Community members</li> </ul>
	Health professionals	<ul style="list-style-type: none"> <li>• Physician</li> </ul>

Constructs	Concepts	Qualitative sub-category
		<ul style="list-style-type: none"> <li>• Pharmacist</li> <li>• Nurses</li> </ul>
<b>2. Business success in clinics</b>		
Business performance	Income	<ul style="list-style-type: none"> <li>• Making a profit</li> </ul>
	Number of visits and cases	<ul style="list-style-type: none"> <li>• New patients</li> <li>• Old/returning patients</li> </ul>
Quality of care	Patient satisfaction	<ul style="list-style-type: none"> <li>• Good service</li> </ul>
		<ul style="list-style-type: none"> <li>• Service cost</li> </ul>
		<ul style="list-style-type: none"> <li>• Clinic and equipment</li> </ul>
		<ul style="list-style-type: none"> <li>• Recovery from symptoms or disease</li> </ul>
		<ul style="list-style-type: none"> <li>• Nursing standards</li> </ul>
	Patient safety	<ul style="list-style-type: none"> <li>• Drug reaction</li> </ul>
		<ul style="list-style-type: none"> <li>• Carefully examining patients</li> </ul>
		<ul style="list-style-type: none"> <li>• Referral system (Emergency cases)</li> </ul>
	Scope of practice and regulatory compliance	<ul style="list-style-type: none"> <li>• Concern about quality of care in the scope of practice and regulatory compliance</li> </ul>

### ***Overall findings from mixed methods analysis***

The overall explanatory mixed method analysis is presented in Table 3. Quantitative findings are identified first, in the form of correlations and regressions, and then qualitative findings are used to explain and further elaborate on the quantitative findings (Creswell & Clark,

2018). These quantitative and qualitative findings were integrated to provide a more detailed description and understanding of individual factors that influence business success.

**Table 4.3** Joint display depicting factors influencing business success for the explanatory sequential mixed-methods analysis

<b>Quantitative results</b> (from Chapter 3)	<b>Qualitative findings</b>
<b>Correlations</b>	
A moderate positive correlation between conscientiousness and emotional stability in the personality traits ( $r=0.50$ , $p=.05$ )	<p><b>Theme 1: Enhancing personality traits of conscientiousness and emotional stability.</b></p> <p><b>Subthemes:</b></p> <ul style="list-style-type: none"> <li> <b>Careful and accurate in the patient care and safety</b> <p><i>'Maintaining careful attention to detail is crucial to ensure thoroughness and accuracy in diagnosing and treating diseases. It's essential to stay calm, emotion cover all aspects comprehensively, and strive for the highest level of precision possible to patient care and safety.'</i> (Participant 2)</p> <p><i>'I believe in being thorough, observant, attentive, and accurate in my knowledge. For instance, I meticulously take patient histories and conduct detailed physical examinations in clinical consultations. This meticulousness makes me confident and contributes to the quality of care we provide in diagnosing illnesses or symptoms accurately. It helps me feel safe and not worry and anxious about patient safety with my service. When patients receive adequate treatment and recover, they often return to me for further care.'</i> (Participant 9)</p> </li> </ul>

<b>Quantitative results</b> (from Chapter 3)	<b>Qualitative findings</b>
	<ul style="list-style-type: none"> <li> <b>• Effective organized clinic management</b> </li> <li> <i>'The success of my clinic depends on clinic management. Planning and managing well can help reduce investment risks and increase revenue.'</i> (Participant 1)         </li> <li> <i>'Managing a clinic involves continuous planning to organize its operations systematically. Through proactive planning, I can address various aspects beforehand, such as medication stock management, which ties into investment decisions for purchasing medications. It also extends to managing the clinic's financial accounts, ultimately impacting its long-term sustainability. This proactive approach ensures the survival and longevity of my clinic.'</i> (Participant 4)         </li> <li> <b>• Resilience in the face of challenges</b> </li> <li> <i>'I need to maintain calmness, patience, and adaptability because most of the time when the clinic is open, we have many pediatric and older adult patients. It requires a calm demeanor, gentle words, and interactions with them to encourage cooperation during examinations and treatment.'</i> (Participant1)         </li> <li> <i>'The main challenge often revolves around how to attract patients to our clinic. I have the consciousness and resilience to deal with situations I can't control. I utilize marketing strategies, especially during the</i> </li> </ul>

<b>Quantitative results</b> (from Chapter 3)	<b>Qualitative findings</b>
	<p><i>initial stages, such as when I first opened during the COVID-19 pandemic. I provided information about COVID-19 and even distributed COVID-19 testing kits under the clinic's name. It not only increased awareness of my clinic but also enhanced patients' trust and recognition of the services we provide.'</i></p> <p>(Participant 9)</p>
<p>A moderate positive correlation between transformational leadership and self-efficacy (<math>r=0.48</math>, <math>p=.05</math>)</p>	<p><b>Theme 2: Self-efficacy promotes effective transformational leadership.</b></p> <p><i>'I am confident in my knowledge, skills, experience, and abilities, making me a capable leader for my staff and enabling me to open a clinic successfully.'</i> (Participant17)</p> <p><i>'I utilize my knowledge, experience, and competency to manage the clinic effectively. I serve as a mentor to my staff, offering support, empowerment, and guidance whenever they encounter challenges. Additionally, we collaboratively set goals for clinic service and engage in continuous learning to foster their development within the clinic.'</i> (Participant 10)</p>
<p>A moderate positive correlation between conscientiousness and</p>	<p><b>Theme 3: Conscientiousness enhances transformational leadership.</b></p> <p><b>Subthemes:</b></p> <ul style="list-style-type: none"> <li>• <b>Idealized influence</b></li> </ul>

<b>Quantitative results</b> (from Chapter 3)	<b>Qualitative findings</b>
transformational leadership (r=0.46, p= .05)	<ul style="list-style-type: none"> <li>           ○ <u>Role modeling</u>  <i>In managing the staff who assist in my clinic, I act as a mentor, providing guidance, teaching, and assigning tasks to each staff member. We also hold discussions, akin to pre-conference sessions, to plan our work effectively. For example, if a staff member requires more experience in home visits, I offer coaching and suggestions during their initial visits, accompanying them until they gain the confidence to conduct visits independently. I aspire to be a good role model and leader for my staff. These methods of managing staff help cultivate a positive work environment." (Participant 3)</i> </li> <li>           ○ <u>Building trust</u>  <i>'I always remind my staff that we should work professionally, with knowledge, and with care. When patients come to us, they rely on our trustworthiness and credibility for service.'</i> (Participant 6)    <i>'I think that the key to running a nursing clinic lies not only in gaining the trust of the patients who use our services but also in fostering trust with my staff as a good leader, inspiring and driving business performance and positive patient outcomes.'</i> (Participant 10)         </li> </ul>

○ Ethical and morality-based caring

*It is important to orient the staff to understand the goals and vision of the clinic, which prioritizes the standards and quality of care within ethical and moral nursing frameworks. I stress the importance of adopting a service-minded approach to leave a positive impression on patients, encouraging them to return for our services. (Participant 2)*

*'In operating a nursing clinic, it is important to make sure that staff adhere strictly to professional ethics and morality for the caring and safety of patients.'* (Participant6)

● **Inspiration motivation**

○ Setting vision and goal driven for staff

*'As the team leader with three other nurse colleagues, I am responsible for delegating tasks to them. For example, I set goals for the number of monthly home visits we aim to conduct. When setting these goals, I always discuss them with my team members to ensure alignment and collaboration.'* (Participant 7)

*'For the part-time staff at my clinic, I provide orientation sessions and set clear work guidelines. Particularly, we establish common goals to align with our goal's clinic and discuss the scope of work,*

<b>Quantitative results</b> (from Chapter 3)	<b>Qualitative findings</b>
	<p><i>clarifying which tasks fall under the nursing clinic's responsibilities and what each of us can do.'</i> (Participant 18)</p> <ul style="list-style-type: none"> <li>○ <u><i>Emphasizing communication and teamwork</i></u>  <i>'I emphasize communication among the team, working together, share goal and problem-solving collaboratively enabling them to address problems effectively.'</i> (Participant 3)</li> <li>● <b>Intellectual stimulation</b> <ul style="list-style-type: none"> <li>○ <u><i>Encouraging innovation staff</i></u>  <i>'I told my staff I need creativity and enthusiasm to work diligently. My clinic requires continuous development and improvement. Thus, every staff can participate, offer, and create new things for the quality of care and good service.'</i> (Participant 14)</li> <li>○ <u><i>Promoting learning</i></u>  <i>'I discuss with my staff the importance of committing to continuously updating our knowledge, including staying informed about new information, especially recent nursing research findings,</i></li> </ul> </li> </ul>

<b>Quantitative results</b> (from Chapter 3)	<b>Qualitative findings</b>
	<p><i>continuing to learn and maintain the quality and reliability of our services for the people we serve.'</i></p> <p>(Participant 2)</p> <ul style="list-style-type: none"> <li> <b>• Individualized consideration</b> <ul style="list-style-type: none"> <li>           ○ <u>Supporting growth</u> <p><i>'I trained my staff and provided job orientation to ensure they follow the same treatment guidelines or standards when they start work. I also assess each individual. Some nurses have different specialties. Some are good with pediatrics, while others are proficient in mental health. Thus, I will support them to update their knowledge by attending the nursing conference or short course for development.'</i> (Participant 19)</p> </li> <li>           ○ <u>Fostering staff empowerment</u> <p><i>'I empower my staffs to make decisions, even in challenging situations. I support them and don't abandon them. I praise them when they do well and provide appropriate compensation. This approach has attracted many individuals eager to work with me.'</i> (Participant 17)</p> </li> </ul> </li> </ul>

<b>Quantitative results</b> (from Chapter 3)	<b>Qualitative findings</b>
<p>A moderate positive correlation between self-efficacy and quality of care (r=0.44, p= .05)</p>	<p><b>Theme 4: Self-efficacy for quality of care</b></p> <p><b>Subthemes:</b></p> <ul style="list-style-type: none"> <li> <b>Confidence in providing quality care</b>  <i>‘Before opening my clinic, I had 39 years of nursing experience. I’ve worked in hospitals and outpatient clinics. With that background, I felt confident in opening my clinic. In addition to my extensive experience, I also have a master’s degree in nurse practitioner. With this knowledge and expertise, I am even more confident in the success of opening my clinic, mainly focusing on holistic care, patient-centered, patient satisfaction, the standard of care, and good service, all of those in the quality of care for the clinic. These outcomes affect the trust and credibility of patients who use the service at my clinic.’ (Participant 12)</i>   <i>‘I think of myself as having specialized knowledge. As a nurse, I believe I can benefit others, especially in our community. People in our neighborhood can easily access healthcare services without going to hospitals. That’s why I want to establish a high-quality nurse-led clinic as a standard and a healthcare hub for the community.’ (Participant 19)</i> </li> </ul>

<b>Quantitative results</b> (from Chapter 3)	<b>Qualitative findings</b>
	<ul style="list-style-type: none"> <li> <b>• Having mission and passion for healthcare</b>  <i>'Another thing that inspires me is my desire to help the local community. Everyone deserves access to quality healthcare; I see it as my mission to contribute. I've studied nursing, worked, and earned a living without hardship. Now, I want to ensure that people in my community have good health. Even if it's just providing some advice, I hope to improve their quality of life and bring happiness to society.'</i> (Participant 15)   <i>'When I opened the clinic, profit wasn't the main focus. I didn't approach it as a business. I opened the clinic out of my passion for nursing, to help and care for patients. I want to make my clinic a healthcare center for the healthcare community's well-being. Moreover, I want to show that the competency of nurse-led clinics can help the gap health system in primary care, particularly in my community.'</i> (Participant 18)           </li> </ul>
A weak to moderate positive correlation between self-efficacy and business	<b>Theme 5: Self-efficacy enhances business performance</b>  <i>'I believe that determination and self-confidence are the most important starting points when considering establishing a clinic. When I graduate with a bachelor's degree in nursing, I have a passion for my own business and thinking about nursing clinics. I aim to gain more experience in nursing and take courses in</i>

<b>Quantitative results</b> (from Chapter 3)	<b>Qualitative findings</b>
performance ( $r=0.35$ , $p=.05$ )	<p><i>nurse practitioners to set up clinics. It has motivated me to open my clinic for 6 years, and many people have come to my clinic.</i> (Participant 5)</p> <p><i>'I have the knowledge, skills, and experience necessary to open a clinic successfully. I have prepared myself with both theoretical knowledge and practical experience, as well as gathered various information related to clinic management. I am confident and determined to open and run my clinic. Now, I have income, a profit, and many patients.'</i> (Participant 13)</p>
<b>Regression</b>	
Self-efficacy ( $\beta = 0.32$ ), social support ( $\beta = 0.22$ ), and engaging in clinic ownership as a part-time job ( $\beta = -0.21$ ) together explain a substantial proportion of the variance in business	<p><b>Theme 6: Enhancing business performance</b></p> <p><b>Subthemes:</b></p> <ul style="list-style-type: none"> <li> <b>Role of self-efficacy</b> <p><i>'I believe I have sufficient knowledge, skill, and experience to manage my clinic. Before opening my clinic, I worked at a public hospital and later at a clinic where physicians were in-charge. In these roles, I served as a managerial administrator. From the inception of new clinics to the expansion to accommodate about 3-4 physicians, I gained extensive experience in clinic management, including financial, marketing,</i></p> </li> </ul>

<b>Quantitative results</b> (from Chapter 3)	<b>Qualitative findings</b>
<p>performance. (F(3, 189) = 16.88, p &lt; 0.001, R<sup>2</sup> = 0.21).</p>	<p><i>resource management, planning staff, and standard of care. This experience has bolstered my confidence in establishing my clinic. Considering business success, my clinic has many people coming, around 700-800 cases/month, and an income of \$2,500 - \$4,200 /month.</i> (Participant 9)</p> <p><i>'I have worked at a Sub-district health-promoting hospital for 7 years, so many people in the community know me as a nurse practitioner in the community. It has given me confidence in my background knowledge and experience. Many patients trust and respect me as a good nurse. The results have been positive after opening my clinic, which has many patients and income. It has made me feel confident in my abilities.'</i> (Participant 16)</p> <ul style="list-style-type: none"> <li>• <b>Role of social support</b> <ul style="list-style-type: none"> <li>○ <u>Family</u> <p><i>'Family is indeed an invaluable source of support. For example, when I had to open the clinic outside of regular hours, such as in the evenings, my parents would help take care of my children, ensuring they were fed and looked after, allowing me to focus on running the clinic without worry.'</i> (Participant 1)</p> </li> </ul> </li> </ul>

<b>Quantitative results</b> (from Chapter 3)	<b>Qualitative findings</b>
	<p><i>'I am married, and my wife has supported my decision to open a clinic. Her constant encouragement has been a great source of motivation for me, and she also gave me money to support me in building a clinic. Now, many people go to my clinic, and I can earn money to provide for my family.'</i></p> <p>(Participant 10)</p> <ul style="list-style-type: none"> <li>○ <i><u>Friends</u></i></li> </ul> <p><i>'My close friends supported me by offering encouragement for managing the clinic. They help me with public relations on their social media and recommend people to visit my clinic. They are so kind.'</i></p> <p>(Participant 9)</p> <p><i>'When I have some problems with running a clinic, I talk with my nurse friends to discuss and consult them. Some of them even come to help and support me when needed, such as recommending I connect with a physician in the hospital to consult case emergency or helping me find some information to update training about clinic management, giving me the confidence to run the clinic.'</i> (Participant 10)</p>

○ Experienced nurse entrepreneurs

*'I know a nurse who has opened a nursing clinic before, so I went to seek advice on how to start my clinic. I asked for information and guidance, and they provided excellent advice. I learned that starting a clinic can be facilitated by learning from experienced individuals who have successfully opened clinics. They were incredibly helpful in guiding me through the process as a mentor. I have opened a clinic for 6 years, and many people visit my clinic, around 80-100 cases/month. I also got additional income.'* (Participant 5)

○ Community people

*'I have a diverse network of connections within the community, ranging from leaders to regular members, all of whom have supported me in opening and running the clinic. Since the clinic's opening, community members have been coming in when they are unwell or experiencing symptoms.'*  
(Participant 3)

○ Health professionals

*'Multidisciplinary care is crucial for patient service and care. I know many healthcare professionals, including doctors, nurses, and pharmacists. When we need assistance referring patients or consulting*

<b>Quantitative results</b> (from Chapter 3)	<b>Qualitative findings</b>
	<p><i>on complex cases, this group can greatly help provide continuous care, referrals, and timely treatment for patients.</i> ' (Participant 5)</p> <ul style="list-style-type: none"> <li> <b>• Time management when clinic ownership is part-time</b> </li> </ul> <p><i>'Now, it has one of its limitations because I still have a full-time job at the hospital. Therefore, the clinic will be closed since I must be on duty. However, on days when I'm not on duty, I come to open it. I am so busy with a full-time job that I don't have much time to develop an effective management clinic such as marketing, extending service, finances, and equipment. Sometimes, patients come when the clinic is closed, which wastes their time. They go to another clinic, causing us to lose customers.'</i> (Participant 6, as part-time clinic)</p> <p><i>'I work as a clinic nurse full-time. Now, it is clear that there are more and more patients. More income Now, I have 700-800 monthly patients who come to receive services, affecting the following income. I have an income of \$2,500 - \$4,200 /month.'</i> In addition, I have time to manage various things in the clinic well. <i>Don't worry about working regularly. Compared to when I first opened the clinic, I opened the clinic part-time. I need more time to manage finances and various stock equipment.'</i> (Participant 9, as full-time clinic)</p>

Quantitative results (from Chapter 3)	Qualitative findings
<p>Self-efficacy (<math>\beta = 0.43</math>), social support (<math>\beta = 0.26</math>), and work experience in nursing (<math>\beta = -0.21</math>) together explain a significant portion of the variance in quality of care (<math>F(3, 189) = 27.71, p &lt; 0.001, R^2 = 0.31</math>).</p>	<p><b>Theme 7: Enhancing quality of care</b></p> <p><b>Subthemes:</b></p> <ul style="list-style-type: none"> <li>• <b>Role of self-efficacy</b> <p><i>'I think self-confidence is very important because it leads to dedication and attention to do until success. When I started opening the clinic, my passion was to make it successful with my goals of getting more income, particularly contributing healthcare to the community. I also believe that with my knowledge and nursing experience, I have confidence in my ability to achieve my goal. After that, I opened the clinic; I am proud to say that many patients have returned and recommended my clinic to others because of the quality of care and good service (my patients told me this).'</i> (Participant 5)</p> </li> <li>• <b>Role of social support</b> <ul style="list-style-type: none"> <li>○ <i>Family</i> <p><i>'My family's support from my parents and wife, who talks with me continuously, is invaluable. They support me in everything and serve as a great source of encouragement, practical assistance, and</i></p> </li> </ul> </li> </ul>

<b>Quantitative results</b> (from Chapter 3)	<b>Qualitative findings</b>
	<p><i>financial support. It helps me to encourage the clinic's management to a standard and good quality for people.'</i> (Participant 9)</p> <ul style="list-style-type: none"> <li>○ <u><i>Friends</i></u> <i>'My nurse friends and I exchange a lot of information because we studied for master's degrees together, and the same has opened clinics. Recently, many patients have been using my clinic. We constantly share experiences and inspiration and support each other. We're a source of inspiration for one another to make standards of care clinics and good service for patients.'</i> (Participant 12)</li> <li>○ <u><i>Experienced nurse entrepreneurs</i></u> <i>'I have a senior nurse who previously operated a clinic, which is incredibly valuable. She offered guidance and support in clinic management as a mentor or consultant, such as preparing for operations, handling clinic management, and providing patient care. The mutual support and ability to consult with each other when facing challenges or needing advice create a comforting atmosphere. Additionally, sharing experiences about patient care, treatment methods, and procurement of medications or supplies is highly beneficial. It's like exchanging knowledge, which helps understand</i></li> </ul>

<b>Quantitative results</b> (from Chapter 3)	<b>Qualitative findings</b>
	<p><i>how to manage different aspects of clinic operations effectively and have a standard of care and patient safety.'</i> (Participant 19)</p> <ul style="list-style-type: none"> <li>○ <u>Community people</u>  <i>'My husband's relative is a community leader. So, I used this connection to promote my clinic. When there are community meetings, community leaders help promote my clinic. Help community members know the details. This way, people in the community come to use my clinic. I will focus on standards. Good service builds confidence and trust in people in the community to use the service.'</i> (Participant 6)</li> <li>○ <u>Health professionals</u>  <i>'Having backup from hospital physicians who provide consultations serves as consultants, similar to telemedicine, especially when I encounter cases where I am unsure or have an emergency case. I can consult physicians/ pharmacists/nurses for advice and access them when needed. For instance, I had a patient with severe asthma; I consulted hospital physicians and referred him to hospitals.'</i> (Participant 18)</li> </ul>

<b>Quantitative results</b> (from Chapter 3)	<b>Qualitative findings</b>
	<ul style="list-style-type: none"> <li> <b>• Work experience in nursing</b> </li> </ul> <p> <i>'I believe that with determination, dedication, abilities, knowledge, experience, leadership skills, and readiness, I can successfully open a clinic to provide good service to patients. I am concerned with prioritizing the quality of care to build impressive results for patients under the scope of practice and standard of care. Recently, my clinic has seen many patients, indicating its significance and popularity within the community.'</i> (Participant 16, 7 years of nursing experience)         </p> <p> <i>'I open a clinic around 19 years. I hope to use my knowledge and experience for effective clinic management, whether medicine stock, financial management, staff development, or designing a clinic for attractive customers. I think I have effective clinic management, leading to increasing profit and many people coming to my clinic.'</i> (Participant 20, 33 years of nursing experience)         </p>

**Note:** These quotes were translated from Thai.

## **Discussion**

To our knowledge, this mixed methods research is the first study to provide a comprehensive exploration of individual factors influencing business success with a representative sample of nurse entrepreneurs in nursing and midwifery clinics in Thailand. The findings suggest that personality traits such as conscientiousness and emotional stability, along with transformational leadership, self-efficacy, and social support, are associated with business performance and quality of care provided by nurse entrepreneurs in these clinics. Understanding and improving these factors can enhance effective clinic management and business success. This discussion section explores these findings and their implications for nurse entrepreneur development in nursing and midwifery education and research.

### ***Overall findings***

This quantitative and qualitative study is cross-sectional design. The quantitative (see Chapter 3) and qualitative analyses affirm associations between individual factors and nurse entrepreneurs' business success in nursing and midwifery clinics. Additionally, the regression analysis revealed consistent factors influencing business success, namely business performance and quality of care. The qualitative findings aligned with the study's conceptual framework and offered additional insights about nurse entrepreneurs' perspectives on demographic and individual factors and business success (business performance and quality of care) in nursing and midwifery clinics. The overall contribution of this mixed-methods study lies in the utilization of qualitative analyses to elucidate and enrich the quantitative results. The integration of both quantitative and qualitative findings offers a comprehensive and detailed exploration of the individual factors that impact the business performance of nurse entrepreneurs in nursing and midwifery clinics as themes

and sub-themes, which are discussed below in the context of insights gained from triangulating these findings and relevant literature.

### **Theme 1: Enhancing personality traits of conscientiousness and emotional stability**

The relationship between conscientiousness and emotional stability in nurse entrepreneurs in nursing and midwifery clinics can be related to their commitment to careful and accurate patient care and safety, effective organized clinic management, and resilience in the face of challenges, all contributing to achievement in business success. Similarly, Ciavarella et al. (2004) and Hachana et al. (2018) revealed that high conscientiousness and emotional stability among entrepreneurs are positively related to business performance and long-term venture survival and success. Additionally, qualitative findings can illustrate several emerging themes that show the relationship between conscientiousness and emotional stability in the personality traits of nurse entrepreneurs working in nursing and midwifery clinics.

- **Careful and accurate in the patient care and safety**

Conscientious owners of small and medium sized businesses are more focused on achieving specific goals, leading to long-term success (Franco & Prata, 2019). For nurse entrepreneurs in nursing and midwifery clinics, their healthcare delivery prioritizes a goal to provide primary care for people. Ensuring the delivery of high-quality care to patients and guaranteeing their safety have been identified as important standards for nursing practices (Wilson et al, 2003). Based on the qualitative interviews in the current study, participants mentioned the importance of conscientiousness and emotional stability in ensuring patient care and safety within nursing clinics. This dedication to being careful, accurate, responsible, and disciplined in the quality of care helps nurses handle challenging situations and provide optimal care, leading to emotional stability and thereby reducing feelings of stress or anxiety. Similar,

Halim et al. (2011) found that employees who exhibit high conscientiousness are generally more responsible, disciplined, reliable, resilient, and determined when carrying out tasks entrusted to them. These characteristics influence emotional stability, as evidenced by features such as remaining calm, being adaptable, self-confident, receptive, and not easily becoming depressed, thus contributing to effective job performance.

Nurse entrepreneur participants emphasized the necessity of maintaining attentiveness and attention to detail during patient examinations. This meticulous approach to their work minimizes the possibility of errors and contributes to accurate diagnosis and treatment for patient care and safety. Participants also highlighted the significance of being trustworthy, attentive, and genuinely committed to patient care, fostering patient satisfaction and encouraging repeat visits.

- **Effective organized clinic management**

Barrick and Mount (2012) noted that in general business, if organizations have employees who are more conscientious and emotionally stable, the results include a stronger work ethic. These employees are predisposed to exert greater effort at work and organize more effectively. Additionally, they tend to have more positive attitudes about work, which ultimately leads to increased work productivity. Consistently, in nurse entrepreneurship within nursing and midwifery clinics, participants mentioned that proactive planning, organization, and meticulous resource management (such as maintaining adequate medication stock and managing financial accounts) are crucial for reducing investment risks and increasing revenue. Moreover, participants emphasized the importance of flexibility in managing staffing needs, such as hiring part-time assistants during peak periods, to ensure smooth clinic operations. Therefore, based on the findings of the qualitative interviews, conscientiousness and emotional stability may extend to effective

clinic management, which is a skill that is crucial for enhancing business performance and ensuring the longevity of nurse-run clinics.

- **Resilience in the face of challenges**

A nursing or midwifery clinic can be demanding, with challenges to maintaining calmness, patience, and adaptability, particularly when dealing with pediatric and older adult patients. Study participants mentioned that effective marketing strategies, clear vision communication, and strategic decision-making during challenging times, such as the COVID-19 pandemic, demonstrated a resilient and proactive mindset for overcoming obstacles and building successful clinics. Conscientious nurse entrepreneurs may also demonstrate resilience by persisting in the face of setbacks, problem-solving effectively, and seeking support when needed (Halim et al.,2011). This resilience can buffer against emotional distress and foster emotional stability. Nurses must deal with changing situations, such as coping with diverse patients, pediatric and older adult patients, or patients who need a different service depending on their health condition or symptoms. Nurses who perceive they are resilient and able to deal with problems can provide good service to their patients.

## **Theme 2: Self-efficacy promotes effective transformational leadership**

The statistical correlation between transformational leadership and self-efficacy in the survey analysis was further elaborated in the qualitative interviews in which nurse entrepreneurs attributed their confidence and belief in self, along with their efforts to enhance transformational leadership, as having a positive impact on their business success. This finding aligns with the study of the CEOs/leaders by Mesterova et al. (2015) on the relationship between self-efficacy, transformational leadership, and leader effectiveness. These authors found that leaders with higher levels of efficacy tended to exhibit higher levels of transformational leadership, suggesting that

cultivating leaders with these characteristics can lead to success in ventures. Transformational leadership, characterized by inspiring and motivating followers to achieve their full potential (Bass, 1999), involves fostering a shared vision, providing support and guidance, and empowering individuals to excel. In contrast, transactional leadership is based more on exchanges between the leader and follower, in which followers are rewarded for meeting specific goals or performance criteria (Jung, 2010). One key aspect of transformational leadership is its ability to influence followers' beliefs in their own capabilities. Such self-efficacy refers to an individual's belief in their ability to accomplish tasks and achieve goals in specific situations (Bandura, 1977). This belief influences how individuals approach challenges, persevere in the face of obstacles, and ultimately achieve success.

Participant interview data highlighted their confidence in successfully opening and managing their own clinics, driven by their passion for nursing, determination, knowledge, skills, work experiences, and extensive preparation for clinic management. This confidence in their abilities can serve as a driving force behind their role as effective leaders, exhibiting transformational leadership qualities to support staff members. From the qualitative interviews, self-efficacy in enhancing one's transformational leadership style is important, particularly with staff members. Nurse entrepreneurs in this study described their self-efficacy with enhancing transformational leadership qualities, characterized by their ability to assess their own capabilities, make independent decisions, think innovatively, and take calculated risks. Transformational leadership involves inspiring and empowering others to achieve common goals through vision, motivation, and support (Bass, 1999). Participants described these qualities by taking initiative, planning strategically, leveraging their knowledge and experience, and seeking support from their networks to overcome challenges and succeed in their entrepreneurial ventures. The nurse

entrepreneur participants also exhibited transformational leadership behaviors towards their staff, fostering a supportive and collaborative work environment. They provided mentorship, guidance, and resources to empower their staff to excel in their roles and contribute to the clinic's success. This approach aligns with the principles of transformational leadership, which emphasize building trust, facilitating communication, and promoting team development (Bass & Avolio, 1998). By investing in their staff's professional growth and well-being, these nurse entrepreneurs cultivate a culture of excellence and teamwork within their clinics.

### **Theme 3: Conscientiousness enhances transformational leadership**

The correlation between conscientiousness and transformational leadership among nurse entrepreneurs in the survey data can be related to the four dimensions of transformational leadership, specifically idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass, 1999).

- **Idealized influence**

- Role modeling*

Participants described exhibiting transformational leadership through role modeling behaviors, where they provided guidance, coaching, and support to their staff. This finding aligns with the dimension of idealized influence, where leaders serve as role models and inspire followers through their actions (Bass & Riggio, 2006). By demonstrating professionalism, clear communication, and ethical decision-making, the nurse entrepreneurs described building trust and credibility among their staff and fostering a positive work environment conducive to collaboration and growth.

- Building trust*

Building trust by demonstrating confidence and professionalism is essential for effective leadership (Dirks & Ferrin, 2002). The nurse entrepreneur participants emphasized the importance of trustworthiness for delivering quality healthcare services and maintaining patient satisfaction. By fostering trust and confidence among their team members, these nurse entrepreneurs described inspiring loyalty and commitment, driving business performance and patient outcomes.

*Ethics and morality-based caring.*

Ethical leadership involves aligning actions with ethical principles and prioritizing the well-being of stakeholders (Brown & Treviño, 2006). Study participants emphasized adherence to professional ethics and standards of care, ensuring patient safety and quality of service delivery. This commitment to ethical leadership can promote ethical conduct, integrity, and accountability within organizations (Brown & Treviño). By upholding ethical standards and fostering a culture of care, nurse entrepreneurs can cultivate trust and credibility, enhance business performance and patient satisfaction. This finding reflects where leaders prioritize ethical conduct, integrity, and the well-being of stakeholders (Bass & Steidlmeier, 1999).

• **Inspiration motivation**

*Setting goals on quality services*

Transformational leaders inspire and motivate followers by setting clear goals and articulating a compelling vision (Bass, 1990). Study nurse entrepreneurs prioritized quality service delivery by setting goals and engaging their team members in collaborative goal-setting processes. This goal setting can foster a sense of purpose, direction, and commitment among staff, driving performance and innovation within their clinic. By emphasizing quality goals and fostering teamwork, nurse entrepreneur participants described creating a supportive environment conducive to excellence and continuous improvement.

### Emphasizing communication and teamwork

Effective communication and teamwork are essential components of transformational leadership (Northouse, 2018). The nurse entrepreneur participants prioritized communication and collaboration among their team members, to foster open communication, shared goals, and mutual support. This communication aligns with transformational leadership, where leaders promote collaboration, empowerment, and collective problem-solving (Bass, 1990; Northouse, 2018). By emphasizing communication and teamwork, nurse entrepreneurs build cohesive and high-performing teams, driving business performance and patient satisfaction (Jankelova & Joniakova, 2021).

- **Intellectual stimulation**

### Encouraging innovation staff

Transformational leaders encourage innovation and creativity among their followers (Avolio & Bass, 1988). The nurse entrepreneur participants emphasized the importance of creativity and enthusiasm in their clinics with staff members, promoting a culture of innovation and continuous improvement. This finding reflects the intellectual stimulation dimension of transformational leadership, where leaders challenge the status quo, encourage critical thinking, and promote learning and development (Avolio & Bass). By fostering innovation, the nurse entrepreneurs described inspiring creativity and adaptability, driving business growth and competitiveness (Dahistrand & Stevenson, 2010).

### Promoting learning

Transformational leaders prioritize learning and development among their followers (Bass & Avolio, 1998). The nurse entrepreneur participants emphasized the importance of continuously updating learning and knowledge in their clinics, fostering professional growth and

excellence among staff. This finding also aligns with the intellectual stimulation dimension of transformational leadership, where leaders promote learning opportunities, facilitate skill development, and encourage critical thinking (Bass, 1990; Bass & Avolio, 1998). By promoting learning and development, nurse entrepreneurs can empower their team members to reach their full potential, driving business performance and innovation (Vannucci & Weinstein, 2017).

- **Individualized consideration**

- Supporting growth*

Transformational leaders support the growth and development of their followers by considering the differences in each individual (Avolio & Bass, 1988). The study of nurse entrepreneurs supported the professional growth of their staff by providing mentorship, training, and development opportunities. This finding reflects the individualized consideration dimension of transformational leadership, where leaders focus on the individual needs and aspirations of their followers (Avolio & Bass). By supporting growth and development, nurse entrepreneurs indicated they cultivated a motivated and skilled workforce, driving business performance and innovation (El Toufaili, 2018).

- Fostering staff empowerment*

Transformational leaders empower their followers by delegating authority and providing support (Bass, 1999). The nurse entrepreneur participants empowered their staff by entrusting them with decision-making authority and providing support and recognition for their contributions. This finding reflects the individualized consideration dimension of transformational leadership, where leaders tailor their leadership approaches to meet the unique needs and capabilities of their followers (Avolio & Bass, 1988; Bass, 1999). By empowering their staff, nurse entrepreneurs

described fostering a sense of ownership and commitment, driving engagement and performance within the clinic (Osborne & Hammoud, 2017).

#### **Theme 4: Self-efficacy for quality of care**

The correlation between self-efficacy and quality of care among the nurse entrepreneur survey respondents can be due to their confidence and belief in themselves, with a resulting impact on quality of care. Understanding how nurse entrepreneurs perceive their confidence and capabilities and how these perceptions translate into outcomes for patient care can inform strategies to enhance business performance and optimize healthcare delivery (Thepna et al., 2023b). Confidence in providing care and a mission and passion for healthcare are key factors for actually achieving goals for quality care.

- **Confidence in providing quality care**

Participants in the study described having confidence in their ability to deliver quality care. They highlighted their readiness, expertise, and dedication to maintaining professional standards. This confidence was grounded in their extensive experience, academic qualifications, and knowledge of best practices in nursing. By expressing their belief in their own capabilities, these nurse entrepreneurs established a foundation for comprehensive and effective care. In fact, nurses with high self-efficacy are more likely to approach patient care with confidence and competence, leading to better clinical outcomes (Colichi & Lima, 2018). Specifically, participants emphasized a confidence in their ability to provide quality care to patients and prioritize comprehensive care that addresses not only physical ailments but also patients' holistic needs. The nurse entrepreneurs' commitment to patient-centered care was evident in their willingness to invest time, resources, and expertise to ensure positive health outcomes. By placing patient welfare at the forefront of their practice, these nurse entrepreneurs cultivated trust, respect, and compassion

within their clinics. Studies have shown that the importance of self-efficacy in clinic nurses leads to good service, particularly patient quality care, patient satisfaction, adherence to treatment plans, and health outcomes (Neergard, 2021; Sharp & Monsivais, 2014). Nurse entrepreneurs who prioritize patient well-being are more likely to foster therapeutic relationships with their patients, leading to better clinical outcomes and enhanced patient satisfaction (Dyrbye et al., 2017).

- **Having mission and passion for healthcare**

Participants mentioned a strong sense of mission and passion for healthcare as driving forces behind their commitment to quality care. They viewed their clinics as platforms to contribute to the well-being of their communities and improve access to healthcare services. This mission-driven approach transcended financial considerations, with participants prioritizing patient welfare and community health above profit margins. Their dedication reflects a deep-rooted belief in the importance of nursing as a profession and its role in promoting public health. Thus, self-efficacy as an important individual factor for nurse entrepreneurs arises from their mission or passion for healthcare, which helped to drive their desire to become nurse entrepreneurs as an opportunity to provide healthcare delivery and run a clinic that prioritizes quality care (Dehghanzadeh et al., 2016; Marques et al., 2019; Neergard, 2021).

### **Theme 5: Self-efficacy enhances business performance**

In quantitative terms, the correlation between self-efficacy and business performance among nurse entrepreneur survey respondents was likely related to increasing self-efficacy through knowledge from their educational background, work experience in nursing and business, belief in their abilities, and extensive (or thorough) preparation which impacts business performance whether measured by profit, or patient base. Participants in the study expressed a strong belief in their ability to achieve business performance in their clinics. Bandura's self-efficacy theory

(Bandura, 1977) provides a framework for understanding how individuals' beliefs in their own capabilities influence their actions and outcomes. The nurse entrepreneurs' confidence in their knowledge, skills, experiences, and abilities aligns with Bandura's theory, highlighting the importance of self-efficacy in entrepreneurial success (Jahani et al., 2018; Marques et al., 2019; Neergard, 2021; Thepna et al., 2023b). The participants highlighted various factors contributing to their confidence, including their formal education (i.e., bachelor's, master's, and doctoral degrees) and training (i.e., nurse practitioner), professional experience in nursing and business, and determination to increase patients and income. This finding clarifies that belief in their own capabilities served as a driving force behind their entrepreneurial endeavors, motivating them to pursue their goals despite challenges and uncertainties. While the quantitative correlation between self-efficacy and business performance was weak, the participants' interview narratives underscored the importance of self-confidence and determination in their entrepreneurial journey. Their belief in their ability to overcome obstacles, leverage their skills and knowledge, and adapt to changing circumstances reflected a fundamental aspect of their entrepreneurial mindset in their clinics.

#### **Theme 6: Enhancing business performance**

In the regression analysis of survey data, the combination of self-efficacy, social support, and engaging in clinic ownership as a part-time job collectively explained a noteworthy portion of the variance in business performance for nurse entrepreneurs in nursing and midwifery clinics. When considering the overall findings, these results can be related to nurse entrepreneurs' commitment to self-efficacy, their connection with social support, and time management when clinic ownership is part-time, which can all contribute to business performance.

- **Role of self-efficacy**

Self-efficacy, as evidenced by participants' strong belief in their abilities and competence, emerged as a critical factor contributing to business performance tasks. From the qualitative findings, participants expressed confidence in their knowledge, skills, and experience, emphasizing its pivotal role in managing clinics effectively and achieving their business performance goals. This self-efficacy empowered participants to navigate the challenges of clinic ownership and attract a steady influx of patients, ultimately supporting financial viability, increasing patient cases, and promoting sustainability in the clinic. These relationships align with Bandura's theory (Bandura, 1977), highlighting the importance of self-efficacy in entrepreneurial success (Neergard, 2021; Thepna et al., 2023b). In their interviews, participants also emphasized the importance of self-confidence in fostering patient trust and loyalty. They attributed the success of their clinics to their unwavering belief in themselves, which they indicated translated into high-quality service delivery and positive patient experiences. Drawing from their backgrounds in nursing and other managerial roles, participants demonstrated a strong sense of self-efficacy in their ability to effectively manage all aspects of clinic operations. For instance, one participant emphasized the critical role of self-confidence in managing their clinic, stating that faith in their abilities was instrumental in its establishment and subsequent success. Another participant highlighted their extensive experience in clinic management, acquired through previous roles in healthcare settings, as a source of confidence about their entrepreneurial venture. Similarly, participants with specialized training, such as nurse practitioners, expressed heightened confidence in their ability to run successful clinics.

- **Role of social support**

Integrating the qualitative insights of this study with the earlier quantitative findings provides a comprehensive understanding of the contribution social support connections, including family, friends, experienced clinic nurses, community, and health professional support, to the variance in business performance among nurse entrepreneurs in nursing and midwifery clinics. Social support from these various groups is a resource individuals draw upon when initiating a business venture (León et al., 2007), which they then utilize when faced with challenges in their business performance (Kim & Tussyadiah, 2013). This literature aligns with our overall interview findings that family support is fundamental for nurse entrepreneurs in nursing and midwifery clinics. Participants mentioned that their families provided practical assistance, like caring for their children during clinic hours and even help in building the clinic. Additionally, emotional support from family members, especially parents and spouses, was highlighted as a source of strength and motivation. Friends, including colleagues and close acquaintances, also played a crucial role in supporting these nurse entrepreneurs. They provided practical help such as swapping shifts and offering advice on clinic management. Some friends even assisted in promoting the clinic through social media and recommending its services. This social support network not only aids in day-to-day operations but also contributes to the clinic's visibility and growth. Additionally, seeking guidance from experienced nurses who have opened their own clinics emerged as a common strategy among participants. These mentors shared valuable insights into clinic management and provided practical advice on preparations and challenges. Their support helped nurse entrepreneurs navigate the complexities of starting and running a clinic, contributing to their success. Active engagement with the local community has been emphasized as crucial for clinic success (Abbas et al., 2019). Building trust and familiarity through community involvement and leveraging networks

within the community has also been cited as effective strategies (Corbin et al, 2021). Study participants reported that community members and leaders showed support by patronizing the clinics and participating in their events. Another source of support, collaboration with other healthcare professionals, including physicians, pharmacists, and nurses, was highlighted as essential for providing comprehensive patient care as colleagues and advisors. These partnerships enabled referrals, multidisciplinary care, and timely treatment for patients. Leveraging the expertise of healthcare professionals was reported to not only enhance patient care but also strengthen the clinic's reputation and credibility within the healthcare community.

- **Time management when clinic ownership is part-time**

The finding in the survey analysis suggested a negative association between engagement in clinic ownership as a part-time job and the business performance of nurse entrepreneurs in nursing and midwifery clinics. Consistent with this finding, the qualitative interviews underscored the time management challenges faced by nurse entrepreneurs juggling part-time clinic ownership alongside full-time jobs. While some participants noted growth in patient numbers and income, they expressed the need for more time to manage finances and equipment. Emphasizing the importance of consistent clinic hours for patient retention was also mentioned. Additionally, limitations due to their hospital job resulted in clinic closures on duty days, potentially leading to customer loss. In contrast, some participants work as full-time clinic nurses. They have the time to manage various aspects of the clinic, including services, quality of care, finances, and clinic resources. Effective time management is essential for completing tasks efficiently and effectively in business (Chaudhari, 2022), which can involve arranging, organizing, scheduling, planning, and budgeting time spent on specific tasks, particularly in healthcare businesses like nursing and midwifery clinics (Bahadori et al., 2015; Hussain et al., 2019; Meiring, 2017). These clinics require

effective management within healthcare standards and scope of practice, and limited commitment may hinder growth and sustainability (Addis et al., 2023). Furthermore, part-time clinic owners may face challenges in networking and strategic planning, impacting competitiveness and limiting growth opportunities and service expansion. This can result in reduced healthcare quality due to limited attention to effective clinic management (Gordon & Borkan, 2014). Therefore, nurse entrepreneurs in nursing and midwifery clinics should prioritize time management, especially if opening a clinic part-time, to ensure productivity and performance necessary for successful clinic establishment and sustainability (Addis et al., 2023).

### **Theme 7: Enhancing quality of care**

The combination of self-efficacy, social support, and work experience in nursing collectively explains a noteworthy portion of the variance in the quality of care that nurse entrepreneurs reported providing in nursing and midwifery clinics. When considering the overall findings from interviews, these results can be attributed to nurse entrepreneurs' commitment to self-efficacy, their connection with social support, and their work experience in nursing, all contributing to achieving quality of care in business success.

- **Role of self-efficacy**

The pivotal role of self-efficacy among nurse entrepreneurs is underscored by its impact on the quality of care in nursing and midwifery clinics. Self-efficacy is not just a desirable trait but a crucial factor in the entrepreneurial journey of nurses. By incorporating self-efficacy principles into their professional practice, nurse entrepreneurs can effectively steer through the intricate web of healthcare regulations and innovate in healthcare delivery to uphold high standards of care (Thepna et al., 2023b). The finding regarding self-efficacy's influence on quality of care is consistent with the qualitative insights from the interviews, which emphasize that self-belief in

knowledge, skill, experience, and passion drives nurse entrepreneurs' ability to deliver quality care in their clinics, leading to their success and positive reputation within the community. Participants expressed a strong belief in their abilities, rooted in their knowledge and nursing experience, which empowered them to establish and effectively manage successful clinics that garnered positive feedback from patients. Furthermore, they highlighted the importance of staying updated with treatment knowledge, which further boosted their confidence and efficacy in clinic management.

- **Role of social support**

Social support includes various forms from family, friends, experienced nurse clinics, community leaders, and multidisciplinary professionals. These rich support networks enhance patient experiences and outcomes (Politis, 2005). The qualitative interviews provided an important additional insight that family support, such as parents and spouse, was a primary support, with participants emphasizing how their families provided encouragement and emotional support, which fostered their motivation to establish high-quality clinics. Close friends and nurse colleagues also played a crucial role, serving as sources of inspiration, emotional support, information exchange, and mutual support in navigating clinic management challenges. Therefore, family and friends support provides not only benefits effective clinic management but also nurse entrepreneurs, alleviating stress and anxiety associated with running a clinic. Ultimately, this support enhances patient compliance and satisfaction with the care received, leading to improved health outcomes (Reblin & Uchino, 2008). Additionally, connections with experienced clinic nurses offered valuable insights and guidance as mentors or consultants about understanding how to manage different aspects of clinic operations for success and having a standard of care, while community leaders aided in promoting clinics within the local community, bolstering patient confidence and utilization of services. Moreover, collaborations with health professionals, such as

physicians and pharmacists, provided access to consultations and referrals, enhancing the scope and effectiveness of patient care. These findings indicate the multifaceted role of social support networks in nurturing nurse entrepreneurs and facilitating the delivery of quality care in nursing and midwifery clinics.

- **Work experience in nursing**

The finding regarding work experience in nursing highlights its significant role in the quality of care provided by nurse entrepreneurs in nursing and midwifery clinics. The negative coefficient ( $\beta = -0.21$ ) suggests that nurse entrepreneurs with more extensive work experience in nursing may view their quality of care as lower compared to those with less experience. Although a standard view is that nurse entrepreneurs in nursing and midwifery clinics with more nursing experience can provide a better quality of care or service compared to new nurses or nurses who have less nursing experience, the conclusions of the few existing studies on this topic are inconsistent. There are several potential explanations for this finding that contribute to our understanding of factors that influence quality of care. Nurse entrepreneurs in nursing and midwifery clinics with extensive work experience may have a lower level of work engagement than nurses who have less work experience, which influences attention on the quality of care in patients, whether patient satisfaction, patient safety, or the scope of practice/regulatory compliance. Consistent with this view, Bowden et al. (2019) found that although falls occur among patients cared for by new nurses with  $\leq 1$  year of experience, a larger proportion of falls occurred among patients cared for by experienced nurses with  $\geq 5$  years of experience. Wan et al (2018) have concluded that nurses with fewer work years have a higher level of work engagement. The challenge for nurse entrepreneurs in nursing and midwifery clinics is to keep experienced nurses actively engaged in patient care because nurses with a longer time on the job can become

disengaged from patient care and less satisfied (Blegen et al., 2001). Engaging nurses is key to preventing adverse events and maintaining quality care. Moreover, experienced nurses-turned-entrepreneurs may encounter challenges in transitioning from clinical roles to managerial or entrepreneurial clinic responsibilities. This transition can be particularly difficult due to conflicts and uncertainties, especially when experienced nurses are involved (Sharp & Monsivais, 2014), potentially resulting in gaps in leadership or business acumen that could impact their perspective on the quality of healthcare delivery.

In terms of measurement, this study utilized a quality-of-care questionnaire aimed at assessing nursing perceptions of patient care. This approach is subjective, as it relies on individuals' interpretations, judgments, and opinions (Florin et al., 2005). Nursing perceptions provide valuable insights into the care delivery process, capturing dimensions of quality that may elude objective metrics. This emphasis on nursing perception, rather than perceptions of patients or other observers, highlights the need to understand the comprehensive dimensions of care quality (Alilyyani et al., 2022). The questionnaire comprised six items, including the type of care, timeliness of service, staffing levels, resource availability, and overall quality of care. It is important to note that perceptions among nurses may vary. A participant with 33 years of nursing experience emphasized the utilization of her extensive knowledge and expertise for effective clinic management. This included tasks such as managing medicine stock, financial management, staff development, and designing a clinic to attract customers. Notably, she did not specifically mention focusing on the quality of care. Conversely, a participant with 7 years of nursing experience prioritized the quality of care, emphasizing its importance in building trust with patients within the scope of practice and standard of care. Thus, experienced nurses might recognize the need for additional staffing or resources to ensure effective clinic management, while less experienced

nurses may not possess the same level of awareness. This discrepancy in perception underscores the complexity of assessing and improving care quality and might explain the observed negative coefficient in the association between work experience in nursing and the quality of care.

Surprisingly, the Big Five personality traits and transformational leadership were not found to influence business success, specifically business performance and quality of care by nurse entrepreneurs in nursing and midwifery clinics. Healthcare leadership, especially in nursing and midwifery clinics, presents unique challenges. Avolio and Bass (1988) suggested that transformational leadership behaviors are highly effective in rallying followers around a common vision. However, healthcare environments demand a nuanced leadership approach due to the focus on patient care, compliance, and collaboration (Cummings et al., 2009). A complex context may make it difficult to predict leadership success. Contextual factors, like organizational culture and external pressures, also play a significant role (Laschinger et al., 2012). Without considering these nuances, the link between personality traits and leadership effectiveness may seem weak. While the Big Five offers valuable insights into individual differences, it may not fully encompass the range of leadership styles. A particular leader may demonstrate varying degrees of both transformational and transactional leadership. These styles are not mutually exclusive, and Effective healthcare leadership often blends transformational and transactional behaviors to suit organizational needs (Aarons, 2006; Cummings et al., 2010).

### **Strengths and limitations**

The integration of quantitative and qualitative findings in this study provides valuable insights for nurse entrepreneurs in nursing and midwifery clinics. The study also had a representative sample size, effectively representing nurse entrepreneurs in nursing and midwifery clinics across Thailand. It encompassed representative numbers from different regions. However,

cross-sectional designs in quantitative studies, while offering valuable snapshots of relationships, have inherent limitations. These designs lack the capacity to establish causality or track changes over time (Cohen et al., 2017), thus challenging the determination of long-term impacts of factors such as personality traits, leadership styles, or self-efficacy on business success. Additionally, cross-sectional studies fail to capture developmental trajectories or patterns of change in these factors, limiting insights into their evolution and interaction dynamics shaping entrepreneurial outcomes. Therefore, while providing initial insights, cross-sectional findings could benefit from complementary longitudinal approaches to offer a more comprehensive understanding of the complex dynamics influencing nurse entrepreneurs in nursing and midwifery clinics. Furthermore, the study relied on a subjective quality-of-care questionnaire to evaluate nursing perceptions of patient care, potentially introducing bias stemming from individual interpretations and judgments (Florin et al., 2005). While valuable for insights into care delivery, nursing perceptions lack the objectivity of measurable metrics, highlighting the necessity for a more comprehensive understanding of care quality. This complexity poses challenges in assessing and enhancing care quality, potentially complicating interpretations of associations like the negative coefficient between nursing experience and perceived care quality. Therefore, future research should incorporate a tailored quality-of-care questionnaire to better address nurse entrepreneurs in the context of nursing and midwifery clinics. Alternatively, a questionnaire focused on patient perceptions could be utilized to gain further insight into their perspectives.

## **Implications**

### ***Future research***

Future research exploring the influence of individual factors on nurse entrepreneurs' business success has several crucial avenues for investigation. First, exploring multi-level factors

and contexts beyond individual characteristics could enhance understanding of the dynamics influencing the success and sustainability of nurse-led ventures. This comprehensive approach could encompass organizational, professional, and policy levels, providing evidence-based insights for supporting nurse entrepreneurs and improving healthcare delivery outcomes. Second, longitudinal studies could offer valuable insights into the factors contributing to the sustained success or potential challenges faced by nurse entrepreneurs over time. By tracking changes in individual factors and business success metrics, researchers can identify trends, patterns, predictors, and potential causal relationships. Third, future research could incorporate more objective measures of business performance and care quality to examine financial accounts, patient visits, and patient perspectives, such as patient satisfaction. By obtaining a more comprehensive understanding of business success, researchers can better assess the impact of nurse entrepreneurs on healthcare delivery and identify areas for improvement. Furthermore, exploring personality traits beyond the Big Five model and examining diverse leadership styles could enhance our understanding of effective healthcare leadership. In terms of nursing, understanding leadership styles is important to recognize that effective healthcare leadership often entails an integration of transformational and transactional leadership tailored to meet organizational requirements and adapt to the complexity within the context of an entrepreneurial venture (Aarons, 2006; Cummings et al., 2010).

Therefore, it is imperative to delve deeper into these areas. Lastly, building upon existing studies, future research could develop intervention programs or training tailored to nurse entrepreneurs in these settings. These initiatives could include educational programs, training sessions, or policy changes aimed at enhancing business performance. By evaluating the

effectiveness of these interventions, researchers can contribute to the development of strategies that support nurse entrepreneurs in achieving success.

### ***Education***

The study's findings could inform standardized continuing education programs for current nurse entrepreneurs. These programs would assist them in making evidence-based decisions and enhancing their skills. The findings also could shape curriculum development for nursing students interested in clinic ownership, providing a foundation in nurse entrepreneurship, particularly tailored to nursing and midwifery clinics.

### ***Nursing practice***

Enhancing personality traits such as conscientiousness and emotional stability is crucial for ensuring patient care and safety, effective clinic management, and adherence to ethical standards. Effective transformational leadership, coupled with self-efficacy, plays a pivotal role in inspiring teams and driving business success. Enhancing self-efficacy for both providing quality care and achieving entrepreneurial goals is essential, while effective time management is critical for part-time clinic owners. Leveraging social support networks can offer valuable resources and encouragement, and considering the impact of work experience in nursing on care quality is vital. By addressing these factors, nurse entrepreneurs can enhance clinic operations, achieve business success, and contribute to improved healthcare outcomes. These implications could be addressed through collaboration, such as forming a public-private partnership with the government or engaging finance institutions to establish an investment fund. Training initiatives could be managed alongside, and a cooperative or social franchise model could be developed to ensure quality assurance throughout the process. Ultimately, this could lead to improved healthcare service delivery and increased accessibility, particularly in rural communities.

## **Conclusions**

Launching and running nursing and midwifery clinics successfully pose challenges that are influenced by multiple factors, with individual factors playing a pivotal role. This study aimed to delve into these individual factors, including personality traits, transformational leadership, self-efficacy, and social support, to understand their impact on the experiences and business success of nurse entrepreneurs. The study identified seven themes through a mixed-methods approach, including enhancing personality traits of conscientiousness and emotional stability, self-efficacy promotes effective transformational leadership, conscientiousness enhances transformational leadership, self-efficacy for quality of care and enhances business, performance, and enhancing business performance and quality of care. These findings highlight the importance of addressing these factors to improve business performance and quality of care. Additionally, integrating quantitative and qualitative findings offers a comprehensive understanding, suggesting avenues for the future research for exploring nurse entrepreneurs in nursing and midwifery clinics and implication for practice and education. Understanding the importance of enhancing personality traits, fostering effective transformational leadership, improving self-efficacy for both providing quality care and achieving business performance, and leveraging social support networks is crucial for the development of nurse entrepreneurs. Moreover, implementing continuing education and leadership development programs for nurse entrepreneurs, along with curriculum development for nursing students interested in clinic ownership, can further contribute to these goals. Ultimately, these efforts have the potential to enhance healthcare service delivery and accessibility, particularly in rural communities.

## References

- Aarons, G. A. (2006). Transformational and transactional leadership: Association with attitudes toward evidence-based practice. *Psychiatric Services, 57*(8), 1162-1169.  
<https://doi.org/10.1176/appi.ps.57.8.1162>.
- Abbas, J., Raza, S., Nurunnabi, M., Minai, M. S., & Bano, S. (2019). The impact of entrepreneurial business networks on firms' performance through a mediating role of dynamic capabilities. *Sustainability, 11*(11), 3006. <https://doi.org/10.3390/su11113006>.
- Addis, B. A., Eyowas, F. A., Bogale, T. W., Aynalem, Z. B., & Guadie, H. A. (2023). Time wasted by health professionals is time not invested in patients: time management practice and associated factors among health professionals at public hospitals in Bahir Dar, Ethiopia: a multicenter mixed method study. *Frontiers in Public Health, 11*, 1159275.  
<https://doi.org/10.3389/fpubh.2023.1159275>.
- Alamshahi, M., Alvaani, J., & Ghavam, A. (2017). Review of the factors affecting nurse's entrepreneurship in selected hospitals of Golestan province. *Bioscience Biotechnology Research Communications, 10*(1), 146-152.
- Alilyyani, B.; Kerr, M.; Wong, C.; Wazqar, D. A (2022). Psychometric analysis of the nurse satisfaction with the quality of care scale. *Healthcare, 10*, 1145. <https://doi.org/10.3390/healthcare10061145>.
- Applegate, L., Kraus, J., & Butler, T. (2016). *Skills and behaviors that make entrepreneurs successful*. Harvard Business School, Boston.
- Avolio, B. J., & Bass, B. M. (1988). *Transformational leadership, charisma, and beyond*. In J. G. Hunt, B. R. Baliga, H. P. Dachler, & C. A. Schriesheim (Eds.), *Emerging leadership vistas (29–49)*. Lexington Books/D. C. Heath and Com.

- Bahadori, M., Salesi, M., Ravangard, R., Hosseini, S. M., Raadabadi, M., Hojati Dana, A., & Ameryoun, A. (2015). Prioritization of factors affecting time management among health managers. *International Journal of Travel Medicine and Global Health*, 3(4), 159-164. <https://doi.org/10.20286/ijtmgh-0304142>.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Barrick, M. R., & Mount, M. K. (2012). Select on conscientiousness and emotional stability. *Handbook of principles of organizational behavior: Indispensable knowledge for evidence-based management*, 19-39. <https://doi.org/10.1002/9781119206422.ch2>
- Bass, B. M. (1990). From transactional to transformational leadership: Learning to share the vision. *Organizational Dynamics*, 18, 19-32. [https://doi.org/10.1016/0090-2616\(90\)90061-S](https://doi.org/10.1016/0090-2616(90)90061-S)
- Bass, B. M. (1999). Two decades of research and development in transformational leadership. *European Journal of Work and Organizational Psychology*, 8(1), 9-32. <https://doi.org/10.1080/135943299398410>.
- Bass, B.M. and Avolio, B.J. (1998). Transformational Leadership, Charisma, and beyond. In: Hunt, J.G., Baliga, B.R., Dachler, H.P. and Schriesheim, C.A., Eds., *Emerging leadership vistas*, Lexington Books, Lexington, MA, 29-49.
- Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership*. New York, NY: Psychology Press. <https://doi.org/10.4324/9781410617095>
- Bass, B. M., & Steidlmeier, P. (1999). Ethics, character, and authentic transformational leadership behavior. *The Leadership Quarterly*, 10, 181-217. [https://doi.org/10.1016/S1048-9843\(99\)00016-8](https://doi.org/10.1016/S1048-9843(99)00016-8)

- Blegen, M. A., Vaughn, T. E., & Goode, C. J. (2001). Nurse experience and education: Effect on quality of care. *JONA: The Journal of Nursing Administration*, 31(1), 33-39.  
<https://doi.org/10.1097/00005110-200101000-00007>.
- Bowden, V., Bradas, C., & McNett, M. (2019). Impact of level of nurse experience on falls in medical surgical units. *Journal of Nursing Management*, 27(4), 833-839.  
<https://doi.org/10.1111/jonm.12742>.
- Brown, M. E., & Treviño, L. K. (2006). Ethical leadership: a review and future directions. *The Leadership Quarterly*, 17, 595-616. <https://doi.org/10.1016/j.leaqua.2006.10.004>
- Brüderl, J., & Preisendörfer, P. (1998). Network support and the success of newly founded business. *Small Business Economics*, 10, 213-225.  
<https://doi.org/10.1023/A:1007997102930>
- Cardella, G. M., Hernández-Sánchez, B. R., & Sanchez Garcia, J. C. (2020). Entrepreneurship and family role: A systematic review of a growing research. *Frontiers in Psychology*, 10, 29-39. <https://doi.org/10.3389/fpsyg.2019.02939>
- Ciavarella, M. A., Buchholtz, A. K., Riordan, C. M., Gatewood, R. D., & Stokes, G. S. (2004). The Big Five and venture survival: Is there a linkage? *Journal of Business Venturing*, 19(4), 465-483. <https://doi.org/10.1016/j.jbusvent.2003.03.001>
- Chaudhari, T. (2022). Time management essentials and importance. *International Journal of Commerce and Management Research*, 8(5), 6-8.
- Cherrington, D.J. (1989). *Organizational behavior: The management of individual and organizational performance*. Allyn & Bacon.

- Chen, C. C., Greene, P. G., & Crick, A. (1998). Does entrepreneurial self-efficacy distinguish entrepreneurs from managers? *Journal of Business Venturing*, 13(4), 295-316.  
[https://doi.org/10.1016/S0883-9026\(97\)00029-3](https://doi.org/10.1016/S0883-9026(97)00029-3)
- Cohen, L., Manion, L., & Morrison, K. (2017). Surveys, longitudinal, cross-sectional and trend studies. In *Research methods in education* (pp. 334-360). Routledge.
- Colichi, R. M. B., & Lima, S. A. M. (2018). Entrepreneurship in nursing compared to other health professions. *Revista Eletrônica de Enfermagem*, 20, v20a11.  
<https://doi.org/10.5216/ree.v20.49358>
- Collins, E., Owen, P., Digan, J., & Dunn, F. (2020). Applying transformational leadership in nursing practice. *Nursing Standard (Royal College of Nursing (Great Britain): 1987)*, 35(5), 59–66. <https://doi.org/10.7748/ns.2019.e11408>
- Cooper, A. C., Folta, T., Gimeno-Gascon, J., & Woo, C. Y. (1992). Entrepreneurs' exit decisions: The role of threshold exceptions. *Academy of Management Proceedings (1)*, 75-79.  
<https://doi.org/10.5465/AMBPP.1992.4977477>
- Corbin, J. H., Oyene, U. E., Manoncourt, E., Onya, H., Kwamboka, M., Amuyunzu-Nyamongo, M., ... & Van den Broucke, S. (2021). A health promotion approach to emergency management: Effective community engagement strategies from five cases. *Health Promotion International*, 36 ( Supplement \_ 1 ), i 2 4 - i 3 8 .  
<https://doi.org/10.1093/heapro/daab152>
- Costa, P. T., & McCrae, R. R. (1992). The five-factor model of personality and its relevance to personality disorders. *Journal of Personality Disorders*, 6(4), 343–359.  
<https://doi.org/10.1521/pedi.1992.6.4.343>

- Creswell, J. W., & Clark, V. L. P. (2018). *Designing and conducting mixed methods research*. Sage.
- Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage.
- Cummings, G. G., MacGregor, T., Davey, M., Lee, H., Wong, C. A., Lo, E., ... & Stafford, E. (2010). Leadership styles and outcome patterns for the nursing workforce and work environment: A systematic review. *International Journal of Nursing Studies*, 47(3), 363-385. <https://doi.org/10.1016/j.ijnurstu.2009.08.006>
- Dahlstrand, A. L., & Stevenson, L. (2010). Innovative entrepreneurship policy: Linking innovation and entrepreneurship in a European context. *Annals of Innovation & Entrepreneurship*, 1(1), 5602. <https://doi.org/10.3402/aie.v1i1.5845>
- D'Souza, N., & Scahill, S. (2020). The need to integrate in primary healthcare: Nurse identity constructions of pharmacists as entrepreneurs. *Journal of Health Organization and Management*, 34(8), 849-867. <https://doi.org/10.1108/JHOM-01-2020-0009>
- Dehghanzadeh, M. R., Kholasehzadeh, G., Birjandi, M., Antikchi, E., Sobhan, M. R., & Neamatzadeh, H. (2016). Entrepreneurship psychological characteristics of nurses. *Acta Medica Iranica*, 595-599.
- Dirks, K. T., & Ferrin, D. L. (2002). Trust in leadership: Meta-analytic findings and implications for research and practice. *Journal of Applied Psychology*, 87(4), 611–628. <https://doi.org/10.1037/0021-9010.87.4.611>
- Dyrbye, L. N., Shanafelt, T. D., Sinsky, C. A., Cipriano, P. F., Bhatt, J., Ommaya, A., ... & Meyers, D. (2017). Burnout among health care professionals: A call to explore and address

this underrecognized threat to safe, high-quality care. *NAM Perspectives*.

<https://doi.org/10.31478/201707b>

Edelman, L. F., Manolova, T., Shirokova, G., & Tsukanova, T. (2016). The impact of family support on young entrepreneurs' start-up activities. *Journal of Business Venturing*, *31*(4), 428-448. <https://doi.org/10.1016/j.jbusvent.2016.04.003>

Ejimabo, N. O. (2015). The influence of decision making in organizational leadership and management activities. *Journal of Entrepreneurship & Organization Management*, *4*(2), 2222-2839. <https://doi.org/10.4172/2169-026X.1000138>

El Toufaili, B. (2018). The influence of subjective factors on the development of the transformational style of leadership. *Revista de Management Comparat Internațional*, *19*(2), 124-135. <https://doi.org/10.24818/RMCI.2018.2.124>

Elango, B., Hunter, G. L., & Winchell, M. (2007). Barriers to nurse entrepreneurship: A study of the process model of entrepreneurship. *Journal of the American Academy of Nurse Practitioners*, *19*(4), 198– 204. <https://doi.org/10.1111/j.1745-7599.2007.00215.x>

Epstein, M. J. (2018). *Making sustainability work: best practices in managing and measuring corporate social, environmental and economic impacts*. Routledge.

Florin, J., Ehrenberg, A., & Ehnfors, M. (2005). Patients' and nurses' perceptions of nursing problems in an acute care setting. *Journal of Advanced Nursing*, *51*(2), 140-149. <https://doi.org/10.1111/j.1365-2648.2005.03477.x>

Franco, M., & Prata, M. (2019). Influence of the individual characteristics and personality traits of the founder on the performance of family SMEs. *European Journal of International Management*, *13*(1), 41-68. <https://doi.org/10.1504/EJIM.2019.096498>

- Freitas, J. S. D., Silva, A. E. B. D. C., Minamisava, R., Bezerra, A. L. Q., & Sousa, M. R. G. D. (2014). Quality of nursing care and satisfaction of patients attended at a teaching hospital. *Revista Latino-americana De Enfermagem*, 22, 454-460. <https://doi.org/10.1590/0104-1169.3241.2437>
- Gordon, C. E., & Borkan, S. C. (2014). Recapturing time: a practical approach to time management for physicians. *Postgraduate Medical Journal*, 90(1063), 267-272. <https://doi.org/10.1136/postgradmedj-2013-132012>
- Gupta, V., MacMillan, I. C., & Surie, G. (2004). Entrepreneurial leadership: Developing and measuring a cross-cultural construct. *Journal of Business Venturing*, 19(2), 241-260. [https://doi.org/10.1016/S0883-9026\(03\)00040-5](https://doi.org/10.1016/S0883-9026(03)00040-5)
- Hachana, R., Berraies, S., & Ftiti, Z. (2018). Identifying personality traits associated with entrepreneurial success: Does gender matter? *Journal of Innovation Economics Management*, (3), 169-193. <https://doi.org/10.3917/jie.027.0169>
- Halim, M. A. S. A., Muda, S., & Amin, W. A. A. W. M. (2011). The measurement of entrepreneurial personality and business performance in Terengganu creative industry. *International Journal of Business and Management*, 6(6), 183. <https://doi.org/10.5539/ijbm.v6n6p183>
- Hayat, A., Latif, A., Humayon, A. A., Ahmed, M., & Azeem, M. (2019). The mediating role of entrepreneurial leadership in the relationship between entrepreneurial orientation and firm performance of ICTs SMEs. *Journal of Multidisciplinary Approaches in Science*, 5(1), 16-23.

- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277–1288. <https://doi.org/10.1177/1049732305276687>
- Hussain, K., Bakhsh, K., & Sabir, H. M. (2019). Time management practices and administrative satisfaction among higher secondary school principals in Punjab. *Journal of Managerial Sciences, 13*(2).
- Ilmafa'ati, R. (2021). The influence of entrepreneurship, creativity, and business location on business success. *Innovation Research Journal, 2*(1), 51-64. <https://doi.org/10.30587/innovation.v2i1.2397>
- Islam, M. A., Khan, M. A., Obaidullah, A. Z. M., & Alam, M. S. (2011). Effect of entrepreneur and firm characteristics on the business success of small and medium enterprises (SMEs) in Bangladesh. *International Journal of Business and Management, 6*(3), 289. <https://doi.org/10.5539/ijbm.v6n3p289>
- İspir, Ö., Elibol, E., & Sönmez, B. (2019). The relationship of personality traits and entrepreneurship tendencies with career adaptability of nursing students. *Nurse Education Today, 79*, 41-47. <https://doi.org/10.1016/j.nedt.2019.05.017>
- Jahani, S., Babazadeh, M., Haghighi, S., & Cheraghian, B. (2018). The effect of entrepreneurship education on self-efficacy beliefs and entrepreneurial intention of nurses. *Journal of Clinical & Diagnostic Research, 12*(6). <https://doi.org/10.7860/JCDR/2018/31525.11654>
- Jakobsen, L., Wachter Qvistgaard, L., Trettin, B., & Juel Rothmann, M. (2021). Entrepreneurship and nurse entrepreneurs lead the way to the development of nurses' role and professional identity in clinical practice: A qualitative study. *Journal of Advanced Nursing, 77*(10), 4142-4155. <https://doi.org/10.1111/jan.14950>

- Jankelová, N., & Joniaková, Z. (2021). Communication skills and transformational leadership style of first-line nurse managers in relation to job satisfaction of nurses and moderators of this relationship. *Healthcare*, 9(3), 346. <https://doi.org/10.3390/healthcare9030346>
- Jung, D. I. (2010). Transformational and transactional leadership and their effects on creativity in groups. *Creativity Research Journal*, 13(2), 185-195. [https://doi.org/10.1207/S15326934CRJ1302\\_6](https://doi.org/10.1207/S15326934CRJ1302_6)
- Kagan, O., Sciasci, N. G., Koszalinski, R. S., Kagan, D. H., Leary, M., & Nadel, H. (2023). Nurses' confidence in starting a new venture, start-up or project in the context of nurse-led hackathons: Results of prehackathon survey. *Nursing Outlook*, 71(3), 101961. <https://doi.org/10.1016/j.outlook.2023.101961>
- Kenneth, R. K. (2019). The influence of transformational leadership on entrepreneurship. *Scholedge International Journal of Management & Development*, 6(6), 90-97.
- Kim-Soon, N., Al-Rawi, O. Y. M., Mostafa, S. A., Ling, C. Y., Al-Dayyeni, W. S., Ali, R. R. & Al-Rawi, B. (2022). A model for predicting entrepreneurship intentions based on social cognitive theory and entrepreneurship characteristics. *Information Sciences Letters: An International Journal*, 11(2), 445-455. <https://doi.org/10.18576/isl/110215>
- Kim, J., & Tussyadiah, I. P. (2013). Social networking and social support in tourism experience: The moderating role of online self-presentation strategies. *Journal of Travel and Tourism Marketing*, 30(1-2), 78-92. <https://doi.org/10.1080/10548408.2013.751220>
- Kregar, T. B., & Antoncic, B. (2014). Entrepreneurial networks: The multiplexity of exchange content. *Economic and Social Development: Book of Proceedings*, 389.
- Laschinger, H. K. S., Wong, C. A., & Grau, A. L. (2012). The influence of authentic leadership on newly graduated nurses' experiences of workplace bullying, burnout, and retention

- outcomes: A cross-sectional study. *International Journal of Nursing Studies*, 49(10), 1266-1276. <https://doi.org/10.1016/j.ijnurstu.2012.05.012>
- Lee, L., & Yang, C. L. (2013). Key success factors in female micro entrepreneurship: A study of the catering business. *Service Science and Management Research*, 2(3), 39-47.
- León, J. A. M., Descals, F. J. P., & Domínguez, J. F. M. (2007). The psychosocial profile of the university entrepreneur. *Psychology in Spain*, 1(1), 72–84.
- Leung, Y. K., Mukerjee, J., & Thurik, R. (2020). The role of family support in work-family balance and subjective well-being of SME owners. *Journal of Small Business Management*, 58(1), 130-163. <https://doi.org/10.1080/00472778.2019.1659675>
- Limsong, S., Seang, S., Sambath, P., & Hong, S. (2016). Model of entrepreneurial success: Linking theory and practice. In International Conference on Enterprise Marketing and Globalization (EMG). Proceedings. Global Science and Technology Forum, 97. [https://doi.org/10.5176/2251-2039\\_IE16.29](https://doi.org/10.5176/2251-2039_IE16.29).
- Lucky, E. O. I., Olusegun, A. I., & Bakar, M. S. (2012). Determinants of business Success: Trust or business policy? *Researchers World*, 3(3), 37.
- Lyons, C. (2014). Entrepreneurship in nursing. *The Oklahoma Nurse*, 59(1), 1.
- Marques, C. S., Marques, C. P., Ferreira, J. J. M., & Ferreira, F. A. F. (2019). Effects of traits, self-motivation, and managerial skills on nursing intrapreneurship. *International Entrepreneurship and Management Journal*, 15, 733–748. <https://doi.org/10.1007/s11365-018-0520-9>
- McGee, J. E., Dowling, M. J., & Megginson, W. L. (1995). Cooperative strategy and new venture performance: The role of business strategy and management experience. *Strategic management journal*, 16(7), 565-580.

- McShane, S. L., & Von Glinow, M. (2010). *Organizational behaviour: Emerging knowledge and practice for the real world* (5th ed.). New York: McGraw-Hill/Irwin.
- Meiring, A. (2017). Time management: How to improve outcomes through management inputs. *Professional Nursing Today*, 21(3), 2-3.
- Melnyk, B. M., & Raderstorf, T. (2019). *Evidence-based leadership, innovation and entrepreneurship in nursing and healthcare: A practical guide to success*. Springer Publishing Company.
- Mesterova, J., Procházka, J., Vaculík, M., & Smutny, P. (2015). Relationship between self-efficacy, transformational leadership, and leader effectiveness. *Journal of Advanced Management Science*, 3(2). <https://doi.org/10.12720/joams.3.2.109-122>.
- Miao, C., Qian, S., & Ma, D. (2017). The relationship between entrepreneurial self-efficacy and firm performance: A meta-analysis of main and moderator effects. *Journal of Small Business Management*, 55(1), 87–107. <https://doi.org/10.1111/jsbm.12240>
- Moriano, J. A., Molero, F., Topa, G., & Lévy Mangin, J. P. (2014). The influence of transformational leadership and organizational identification on intrapreneurship. *International Entrepreneurship and Management Journal*, 10(1), 103-119. <https://doi.org/10.1007/s11365-011-0196-x>
- Murphy, G. B., Trailer, J. W., & Hill, R. C. (1996). Measuring performance in entrepreneurship research. *Journal of Business Research*, 36(1), 15-23. <https://doi.org/10.1016/j.ijnurstu.2007.11.004>
- Nahavandi, A (2002). *The art and science of leadership* (3<sup>rd</sup> ed.). Pearson.
- Neergard, G. B. (2021). Entrepreneurial nurses in the literature: A systematic literature review. *Journal of Nursing Management*, 29(5), 905–915. <https://doi.org/10.1111/jonm.13210>

- Northouse, P. G. (2018). *Leadership: Theory and practice* (8th ed.). Sage Publications.
- Nurluoz, Ö., & Esmacilzadeh, S. (2019). Assessment of the entrepreneurial characteristics and hopelessness status of nurses working in theonetraining and research hospital. *Dimensions, 10*, 13. <https://doi.org/10.5152/cjms.2019.832>
- Osborne, S., & Hammoud, M. S. (2017). Effective employee engagement in the workplace. *International Journal of Applied Management and Technology, 16*(1), 4. <https://doi.org/10.5590/IJAMT.2017.16.1.04>
- Parker, S. C. (2018). *The economics of entrepreneurship*. Cambridge University Press.
- Perez, M. M., Patel, D. M., & Cuff, P. A. (Eds.). (2015). *Empowering women and strengthening health systems and services through investing in nursing and midwifery enterprise: Lessons from lower-income countries: workshop summary*. National Academies Press.
- Politis, D. (2005). The process of entrepreneurial learning: A conceptual framework. *Entrepreneurship Theory and Practice, 29*(4), 399-424. <https://doi.org/10.1111/j.1540-6520.2005.00091.x>
- Razmus, W., & Laguna, M. (2018). Dimensions of entrepreneurial success: A multilevel study on stakeholders of micro-enterprises. *Frontiers in Psychology, 9*, 370133. <https://doi.org/10.3389/fpsyg.2018.00791>
- Reblin, M., & Uchino, B. N. (2008). Social and emotional support and its implication for health. *Current Opinion in Psychiatry, 21*(2), 201–205. <https://doi.org/10.1097/YCO.0b013e3282f3ad89>
- Salmon, M. E., & Maeda, A. (2016). Investing in nursing and midwifery enterprise to empower women and strengthen health services and systems: An emerging global body of work. *Nursing Outlook, 64*(1), 7-16. <https://doi.org/10.1016/j.outlook.2015.11.010>

- Sarwoko, E., & Nurfarida, I. N. (2021). Entrepreneurial marketing: Between entrepreneurial personality traits and business performance. *Entrepreneurial Business and Economics Review*, 9(2), 105-118. <https://doi.org/10.15678/EBER.2021.090207>
- Seet, P. S., Lindsay, N., & Kropp, F. (2021). Understanding early-stage firm performance: The explanatory role of individual and firm level factors. *International Journal of Manpower*, 42(2), 260-285. <https://doi.org/10.1108/IJM-02-2019-0112>
- Sharp, D. B., & Monsivais, D. (2014). Decreasing barriers for nurse practitioner social entrepreneurship. *Journal of the American Association of Nurse Practitioners*, 26(10), 562-566. <https://doi.org/10.1002/2327-6924.12126>
- Soto-Acosta, P., Cismaru, D. M., Vătămănescu, E. M., & Ciochină, R. S. (2016). Sustainable entrepreneurship in SMEs: A business performance perspective. *Sustainability*, 8(4), 342. <https://doi.org/10.3390/su8040342>
- Stam, W., Arzlanian, S., & Elfring, T. (2014). Social capital of entrepreneurs and small firm performance: A meta-analysis of contextual and methodological moderators. *Journal of Business Venturing*, 29(1), 152-173. <https://doi.org/10.1016/j.jbusvent.2013.01.002>
- Steinmann, B., Klug, H. J. P., & Maier, G. W. (2018). The path is the goal: How transformational leaders enhance followers' job attitudes and proactive behavior. *Frontiers in Psychology*, 9, 2338. <https://doi.org/10.3389/fpsyg.2018.02338>.
- Subedi, R. (2021). Entrepreneurial performance construct, its dimensions, measures, and issues. *Interdisciplinary Journal of Management and Social Sciences*, 2(1), 172-179. <https://doi.org/10.3126/IJMSS.V2I1.36756>
- Thailand Nursing and Midwifery Council [TNMC] (2014). *Nursing and Midwifery Profession Act 1985 and amended (No. 2) 1997 according to the ministerial regulations and*

- regulations of the Ministry of Public Health and the announcement Nursing Council No.3.*  
Nonthaburi: Jud Thong Company Limited.
- Thailand Nursing and Midwifery Council [TNMC] (2022, July). *Nursing and Midwifery Clinics*.  
<https://www.tnmc.or.th/news/407>.
- The National Health Security Office [NHSO] (2022, August,31). Operational guidelines  
Nursing and midwifery. <https://www.tnmc.or.th/images/userfiles/files/2566/nhso/05/01.pdf>.
- Thepna, A., Cochrane, B. B., & Salmon, M. E. (2023a). Advancing nursing entrepreneurship in  
the 21st century. *Journal of Advanced Nursing*. <https://doi.org/10.1111/jan.15563>.
- Thepna, A., Cochrane, B. B., & Salmon, M. E. (2023b). Self-efficacy in nurse entrepreneurs: A  
concept analysis. *Nursing Outlook*, 71(6), 102053.  
<https://doi.org/10.1016/j.outlook.2023.102053>.
- Umrani, W. A., Kura, K. M., & Ahmed, U. (2018). Corporate entrepreneurship and business  
performance: The moderating role of organizational culture in selected banks in  
Pakistan. *PSU Research Review*, 2(1), 59-80. <https://doi.org/10.1108/PRR-12-2016-0011>.
- Uzialko, A. (2022). Family and Friends Provide a Key Lifeline for Entrepreneurs.  
<https://www.businessnewsdaily.com/9617-friends-family-business-support.html>
- Vannucci, M. J., & Weinstein, S. M. (2017). The nurse entrepreneur: Empowerment needs,  
challenges, and self-care practices. *Nursing: Research & Reviews*, 7, 57-66.  
<https://doi.org/10.2147/NRR.S98407>
- Wall, S. (2015). Dimensions of precariousness in an emerging sector of self-employment: A study  
of self-employed nurses. *Gender, Work & Organization*, 22(3), 221-236.  
<https://doi.org/10.1111/gwao.12071>

- Wilson, A., Averis, A., & Walsh, K. (2003). The influences on and experiences of becoming nurse entrepreneurs: A Delphi study. *International Journal of Nursing Practice*, 9(4), 236–245. <https://doi.org/10.1046/j.1440-172x.2003.00426.x>.
- Wan, Q., Zhou, W., Li, Z., Shang, S., & Yu, F. (2018). Work engagement and its predictors in registered nurses: A cross-sectional design. *Nursing & Health Sciences*, 20(4), 415-421. <https://doi.org/10.1111/nhs.12424>.
- Yukl, G. (2012). Effective leadership behavior: What we know and what questions need more attention. *Academy of Management Perspectives*, 26(4), 66-85. <https://doi.org/10.5465/amp.2012.0088>
- Zhao, H., Seibert, S. E., & Lumpkin, G. T. (2010). The relationship of personality to entrepreneurial intentions and performance: A meta-analytic review. *Journal of Management*, 36(2), 381-404. <https://doi.org/10.1177/0149206309335187>
- Zhou, M., Zhou, Y., Zhang, J., Obschonka, M., & Silbereisen, R. K. (2019). Person–city personality fit and entrepreneurial success: An explorative study in China. *International Journal of Psychology*, 54(2), 155-163. <https://doi.org/10.1002/ijop.12451>.
- Zin, M. L. M., & Ibrahim, H. (2020). The influence of entrepreneurial supports on business performance among rural entrepreneurs. *Annals of Contemporary Developments in Management & HR*, 2(1), 31-41. <https://doi.org/10.33166/ACDMHR.2020.01.004>
- Zulkosky, K. (2009). Self-efficacy: A concept analysis. *Nursing Forum*, 44 (2), 93-102. <https://doi.org/10.1111/j.1744-6198.2009.00132.x>

## **Chapter 5. Conclusions**

Setting up new ventures for nurse entrepreneurs can be challenging due to various factors that impact business success. Individual factors are crucial considerations that can influence business outcomes. In fact, these individual factors have complex and significant effects on behavior, serving as either strengths or weaknesses in achieving business success (Stockwellsafety, 2022). In the context of nursing, there has been a lack of studies examining or identifying the individual factors that influence business success in nursing entrepreneurship, especially in relation to nursing-owned clinics. This dissertation primarily focuses on nursing entrepreneurship and aims to identify gaps concerning the factors that influence nursing entrepreneurship, particularly individual factors such as personality traits, transformational leadership, self-efficacy, and social support, all of which play a crucial role in determining business success.

This dissertation has highlighted individual factors, such as knowledge and skills in entrepreneurship, characteristics of nurse entrepreneurs including self-efficacy, personality traits, leadership, clinical and management experience, and social support, all of which influence nursing entrepreneurship in Chapter 2. Chapter 3 found that self-efficacy, social support, and engaging in clinic ownership as a part-time job collectively explain a substantial proportion of the variance in business performance. Moreover, self-efficacy, social support, and work experience in nursing together explained a significant portion of the variance in the quality of care. In addition, the utilization of a sequential explanatory mixed methods design in Chapter 4 provided comprehensive insights, indicating that personality traits such as conscientiousness and emotional stability, transformational leadership, self-efficacy, and social support influence the business experiences of nurse entrepreneurs, triangulating their qualitative perceptions.

The findings of this study align with Human Capital Theory as outlined by Limsong et al. (2016), which emphasizes the significance of individual factors such as demographic attributes, personality traits, and competence characteristics in influencing business success. Additionally, existing literature highlights that individual factors play a crucial role in nursing entrepreneurship, encompassing aspects such as personality traits in nurse entrepreneurs (Kimsoon et al., 2022), self-efficacy or business confidence (Kagan et al., 2023; Layton et al., 2022; Thepna et al., 2023b), leadership (Kagan et al., 2023; Sharp & Monsivais, 2014), and social support (Vannucci & Weinstein, 2017; Wall, 2015).

This dissertation focused on personality traits in The Big Five model because this model can identify specific configurations of key personality traits that contribute to the development or enhancement of performance and success (Franco & Prata, 2019; Hachana et al., 2018). Additionally, this dissertation delved into leadership styles, specifically transformational leadership, because in the context of entrepreneurship, it has been found that transformational leadership can support effective clinic management, facilitate collaborative decision-making, leverage diverse perspectives to tackle complex challenges, and drive improvements in business success (Collins et al., 2020).

The surprising finding that the Big Five personality traits and transformational leadership may not be directly associated with business success, particularly in terms of business performance and quality of care by nurse entrepreneurs in nursing and midwifery clinics, requires further study. Avolio and Bass (1990) suggested that transformational leadership behaviors are highly effective in uniting followers around a shared vision. However, healthcare environments necessitate a nuanced leadership approach due to their emphasis on patient care, compliance, and collaboration (Cummings et al., 2010). The complexity of such contexts can make predicting

leadership success challenging. Contextual factors like organizational culture and external pressures also exert significant influence (Laschinger et al., 2012). Without accounting for these factors, the connection between personality traits and leadership effectiveness may appear weak. While the Big Five model provides valuable insights into individual differences, it may not fully capture the spectrum of leadership styles. A leader may exhibit varying degrees of both transformational and transactional leadership. These styles are not mutually exclusive, and effective healthcare leadership often involves blending transformational and transactional behaviors to align with organizational needs (Aarons, 2006; Cummings et al., 2010).

Launching and running nursing and midwifery clinics successfully can be a challenge because various factors influence the transition from nurse to entrepreneur and then affect their business success, including multiple contextual factors such as healthcare policy, financing, nursing educational system, gender roles, geographic location (Alamshahi et al., 2017; Indarti, 2004; Jakobsen et al., 2021; Nurluöz et al., 2019; Salmon & Maeda, 2016; Sharp & Monsivais, 2014; Thepna et al., 2023a), as well as entrepreneurs' individual factors. In the early stages of entrepreneurship or when setting up new ventures, individual factors are important for providing a foundation for business success. Therefore, the next stage of entrepreneurship should consider multi-level factors and contexts beyond individual characteristics, which could enhance understanding of the dynamics influencing the success and sustainability of nurse-led ventures. This comprehensive approach could encompass organizational, professional, and policy levels, providing evidence-based insights for supporting nurse entrepreneurs and improving healthcare delivery outcomes. The Socio-Ecological Model is a broad-based conceptual model depicting basic ecological principles of human behavior (Lee et al., 2013). In an extensive review of various ecological models, Lee et al. (2013) explained that the core principles of an ecological

model indicate there are multiple influences on an individual's behaviors, including factors at the intrapersonal and interpersonal levels, with increasing influence at organizational, community, and public policy levels. The report on empowering women and strengthening health systems and services through investing in nursing and midwifery enterprises (Institute of Medicine; 2015) revealed several long-standing nurse or midwifery-owned businesses that are integrated into social franchises, networks, or cooperatives. Many of these ventures have been facilitated through professional organizations and public-private partnerships. These wrap-around arrangements offer valuable support for start-ups, providing assistance in areas such as financing, business systems, quality assurance, and peer support. Considering these factors can enhance the strength and resilience of nursing entrepreneurship, thereby contributing to their business success.

These findings have important implications for the management and operation of nursing-owned clinics. They provide a starting point for clarification, identifying gaps, and offering new insights into the factors influencing business success, as well as the intricate interplay among individual factors, such as personality traits, transformational leadership, self-efficacy, social support, and business success construct like performance and quality of care. Understanding these individual factors is a crucial strategy for supporting nursing entrepreneurs in achieving their business goals, thereby contributing to the sustainability of nursing-owned clinics. Additionally, the insights gained from this dissertation deepen our understanding of the unique challenges and opportunities encountered by nursing entrepreneurs within the healthcare industry. The findings can also serve as an evidence base for future research on nursing entrepreneurship, informing concepts and content to address in nursing education and training, nursing practice in healthcare delivery and policy, and fostering interdisciplinary collaboration in healthcare, leading to success in nursing and midwifery clinics, as well as healthcare businesses

in Thailand. This evidence base can ultimately inform the enhancement of healthcare for Thai and more global populations.

### **Summary of the three studies**

This research addressed the critical needs of nurse entrepreneurs in Thailand in nursing and midwifery clinics by exploring individual factors, including personality traits, transformational leadership, self-efficacy, and social support, that influence their business success, including business performance and quality of care. This dissertation reports on a series of three studies, which are described briefly below, including each study's purpose, research design, key findings, and implications.

The first study, '**Factors influencing nursing entrepreneurship: A scoping review,**' was a scoping review that assessed and synthesized the literature on nursing entrepreneurship and identified gaps regarding factors that influence nursing entrepreneurship (see Chapter 2). Of the 22 studies included in the review, 16 were qualitative studies, and 6 were quantitative studies. The included studies spanned various countries, including the United States, Canada, Brazil, Iran, Korea, New Zealand, Denmark, Israel, Nigeria, and Norway. A social-ecological model helped to identify and separate factors influencing nursing entrepreneurship among nurse entrepreneurs leading primary care clinics or self-employed in various nursing enterprises. Multiple levels of influence on nursing entrepreneurship were identified at the individual level (knowledge and skills in entrepreneurship, characteristics of nurse entrepreneurs, entrepreneurial leadership, clinical and management experience, and social support); interpersonal level (professional networks), organizational level (healthcare organizations, the scope of legal/regulatory practices, and the new role of the professional nurse entrepreneur); community level (social entrepreneurship and social capital); and the level of public policy (healthcare policies and small

business support). This scoping review offers valuable insights that lay a foundation for future research and education to advance the professional role of nursing entrepreneurship, which is essential for addressing the healthcare needs of broad populations of individuals. This review highlighted factors that influence nursing entrepreneurship as distinct from other forms of entrepreneurship, which should be addressed in nursing education and training programs, as well as research. The findings can also inform nursing organization and healthcare policies.

The second study, **‘The association of individual factors with business success among nurse entrepreneurs in nursing and midwifery clinics,’** aimed to determine the association of individual factors, including personality traits, transformational leadership, self-efficacy, and social support, with business success among nurse entrepreneurs in nursing and midwifery clinics (see Chapter 3). A cross-sectional correlational design was used in a survey study of 190 nurse entrepreneurs from nursing and midwifery clinics in Thailand. Data collected included the Ten-Item Personality Measure (related to the Big Five model of personality traits), the Global Transformational Leadership Scale, the General Self-Efficacy Scale, a social support questionnaire, the Business Performance Measurement, the Nurse Satisfaction with Quality-of-Care Scale, and a demographic questionnaire. Multiple regression analyses were conducted to examine associations, which indicated that self-efficacy, social support, and engaging in clinic ownership as a part-time job collectively explain a substantial proportion of the variance in business performance ( $F(3, 189) = 16.88, p < 0.001, R^2 = 0.21$ ). In addition, self-efficacy, social support, and work experience in nursing together explained a significant portion of the variance in quality of care ( $F(3, 189) = 27.71, p < 0.001, R^2 = 0.31$ ). The findings emphasize the significance of self-efficacy and social support in fostering business performance among nurse entrepreneurs. They also suggest that dedicating full-time efforts to clinic ownership may

enhance business performance as an indicator of business success in nursing and midwifery clinics. Moreover, beyond business performance, the study underscores the substantial impact of self-efficacy and social support on nurse entrepreneurs' perceptions about the quality of care in their nursing and midwifery clinics, and, interestingly, that more extensive work experience in nursing is associated with lower quality of care. Overall, this study suggests that interventions aimed at enhancing these personal attributes, including self-efficacy, social support, and part-time clinic ownership, can potentially lead to improved business outcomes in nursing and midwifery clinics. Additionally, the finding that more extensive work experience in nursing is associated with lower quality of care raises essential points about the potential challenges or barriers faced by experienced nurses transitioning into entrepreneurial roles.

The third study, '**Individual factors influencing business success of nurse entrepreneurs in nursing and midwifery clinics: A sequential explanatory mixed methods study,**' aimed to elaborate on individual factors, including personality traits, transformational leadership, self-efficacy, social support, and others, that influence the business experiences of nurse entrepreneurs by triangulating nurse entrepreneurs' qualitative perceptions with quantitative findings (see Chapter 4). This study was a sequential explanatory mixed-methods design that built upon the quantitative survey data findings on demographic characteristics, individual factors, business performance, and quality of care of nurse entrepreneurs who own nursing and midwifery clinics in Thailand. Qualitative data were obtained through in-depth interviews with 20 nurse entrepreneurs, further elucidating their experiences in running a nursing and midwifery clinic. This study's overall findings enriched the quantitative results, with the triangulation of findings offering seven integrated themes: 1. Enhancing personality traits of conscientiousness and emotional stability (with subthemes careful and accurate in the patient care and safety,

effective organized clinic management, and resilience in the face of challenges); 2. Self-efficacy promotes effective transformational leadership; 3. Conscientiousness enhances transformational leadership (idealized Influence, inspirational motivation, intellectual stimulation, and individualized consideration); 4. Self-efficacy for quality of care (confidence in providing quality care and having mission and passion for healthcare); 5. Self-efficacy enhances business performance; 6. Enhancing business performance (role of self-efficacy, role of social support, and time management when clinic ownership is part-time) and 7. Enhancing quality of care (role of self-efficacy, role of social support, and work experience in nursing). The study highlights key factors for nurse entrepreneurs in clinics, emphasizing the importance of traits like conscientiousness and emotional stability for patient care and management. In addition, effective leadership and self-efficacy were important for business success. Time management, social support, and nursing experience impacted care quality. Addressing these factors can improve clinic operations and healthcare outcomes, as well as business success. Moreover, these findings could inform continuing education and leadership development programs for current nurse entrepreneurs, aiding them in making evidence-based decisions and enhancing their skills. The findings can shape curriculum development for nursing students interested in clinic ownership and provide a foundation for nurse entrepreneurship that is particularly tailored to nursing and midwifery clinics. Ultimately, this work can lead to improved healthcare service delivery and increased accessibility, particularly in rural communities.

## **Implications**

The implications for this area of inquiry in nursing science and practice, based on the three studies on nursing entrepreneurship, are extensive and multifaceted.

### ***Healthcare policy***

This study provides valuable insights that can inform healthcare policy development. By cooperating with policymakers, the findings can guide healthcare policies that enhance nursing entrepreneurship and nursing and midwifery clinic ownership. This collaboration can lead to more effective support structures, funding opportunities, and training programs for nurse entrepreneurs, ultimately fostering a more robust and sustainable healthcare system.

### ***Future research***

This dissertation is the first step towards enhancing the understanding of nurse entrepreneurs in nursing and midwifery clinics. Future research exploring individual factors influencing the business success of nurse entrepreneurs in nursing and midwifery clinics has five crucial avenues for investigation. First, building upon existing studies, future research could develop intervention programs or training tailored to nurse entrepreneurs in these settings. These initiatives could include educational programs, training sessions, or policy changes to enhance business success. By evaluating the effectiveness of these interventions, researchers can contribute to the development of strategies that support nurse entrepreneurs in achieving success. Second, longitudinal studies could offer valuable insights into factors contributing to the sustained success or potential challenges faced by nurse entrepreneurs over time. By tracking changes in individual factors and business success metrics, researchers can identify trends, patterns, predictors, and potential causal relationships. Third, exploring multi-level factors beyond individual characteristics would advance an understanding of the dynamics influencing the success and sustainability of nurse-led ventures. This comprehensive approach could encompass organizational, professional, and policy levels, providing evidence-based insights for supporting nurse entrepreneurs and improving healthcare delivery outcomes. Fourth, further

exploring personality traits beyond the Big Five model and examining diverse leadership styles could enhance our understanding of effective healthcare leadership. In terms of nursing, understanding leadership styles is important to recognize that effective healthcare leadership often entails an integration of transformational and transactional leadership tailored to meet organizational requirements and adapt to the complexity within the context of an entrepreneurial venture. Fifth, future research should incorporate more objective measures of care quality and examine patient perspectives, such as patient satisfaction. By obtaining a more comprehensive understanding of care quality, researchers can better assess the impact of nurse entrepreneurs on healthcare delivery and identify areas for improvement. Lastly, exploring factors or barriers in nursing and midwifery clinics that experience losses or lack of profitability is crucial for the development and sustainability of effective healthcare services. Future studies that include nurse entrepreneurs who have not been successful (e.g., clinics have had to close), can inform a more comprehensive understanding of the possible influence of personality traits and leadership on business success.

### ***Education***

These insights have direct implications for nursing education and training programs. They highlight the need to integrate entrepreneurship-focused curriculum components into nursing education, equipping aspiring nurses with the knowledge, skills, and mindset necessary for entrepreneurial ventures in healthcare. Innovative interventions or training programs can leverage the findings to develop specialized tracks or courses tailored to nurse entrepreneurship, covering topics such as business management, leadership development, and healthcare policy to prepare future nurse entrepreneurs effectively. Continuing education initiatives can also

incorporate evidence-based strategies derived from these studies to support current nurse entrepreneurs in enhancing their business acumen, leadership capabilities, and overall success.

### ***Nursing practice***

The studies shed light on the critical role of nurse entrepreneurs in improving healthcare delivery and practice, particularly in areas such as primary care and midwifery services. By identifying factors that influence business performance and quality of care among nurse entrepreneurs, these findings offer actionable insights for optimizing clinic operations, enhancing patient outcomes, and promoting sustainable healthcare practices. Healthcare organizations and policymakers can use the evidence generated from these studies to develop supportive environments and policies that foster nursing entrepreneurship, thereby addressing gaps in healthcare access, especially in underserved communities.

### ***Interdisciplinary collaboration***

The interdisciplinary nature of the research, which integrates principles from nursing, business, and social sciences, underscores the importance of fostering collaboration across diverse fields to tackle complex healthcare challenges. These studies encourage interdisciplinary dialogue and cooperation between nursing researchers, entrepreneurs, policymakers, and educators to develop holistic solutions that drive innovation, improve healthcare systems, and promote economic sustainability.

The implications of these studies extend beyond future research directions for nurse entrepreneurs. They also inform policy development, educational and training reform, nursing practice (healthcare delivery, practice, and policy), and interdisciplinary collaboration in healthcare, ultimately contributing to the advancement of nursing science and the enhancement of healthcare delivery worldwide.

## **Conclusions**

These studies advance nursing entrepreneurship by systematically reviewing existing literature, identifying gaps, and providing empirical evidence on factors influencing nursing entrepreneurship and the complex interplay between individual factors, leadership, self-efficacy, social support, and business success among nurse entrepreneurs. This depth of insight highlights the importance of considering nursing entrepreneurship as a distinct domain within both nursing science and entrepreneurship research, acknowledging its unique challenges, opportunities, and impact on healthcare delivery. The findings of these studies can also serve as an evidence base for future research on nursing entrepreneurship, informing concepts and content to address in nursing education and training, nursing practice in healthcare delivery and policy, and fostering interdisciplinary collaboration in healthcare, leading to success in nursing and midwifery clinics, as well as healthcare businesses in Thailand. In addition to their implications for the context of Thailand, these findings are relevant on a global scale. By leveraging insights from nursing entrepreneurship studies, healthcare systems globally can adopt strategies to enhance the success of nursing and midwifery clinics and other healthcare businesses. This has the potential to strengthen healthcare standards in different regions worldwide. Consequently, the ultimate beneficiaries of these endeavors would be the Thai people and communities worldwide, contributing to the advancement of healthcare globally.

## References

- Aarons, G. A. (2006). Transformational and transactional leadership: Association with attitudes toward evidence-based practice. *Psychiatric Services, 57*(8), 1162-1169.  
<https://doi.org/10.1176/appi.ps.57.8.1162>.
- Alamshahi, M., Alvaani, J., & Ghavam, A. (2017). Review of the factors affecting nurse's entrepreneurship in selected hospitals of Golestan province. *Bioscience Biotechnology Research Communications, 10*(1), 146-152.
- Avolio, B. J., & Bass, B. M. (1988). *Transformational leadership, charisma, and beyond*. In J. G. Hunt, B. R. Baliga, H. P. Dachler, & C. A. Schriesheim (Eds.), *Emerging leadership vistas (29–49)*. Lexington Books/D. C. Heath and Com.
- Bass, B. M. (1990) From transactional to transformational leadership: Learning to share the vision. *Organizational Dynamics 18*, 19-31. [https://doi.org/10.1016/0090-2616\(90\)90061-S](https://doi.org/10.1016/0090-2616(90)90061-S)
- Collins, E., Owen, P., Digan, J., & Dunn, F. (2020). Applying transformational leadership in nursing practice. *Nursing Standard (Royal College of Nursing (Great Britain): 1987), 35*(5), 59–66. <https://doi.org/10.7748/ns.2019.e11408>
- Cummings, G. G., MacGregor, T., Davey, M., Lee, H., Wong, C. A., Lo, E., ... & Stafford, E. (2010). Leadership styles and outcome patterns for the nursing workforce and work environment: A systematic review. *International Journal of Nursing Studies, 47*(3), 363-385. <https://doi.org/10.1016/j.ijnurstu.2009.08.006>
- Franco, M., & Prata, M. (2019). Influence of the individual characteristics and personality traits of the founder on the performance of family SMEs. *European Journal of International Management, 13*(1), 41-68. <https://doi.org/10.1504/EJIM.2019.096498>

- Hachana, R., Berraies, S., & Ftiti, Z. (2018). Identifying personality traits associated with entrepreneurial success: does gender matter? *Journal of Innovation Economics Management*, (3), 169-193. <https://doi.org/10.3917/jie.027.0169>
- Indarti, N. (2004). Business location and success: the case of internet cafe business in indonesia. *Gadjah Mada International Journal of Business*, 6(2), 171-192. <https://doi.org/10.22146/gamaijb.5543>
- International Trade Administration (2022). Healthcare Technologies Resource guide. <https://www.trade.gov/healthcare-resource-guide>.
- Institute of Medicine (2015). *Empowering women and strengthening health systems and services through investing in nursing and midwifery Enterprise: Lessons from lower-income countries: Workshop Summary*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/19005>.
- Jakobsen, L., Wachter Qvistgaard, L., Trettin, B., & Juel Rothmann, M. (2021). Entrepreneurship and nurse entrepreneurs lead the way to the development of nurses' role and professional identity in clinical practice: A qualitative study. *Journal of Advanced Nursing*, 77(10), 4142-4155. <https://doi.org/10.1111/jan.14950>
- Kagan, O., Sciasci, N. G., Koszalinski, R. S., Kagan, D. H., Leary, M., & Nadel, H. (2023). Nurses' confidence in starting a new venture, start-up or project in the context of nurse-led hackathons: Results of prehackathon survey. *Nursing Outlook*, 71(3), 101961. <https://doi.org/10.1016/j.outlook.2023.101961>
- Kim-Soon, N., Al-Rawi, O. Y. M., Mostafa, S. A., Ling, C. Y., Al-Dayyeni, W. S., Ali, R. R. & Al-Rawi, B. (2022). A model for predicting entrepreneurship intentions based on social

- cognitive theory and entrepreneurship characteristics. *Information Sciences Letters: An International Journal*, 11(2), 445-455. <https://doi.org/10.18576/isl/110215>
- Laschinger, H. K. S., Wong, C. A., & Grau, A. L. (2012). The influence of authentic leadership on newly graduated nurses' experiences of workplace bullying, burnout, and retention outcomes: A cross-sectional study. *International Journal of Nursing Studies*, 49(10), 1266-1276. <https://doi.org/10.1016/j.ijnurstu.2012.05.012>
- Layton, S. S., Blakely, K. K., Patel, B., & Miltner, R. S. (2022). Assessing southeastern advanced practice registered nurses' business and operational skill sets. *The Journal for Nurse Practitioners*, 16(6), 636-639. <https://doi.org/10.1016/j.nurpra.2022.02.019>
- Lee, L., & Yang, C. L. (2013). Key success factors in female micro entrepreneurship: A study of the catering business. *Service Science and Management Research*, 2(3), 39-47.
- Limsong, S., Seang, S., Sambath, P., & Hong, S. (2016). Model of entrepreneurial success: Linking theory and practice. In International Conference on Enterprise Marketing and Globalization (EMG). Proceedings. Global Science and Technology Forum, 97. [https://doi.org/10.5176/2251-2039\\_IE16.29](https://doi.org/10.5176/2251-2039_IE16.29).
- Nurluöz, Ö., & Esmaeilzadeh, S. (2019). Assessment of the entrepreneurial characteristics and hopelessness status of nurses working in Theonetraining and Research Hospital. *Dimensions*, 10, 13.
- Salmon, M. E., & Maeda, A. (2016). Investing in nursing and midwifery enterprise to empower women and strengthen health services and systems: An emerging global body of work. *Nursing Outlook*, 64(1), 7-16. <https://doi.org/10.1016/j.outlook.2015.11.010>

- Sharp, D. B., & Monsivais, D. (2014). Decreasing barriers for nurse practitioner social entrepreneurship. *Journal of the American Association of Nurse Practitioners*, 26(10), 562-566. <https://doi.org/10.1002/2327-6924.12126>
- Stockwellsafety (2022). How do 'individual factors' impact health and safety. <https://stockwellsafety.com/how-do-individual-factors-impact-health-and-safety/#:~:text=Every%20human%20being%20is%20%20unique,and%20%20attributes%20to%20the%20%20work.>
- Thepna, A., Cochrane, B. B., & Salmon, M. E. (2023a). Advancing nursing entrepreneurship in the 21st century. *Journal of Advanced Nursing*. <https://doi.org/10.1111/jan.15563>
- Thepna, A., Cochrane, B. B., & Salmon, M. E. (2023b). Self-efficacy in nurse entrepreneurs: A concept analysis. *Nursing Outlook*, 71(6), 102053. <https://doi.org/10.1016/j.outlook.2023.102053>
- Vannucci, M. J., & Weinstein, S. M. (2017). The nurse entrepreneur: Empowerment needs, challenges, and self-care practices. *Nursing: Research & Reviews*, 7, 57-66. <https://doi.org/10.2147/NRR.S98407>
- Wall, S. (2015). Dimensions of precariousness in an emerging sector of self-employment: A study of self-employed nurses. *Gender, Work & Organization*, 22(3), 221-236. <https://doi.org/10.1111/gwao.12071>