

The Career Core of Successful Scientific Leaders in Nursing – Their Motivators and Strategies

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Video Abstract



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Background: No studies explore the career core of successful scientific leaders in nursing, a context where role models and career support would be desirable. To achieve a successful academic career, there is a need for an in-depth understanding of how successful scientific leaders in healthcare think in order to guide junior researchers through their early careers.

Aim: To explore the main concern of successful scientific leaders in nursing and their mindset, motivators and strategies for dealing with it.

Methods: A strategic group of 24 scientific leaders in nursing (professors and associate professors) in the United States (US) (n=12) and Sweden (n=12) was interviewed. The transcribed text was analysed using grounded theory.

Results: The core category, fulfilment, summarizes a process where the generated grounded theory is presented through four main categories: create, struggle, interact and maintain, illustrating how the informants dealt with fulfilment, which was their main concern. The theoretical link between the strategies is professional dedication through reflection, characterized by a will to go beyond themselves to be clinically useful and implement their research.

Conclusion: Successful scientific leaders in nursing construct a foundation for professional fulfilment by doing good for patients and improving the healthcare system maintaining being creative and interacting with others, all of which involve a great deal of struggle.

Keywords: nursing, leadership, nursing science, grounded theory, qualitative research

Introduction

This study stems from the basic assumption that becoming a successful scientific leader in nursing involves distinct developmental steps and an inherent motivation. We wished to reveal that process in order to facilitate role-modelling for junior researchers. Success in this study is linked with the Aristotelean term “eudaimonia”, which translates as flourishing.^{1,2} According to Aristotle, flourishing occurs when the individual does what she/he ought to do and concurrently wants to do. Flourishing has no beginning or end but is a state of “becoming” according to McCormack and Titchen.³ Human flourishing is also defined as maximising through helpful relationships and enabling individuals to achieve their potential for growth and development.³ Seligman links flourishing with the wellbeing theory which has five measurable elements (PERMA) that contribute to wellbeing: positive emotion, engagement, relationships, meaning/purpose and accomplishment.⁴

To achieve a successful career, there is a need for helpful relationships such as mentorship and peer-mentoring,^{5,6} but also for a more comprehensive and in-depth understanding of how successful scientific leaders in nursing think in order to guide

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junior researchers through their early careers. Furthermore, we might contribute a grounded theory foundation for career development within nursing research including clinical development and career path to add to Benner's framework.⁷ To the best of our knowledge, this type of study has not been conducted before. Thus, the aim of this study to explore the main concern of successful scientific leaders in nursing and their mind-set, motivators and strategies for dealing with it. Success in this study sample means being an associate or full professor in nursing. The research questions are: What is the main concern of successful scientific leaders in nursing? What are their mind-set, motivators and strategies?

Methods

Design

This empirical qualitative study aimed to describe and understand experiences and career developmental processes.⁸ The choice of research design was dependent on the nature of the issue to be addressed. The design made it possible to achieve extensive knowledge and understanding about a sparsely investigated area. The rationale behind the grounded theory (GT)⁹ approach was an assumption that a successful career involves social processes as well as a distinct process of change, together with the fact that no previous study with this specific research question had been performed. Thus, we wanted to be truly inductive, while at the same time able to identify a possible theoretical model or frame.

Context and Participants

Inclusion criteria were: (1) being a registered nurse (RN) with a PhD-degree; (2) holding a professorship (n=20) or an associate professorship (n=4) at a university in Sweden or in the US. All invited nursing researchers agreed to participate. Participants were selected from two countries, the US and Sweden, where successful nursing researchers were identified. The selection of participants was performed in four steps as described by Morse¹⁰:

Convenience Sampling

Accessible successful researchers in the US were recruited in order to identify the scope, major components and trajectory of the overall process. After twelve interviews with US participants, we moved on to the next sampling step.

Purposeful Sampling

During this step, we wished to maximize the variation in meaning. The twelve new interviews with Swedish participants revealed in greater detail how the participants themselves were integrated into the emerging phenomenon of fulfilment. From their responses, a conceptual scheme as well as the trajectory identified during the convenience sampling was now confirmed as it emerged more clearly.

Theoretical Sampling

First, we recoded the data pertaining to the identified trajectory. Then, we allowed the emerging categories and our increasing understanding to direct the final sampling. We therefore posed targeted questions concerning the meaning of each concept to two more participants in order to enable grounded definitions and clarify the linkages between the categories.

Validation Interview

One validation interview was performed where we worked deductively and asked the participant if the analysis made sense to her and if there was a match between her experiences and the emerging theoretical model. This participant was recruited by the researcher who performed the interviews with the other participants.

The mean age of the participants was 55 years (range 39–70 years). Eighteen were female and six were male. The mean age of graduation from nursing school was 23 years (range 21–33 years) and the mean age of obtaining their PhD degree was 38 years (range 30–53 years). The participants worked at three universities in the western US and four universities in southern Sweden.

Data Collection

A semi-structured interview format was used to provide answers to questions concerning the main concern of successful scientific leaders in nursing, how they deal with this concern and their thinking or decision-making strategies. Analysis was then performed in line with the grounded theory (GT) approach developed by Charmaz.⁹ An interview guide with five open-ended questions based on the approach by Kvale and Brinkman¹¹ was used, see [Figure 1](#). To obtain a more in-depth description of the participants' experiences, various follow-up questions were posed (eg, Could you tell me more? How do you mean? How?). This approach encourages participants to expand on their initial answers.⁸ The interview guide also

1. What is your incentive for being a nursing researcher?
2. Please tell me about your thought strategies.
3. How do you nurture your creativity (as a researcher and maybe also in other areas of life)?
4. How do you find a balance between work, family and other areas of life?
5. What would your best advice be for nurses who want to become involved in research?

Figure 1 Questionnaire. 1. What is your incentive for being a nursing researcher? 2. Please tell me about your thought strategies. 3. How do you nurture your creativity (as a researcher and maybe also in other areas of life)? 4. How do you find a balance between work, family and other areas of life? 5. What would your best advice be for nurses who want to become involved in research?

included questions about sex, age, age at graduation (for both RN and PhD degrees) and current position.

The participants received written and oral information about the study and all gave their written consent. The interviews were conducted during a period of 1 year (from June 2015 to May 2016) by the first author at the participant's office (n=22) or via telephone (n=2). The interviews, which lasted from 45 to 90 mins, were audio-recorded and transcribed verbatim.

Data Analysis

We followed the recommendations from Glaser, and Hallberg,^{12,13} to first investigate whether similar studies had been previously conducted with a GT approach. However, we did not find any such studies. Data collection and analysis of the data were conducted concurrently. After each interview, the transcribed text was read carefully, and initial line-by-line coding was performed with a focus on the main concern of the participants as well as the strategies used to deal with it. Words or phrases, actions and processes indicating important categories related to the research questions were highlighted. Focused coding was conducted to detect and explain the most frequent and significant codes, which illuminated the tentative main categories as well as strategies used by the participants in relation to their main concern. In the theoretical coding, relationships between the categories generated from the focused coding were developed, and the main concern as well as the categories was conceptualized. Both authors were involved in the analysis process. Throughout the analysis, the constant comparative method was used on the data, ie, comparing incidents to incidents, incidents to concepts and concepts to concepts throughout the dataset. A constructivist approach was utilized, meaning that the categories and theory were developed from the patterns revealed by the researchers' theoretical constructions of

the participants' narrative, in line with the constructivism of Charma.⁹ Memos were written during the interviews. During the last set of five interviews, no new data emerged and therefore data saturation was considered to be achieved.

Ethical Considerations

All participants received written and oral information about the study with an invitation to participate. Participation was voluntary and they were informed that they could withdraw at any time. Written informed consent was obtained from all participants. The data were handled confidentially. The study was conducted in accordance with the Helsinki Declaration of Research Ethics. An ethics application was reviewed and approved by the head of the department of Health Science at Kristianstad University and the School of Nursing, University of Washington before the recruitment of the participants.

Findings

The core category, fulfilment, summarizes a process wherein the generated grounded theory is presented through four main categories: create, struggle, interact and maintain. The state of fulfilment meant a complete sense of wellbeing involving positive emotions, engagement, constructive and helpful relationships, meaningful research findings and professional as well as personal accomplishment. The theoretical link between the strategies is professional dedication through reflection, characterized by a will to go beyond themselves to be clinically useful and implement their research.

My key motive is to improve the care of the patients. I experience great satisfaction when I notice that my research can improve the lives of others in need. I have realized that ever since I started 20 years ago, happiness for me is to do good. I do clinical patient centred research

that is possible to implement at once. It is important to be close to the patients to mirror their concerns. (Swedish Participant No. 11)

Additionally, the main categories contain several subcategories. In conjunction with the process, the temporal aspect is anchored in the participants' thoughts and feelings pertaining to the development of fulfilment, which is interpreted as an overall sense of contentment due to doing good that fluctuates depending on where the researcher is in the process. The outline of the results is presented in Figure 2.

The common denominator for all participants was to construct a personal ground for fulfilment by means of achieving their potential for growth and development. The core category comprises all the participants' descriptions of the various phases in the process. The main categories are linked to the core category and represent the primary concern among the participants in their strive

to do good for the patients, be clinically useful, improve the healthcare system and go beyond themselves to achieve the goal of professional fulfilment. Professional fulfilment was preceded by an effort to create in order to promote the energy and lust to do good. The participants' various creation strategies are reflected in their need to do other things in addition to performing research. The second main category involved the participants' struggle due to working extremely hard and adopting research as a lifestyle. The energy and positive wellbeing enabled the strength and motivation to deal with the struggle involved in their research activities. The struggle further increased the need for interaction with helpful others as a means of eventually reaching fulfilment by goal achievement. Thus, the participants chose to interact in order to ease the struggle and pursue their overall goal. When goals were achieved it was important to maintain a professional stance and personal self-care routine to preserve the creativity and fulfilment. The theoretical link between the main

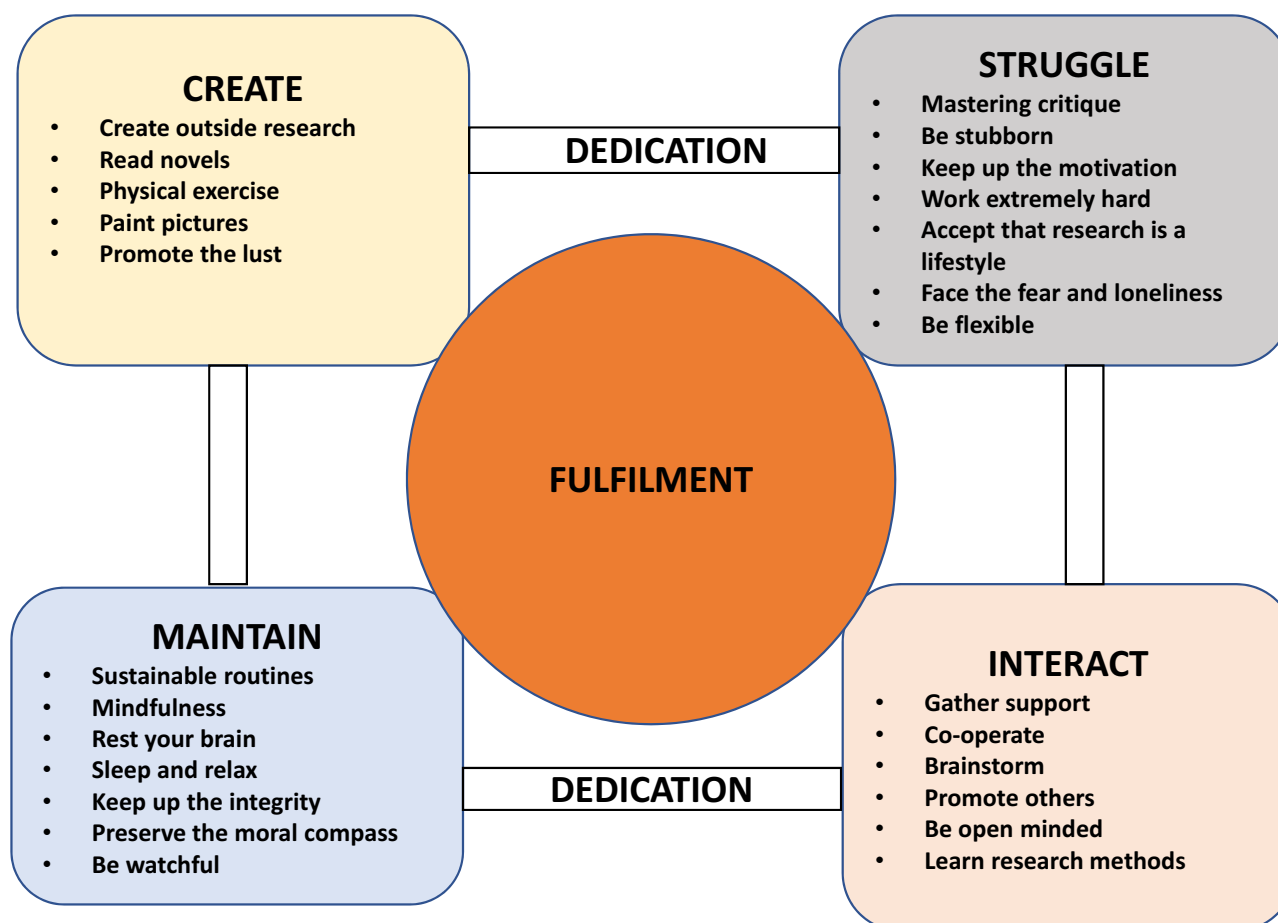


Figure 2 The grounded theory of fulfilment among successful nursing researchers involving the core of fulfilment and the four categories illustrating four key strategies to achieve fulfilment, ie, create, struggle, interact and maintain. Dedication through reflection is the theoretical link between the categories.

categories, ie, the strategy of dedication through reflection, acted as a catalyst where persistent reflection fuelled dedication to their research tasks involving the constant process constituted by the four main categories.

One motivation in this grounded theory appeared to be the participants' aspiration to go beyond their personal success and try to promote the best possible care for the patients who were the focus of their research. Ethical concerns were expressed by all the participants, in that they wanted to be useful and do good for the patients and society. They often referred to the ethics of nursing, as well as the importance of adhering to research ethics, but also being aware of and standing up for one's own personal ethical standards, especially when they are challenged.

So, in terms of my incentive, my clinical background really increased my interest, and then when I did my doctoral work at [a US university], I had a fantastic mentor. And it was fun, it was interesting, learning about [the field] and where the gaps are and what gap I can fill, which is what I did for my dissertation. So, I think the incentive for me is that it's a challenge. It's a constant challenge, figuring out ... you know where the gaps are, but how you write a grant application, and kind of get funded and make it innovative and realistic and ... but it's also interesting and rewarding and satisfying for me, in terms of writing these and connecting it with patients and their needs and wishes. So that would be my incentive. The challenge and the constant re-tweaking and reworking and integrating our data with other researchers' data and getting funded and being able to work with families and improve their outcome. (US Participant No. 8)

Each of the four main categories contains various subcategories that illustrate the different strategies used in the process. In the following, subcategories will be presented in bold italics and quotations in italics.

Create

To produce excellent research, it was important to create outside research. Creativity was about being willing to step back and look at something differently, try a different model, take a different perspective or apply something from another field to their research area, and become more open in their thinking. Ways of creating involved reading novels or promoting creativity in different ways, eg, by being an artist and painting pictures.

But I think my creativity comes from having that balance between work and family life. And having a healthy family

life, healthy relationships ... The other thing I've always done is read good fiction, really good fiction, or things like books about the 'flu epidemic, you know, whatever, but in looking at the role of academia, it might be kind of related to what I do, but it triggers new ideas. You never know where they're going to come from. So good reading. Some non-fiction, some fiction, but good reading, good leisure time. I love the baroque orchestra. I need things that feed my soul, you know. (US Participant No.1)

Another important strategy was physical exercise in order to clear the system, both mentally and physically to avoid being stuck in the treadmill.

It's a strategy where you collect your impulses. I go to the gym or I go jogging four times a week, or baking, or cooking or spend time with the family. To find different things, clear your mind and soul as well as your body. Because it easily becomes a treadmill ... (Swedish Participant No. 1)

Struggle

Being a successful nursing researcher involves an inherent struggle for respect, funding and dealing with being scrutinized and mastering critique as part of the academic community.

It's difficult to grasp the actual meaning of perseverance. Being prepared to master critique without letting it get to you and hurt your soul. I felt terrible in the beginning, but as time goes by you get used to it. And after a while you can think that the comments were actually not relevant and it's not the end of the world. (Swedish Participant No. 8)

Being at the top academic level was viewed as difficult, and the necessity of making choices and sometimes sacrifices was emphasized. Being stubborn is a strategy as well as, to keep up one's motivation.

I think that on some level it's really hard and at times I did make some choices to focus on work when it would have been better to focus on relationships and family and things like that. (US Participant No. 7)

Another part of the struggle was being flexible and okay with the fact that one's plan did not work out as expected.

I've had plenty of grant applications that were rejected. That's the other thing that I tell people, or my students and faculty peers, "yeah, I've had a lot of grants, I've had many more not. (US Participant No. 6)

To struggle also meant to working extremely hard and sometimes watching other people just going to the wall.

The knowledge that pushing oneself too hard is not helpful for the team enabled them to avoid such a risk. Instead, it was about accepting that research is a lifestyle and they argued that if you are passionate about what you do, your work is with you everywhere, either consciously or unconsciously, and whatever you do contribute to your productivity.

I am not good at balancing things. I neglected my children a little for my career. But we always took Sundays off. We often worked at home, but our children considered that we worked too much. It was symbiotic, work and family. And children need to be a part of their parents' lives. It is a way of life, being an academic scholar. We brought our children on scholarships abroad once in a while. (Swedish Participant No. 2)

The participants revealed that it is lonely at the top with many decisions and choices to make. It becomes a habit to watch your back and protect yourself. A part of pursuing one's career is facing the fear and loneliness to develop resilience and become strong and focused.

My motto is 'what doesn't kill you makes you stronger' and believe me when I say that I have been hardened a lot. I was the youngest and a nurse ... always facing a lot of resistance. The academic world is full of back stabbing and I have learned to handle that. I adopted a deliberate strategy, of saying yes instead of no, even when I was afraid. And I have been afraid many times but tried to cope with the lump of fear in my stomach. And I have come to terms with the fact that fear is a part of development. My personal belief is that few things are a coincidence. When a person comes my way, I always believe there is a reason. (Swedish Participant No. 11)

Interact

Both professional and social interactions are important for becoming and remaining a successful scientific leader in nursing. Mentoring was an important way to gather support and learn about one's research area, but also about how to interact in the academic community and become a role-model to motivate others. Almost all participants emphasized the importance of mentorship for fostering motivation, collaboration and professional conduct in research.

I think mentoring is a lot like parenting. If you're mentored well, then you serve as a mentor, and you learned from your mentors, not only the content area, but you

learned about mentoring and how to help people along. (US Participant No. 2)

To interact meant to brainstorm with fellow researchers and become excited and motivated. Working together means being inspired by lectures, discussions and thought processes.

And when I came here, there's just a lot of high thinking scientists and you just have these phenomenal discussions, whether it's something that you know a lot about or not, but the level of thinking and the creativity and the art of the science is what really drives me. (US Participant No. 3)

Interacting included being open-minded and co-operating in interdisciplinary teams to foster creativity and learn new research methods. Collaboration brings new perspectives on research questions and the choice of study participants. It makes you think out of the box and is beneficial for a range of research projects.

At this institution we work in interdisciplinary teams. It fosters creativity, but it was new to me. Social science, psychology, physiotherapy, occupational therapy, pedagogics, medicine ... most of all subjects within health care. When different disciplines align, we focus in the same direction in the best interest of the patient. That actually made me successful. (Swedish Participant No. 10)

Maintain

The final strategy to achieve professional fulfilment was to maintain the creativity and balance the struggle in various ways to prevent exhaustion and burn out. Maintenance involved creating sustainable routines by, for example, practicing mindfulness.

So, I think that one of the key elements for nurturing my creativity is spirituality. I am very spiritual, so I start my days by really waking up very early in the morning and just quietly contemplate what I should be grateful for and the nice things in my life. And so, I devote time to that every morning and I always count my accomplishments when I go to bed. (US Participant No. 4)

Other strategies to maintain energy, motivation and lust for research and the demanding role as a successful nursing researcher were to rest your brain, sleep well and relax from work. It could involve gardening, being surrounded by art or things that were meaningful or that recalled trips abroad. One researcher tried to massage her creativity by attending conferences and read a lot of research journals.

The important thing was to find personal strategies that helped to safeguard creativity and the sense of fun.

It does clear your mind of other things and sometimes I'll listen to music when I'm walking or exercising or something. At other times I don't, and it's really a chance to just stop and think. Things like that. I love listening to music when I do things too, but that takes up a different kind of space. ... I like jazz music and some classical music and then just, you know rock and roll stuff as well. (US Participant No. 7)

To remain a top scientific leader, the participants argued that it is important to maintain one's integrity as well as to preserve one's moral compass. They achieved this by following their hearts and paying attention to intuition and what felt right. Knowing what you want and why was important as well as maintaining the core motivation of doing good for the patient.

Being independent and not selling your soul, that's important. It must be something I believe in and am convinced about. It's still that way for me. I try to promote things that I believe in, that are in line with my own convictions. To preserve your inner compass, your inner thoughts about what's right or wrong. (Swedish Participant No. 7)

Finally, maintenance was about vigilance, to protect yourself from conflicts or unethical situations in relation to research projects. Staying watchful was a strategy to simply save one's back and thus maintain one's position in the competition for various achievements.

Vigilance is a good word, as you need to protect yourself and write your application to the Board of Research Ethics, thereby indicating your area of interest. A researcher should be an honest person. You must be able to discuss these things and keep a close eye on the researchers you collaborate with. Watch your back. That's why I like to publish study protocols ... The documentation is important, write an abstract and everyone knows you were the first. (Swedish Participant No. 10)

Discussion

The main finding was that being a successful scientific leader in nursing was experienced as a sense of fulfilment, as it involved a basic understanding of being part of something bigger. It also involved a sense of altruism, for example, improving clinical practice or the quality of life for patients. The core of this grounded theory fits with the Aristotelian concept of flourishing as the participants did

what they ought to do and wanted to do. They were not forced to work hard or endure the downside of the academic world but instead they were in a constant state of becoming with no beginning or end. The four categories illustrating the strategies were linked by dedication through reflection, which is a key driver in the process of achieving professional fulfilment. This finding is in line with other studies that report the importance of the altruistic joy of doing good and improving clinical practice and research in one's career.⁵ It is also in line with Seligman's,⁴ theory of wellbeing including the following five elements: positive emotion, engagement, relationships, meaning/purpose and accomplishment.

The sense of fulfilment was related to the four categories: (1) Create; (2) Struggle; (3) Interact; and (4) Maintain. To promote academic success for junior researchers we recommend an environment that nurtures creativity, interaction and maintaining a healthy lifestyle. A core finding was also that mentorship was emphasized, especially by the US participants, as instrumental to their career. It was obvious that the Swedish participants lacked the experience of mentorship compared to the participants from the US. Being aware of the difficult periods in the academic career may help junior researchers to master the road blocks and develop constructive strategies that they can pursue. Mastermind groups have been found to be helpful and supportive for postdoctoral fellows.⁶ Mentorship should also be mandatory, especially for women who wish to pursue an academic career within nursing, as the Swedish statistics¹⁴ show that although 48% of PhD students in Sweden are women, only 29% of full professors are female. Somewhere along the way, women seem to decide not to aim for the highest step on the academic career ladder. Questions about why these figures have remained stable over the years have been raised both within and outside academia. In healthcare, gendered barriers to women's leadership have been described in Europe.¹⁵

A good academic conversation is a trigger for creativity. These conversations can take place spontaneously or be organized, but it is valuable for academia to provide spaces for good conversations. One way of formalizing and describing good conversations and learning environments is the community of practice¹⁶ where the focus is on everyday conversation and the working community, thus enabling the novice to gradually become more and more integrated into the craft and expertise, similar to what is

described in Benner's classic book "From novice to expert".⁷

Success, according to Aristotle,¹ is not an action but a habit. Covey¹⁷ describes the attributes and actions of effective, successful habits. He defines habits as an intersection of knowledge, skill and desire. Knowledge is what and why to do, skill is how to do, and desire is the motivation or the will to do. He emphasizes that while you can teach skills and acquire knowledge, you cannot teach desire. Our interpretation is that the participants in our study are aligned by the denominator that they have the desire, ie, the desire to improve patient care or help patients and are completely dedicated to that task. According to Frankl,¹⁸ we detect rather than invent our missions in life and personal responsibility or proactivity is fundamental to this endeavour. He argues that it is important to align your behaviour with your beliefs. When other people understand that you are not driven by everything that happens to you, it becomes clear that what you are trying to do represents your mission, and you express excitement about it. Such behaviour was evident among all participants in this study due to their lifelong commitment. The participants also had a broader view of what it means to be a scientist than merely improving their bibliography or boosting their personal brand. It was clear that they were firmly grounded in the ethics of nursing, ie, the ICN code of ethics for nurses.¹⁹

To be successful as a scientist you need to handle criticism with confidence and grace, yet no one likes to be criticized, especially publicly.²⁰ One trademark of the participants was their resilience and the fact that they had developed an ability, ie, the art and science of handling criticism with confidence and grace. They also had an ability to rise after defeats, even if they expressed feelings of discomfort and anxiety when criticized or measured against researchers within the biomedical field.

Scientific leaders should articulate their professional and personal values and philosophy in order to support, engage and enable students and co-workers in a meaningful way.^{21,22} Senior leaders must express the core values and vision and ensure that they resonate with all the groups within the system. Compassionate leadership training should take the form of multidisciplinary team coaching. There is a need to nurture and cultivate facilitators, team builders, mentors and coaches.²¹ The participants in the present study reflected on their values and opinions concerning what is important both in research and life. It was obvious that the point of the participants'

values was to clarify what they want in life and in research, where being a scientific leader was a lifestyle and they let life and research interact in a mutually beneficial way. The typical participant in this study reflected on goals and what it is possible to achieve as well as on their own behaviour and the behaviour of others required to achieve the goals. In addition, they reflected on possible obstacles and problems that might occur along the way and fostered their own willingness to cope with all feelings or experiences to achieve their goals. Thus, our interpretation is that reflection is an essential aspect of successful scientific leaders in nursing, driving the dedication that links the categories in order to reach fulfilment.

The definition of leadership is the process of influencing others to accomplish goals. Influence, communication, the group process, goal attainment and motivation are key concepts linked with leadership.²³ Compassionate leadership involves altruism, integrity, humility and wisdom combined with an appreciation and empowerment of others.²¹ The need for a strong academic and professional leadership within nursing has never been more evident. At present, there is a massive turnover within the nursing profession and the trend is that nurses leave their profession due to ethical stress and lack of organizational abilities to promote health. The nursing research context is in need of sustainable leaders and the core question is: what motivates these leaders to carry on, improve nursing and develop new evidence-based knowledge? The grounded theory revealed in this study might be one answer to that crucial question.

Strengths and Limitations

The strength of the study is the rich data provided by the 24 participants and the fact that they come from two continents with different healthcare systems, ie, North America and Europe. A reasonable assumption is that the academic context and nursing climate are fairly generic. However, the participants were recruited from a limited number of universities, thus further studies are required to test the relevance of the theory and its application in a wider number of academic contexts.

Implications for Practice

Junior researchers should be promoted by means of mentorship from senior scientific leaders, as well as a community of practice, for example with peer-mentoring groups. The universities should provide space and time for junior nursing researchers to develop into successful scientific

nurse leaders. Specific training in professional reflection, mastering critique, dealing with conflicts and how to be sustainable in the academic setting should be provided for female nursing researchers.

Conclusion

Successful scientific leaders in nursing construct a foundation for professional fulfilment by means of overall sense of wellbeing involving positive emotions, engagement, constructive and helpful relationships, meaningful research findings and professional as well as personal accomplishment. The essential parts of the foundation are doing good for patients and improving healthcare by maintaining creativity and interacting with others, which involves a struggle. The theoretical link between the strategies is professional dedication through reflection, reflected in the will to go beyond themselves to be clinically useful and implement their research.

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Disclosure

The authors report no conflicts of interest in this work.

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