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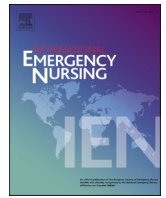
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“It’s about making a difference”: Interplay of professional value formation and sense of coherence in newly graduated Finnish paramedics

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1. Introduction

Prehospital work has a practical and emergency-centered profile, with strong task- and outcome-orientated approaches [1–3], where expectations are rooted in saving lives and having agency in acute patient care [4]. While the formal education of paramedic nurses (henceforth referred to as ‘paramedics’) aims to develop competencies in handling challenging emergency care, the complexity involved in prehospital decision-making and an increase in non-acute patient profiles places other demands on paramedics than those they have been trained for [2,5,6]. This adds to their potential sense of helplessness and frustration in not always being able to act according to their expected standards [7]. A shift has further been noted in how the role of paramedic is perceived within the profession [2,8], further perpetuating a potential dissonance in value alignments [4]. Lazarsfeld-Jensen [9] noted dualistic perceptions of paramedics as traditional ‘rescuers’ versus contemporary ‘care givers’, while Mausz et al. [4] found that resolving this form of role dissonance varied greatly among paramedics, but solving it was mainly based on reframing oneself professionally into a new role. Such reframing would likely have roots in paramedics’ initial formation of professional values [10], which makes it important to explore this in new paramedics.

Professional values could be critical in developing a sense of coherence (SOC), and an individual dispositional orientation consisting of manageability, comprehensibility, and meaningfulness [11–13]. Evidence shows, that SOC strongly correlates to the development of individual resilience [13]. A feeling of being useful, attention to professional principles, as well as a sense of learning safety [14] strengthen the formation of paramedics’ resilience during their first year of practice [15,16]. At this stage, they could be considered to be in a transitional

phase, when values from their educational environment are fused with those shaped in clinical practice, while a sense of belonging in the professional community is formed [17]. Paramedic cultures often present strong collegial support and a sense of belonging and are perceived as a main social support resource [3,7,18,19]. However, a culture of hardiness [7] has also been recognized within paramedic work, where traditional preconceptions of ‘making it through’ and ‘being tough enough’ are still prevalent in actions and language [3,20–22]. Such implications can have potentially negative impacts on newly graduated paramedics and the manageability of their daily work, if psychological safety within the professional culture is deemed lacking [3,7,23].

Paramedics’ varying retention and high turnover in emergency medical services (EMS) is an apparent and concerning trend [24–26]. Reasons for this are no doubt multitude, but some seem to stem from a dissonance of professional value alignment [4,5,9,27–29]. While work has been done exploring resilience formation in paramedics [30,31], there is a knowledge gap in how the development of newly graduated paramedics’ professional values and sense of belonging to the professional community within their first year of practice connect to SOC, and thus, add to resilience development.

Focusing on paramedics transitioning from students to professionals, during their first year of practice, we aimed to explore the interplay between their professional value formation and sense of belonging and the development of manageability, comprehensibility, and meaningfulness in their work. We formulated two research questions: How do paramedics describe professional work values and sense of belonging during their first year in practice? Secondly, how do these constructs aid paramedics in shaping manageability, comprehensibility, and meaningfulness in their work during their first year as a professional?

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2. Methods

2.1. Design

We approached the research questions through a qualitative perspective, while drawing inferences from our theoretical framework of SOC. To capture the deeper essence of value formation, sense of belonging and SOC, we utilized a story-mediated individual interview. This interview model is initially shaped by story completion, a method within the qualitative narrative research field [32]. Story completion can be used to access deeper sense-making from individual accounts [33] to frame the participants' perceptions or understandings of a complex topic and is especially useful for drawing on their own sense-making to complete a coherent story [32]. Considering this, we saw potential in this method for a nuanced exploration of a presumably challenging subject, such as professional value formation. The study was conducted in accordance with the COREQ guidelines.

2.2. Study settings

The standard degree in Finland for advanced-level paramedics is a bachelor's degree in emergency care. Offered in eight universities of applied sciences, this is a four-year degree, with an integrated registered nurse degree, of 240 European Credit Transfer and Accumulation System (ECTS) credits. The degree focuses on emergency and acute care in prehospital settings, as well as developing competencies specific for working in prehospital settings, such as situational leadership, decision-making, advanced patient assessment and critical care interventions and treatments. The degree traditionally involves a combination of theoretical studies, skills, simulation-based learning and practical placements both in-hospital and in ambulances [34]. A majority of newly graduated paramedics with this degree are often employed by EMS providers, i.e. wellbeing service counties, often involving strong professional communities [7,35].

2.3. Recruitment

Inclusion criteria were that participants had to hold a bachelor's degree in emergency care and not have more than 12 months' work experience in EMS after graduation [36], as well as speak fluent Finnish and/or Swedish, as these are the official languages in Finland. Study participants were recruited primarily using three appropriate Finnish social media channels but also through snowballing. The main social channels in question are closed, consisting of between 350–4,800 members and had been used for research recruitment before with good results [23,37,38]. Participant recruitment was performed between May and August 2023 in several rounds. The recruitment included adequate study information (research aim, research questions and data collection methods) as well as contact information and a research privacy statement.

2.4. Data collection

Interviews were carried out via video conference, where the participants initially completed a pre-selected story stem (Appendix 1) relevant to the research questions, followed by a thematically constructed semi-structured individual interview (Appendix 2). The interviews were performed by the first author, a male doctoral student with a background as a paramedic and senior lecturer in emergency care. The story completion thus worked as a conduit to relax participants into the interview and as a prompt to generate further discussions and form part of the data. [33] In both cases, only the interview part was recorded and transcribed, while the preceding story stem, written using RedCap software, was collected as text. The language of the story stem and discussions were Finnish or Swedish, depending on the participants' request or native language. All collected data was stored at a secure

location in accordance with data management and storage standards and policies. Story completion texts were between 90 and 295 words (median 193 words) and the interviews were between 33 and 69 min in length (median 51 min), with a total time of 6 h 53 min. The story stem or interviews were not pilot tested beforehand, but all authors reviewed and agreed upon them. Transcription was performed by the first author. Transcriptions were at this stage in original languages (Swedish or Finnish).

2.5. Data analysis

A reflexive thematic analysis was chosen as a method, since we were interested in identifying and understanding recurring themes representing value formation and a sense of belonging [39]. Participants' written stories and transcribed interviews were analyzed using a deductive-inductive perspective. We began by exploring the first research question through an inductive thematic analysis, attempting to identify which professional values were represented and how a sense of belonging was described within the story completion texts and transcribed interviews. For the second research question, we shifted to a deductive perspective, exploring how these expressions of values and belonging fit into definitions of manageability, comprehensibility, and meaningfulness [40,41]. For a composite of construct definitions, see Table 1. Expressions were grouped into the construct with the best fit. Analysis was performed by the first author and each step was reviewed by the other authors.

2.6. Ethical Considerations

This research protocol was approved by the University of Helsinki Ethical Review Board in Humanities and Social and Behavioral Sciences, statement number 29/2023. All participants were provided with a digital information sheet and consent form to digitally approve, via a checkbox. Participants were advised they can withdraw at any time without reason on repercussions. As the interviews were all individual, confidentiality could be assured between participants, and all personal identifiers from the data collected were removed prior to analysis. The interviews were audio recorded and transcribed, where after all recording files were erased.

2.7. Researcher Reflexivity

We were aware that our perceptions and preconceptions would have an impact on the choice of epistemological and theoretical approaches, as well as findings that we would develop along the way. We were keen on a "continuous and multifaceted practice ... of critique, evaluation and appraisal of our own subjectivity and positionings", as put by Olmos-Vega [42]. Our research team consisted of four authors with varying degrees of experience and broad expertise both from the EMS context and in qualitative research. The first author (CE) wrote this paper as part of his doctoral research, having some experience in qualitative research and also having an insight into the area of research. Two of the authors

Table 1
Definitions of SOC construct.

SOC	Composite definition of the construct
Comprehensibility	<i>The cognitive component, referring to the degree to which events, social environments and contexts make sense, are structured, ordered, consistent and understandable. [39,40]</i>
Manageability	<i>The "instrumental" component, referring to the extent to which people perceive that they have sufficient available resources to satisfy their needs and cope with demands. [39,40]</i>
Meaningfulness	<i>The motivational component, namely the extent to which people feel that events have meaning, problems faced are seen as challenges rather than hindrances and worthy of time, effort and commitment, [39,40]</i>

(AR and HN) have extensive experience as researchers in the field of healthcare workers' wellbeing. Two of the authors (CE and VL) have several years' experience as paramedic nurses in their respective countries (Finland and Sweden), while three (CE, VL and HN) have worked within the paramedicine university sector, thus applying a mix of two lenses: both as 'cultural insiders' and as educators.

3. Results

3.1. Participants characteristics

A total of eight participants took part in the study. Out of all participants, six identified as female and all participants were between 22 to 35 years of age. The participants were graduates from five universities of applied sciences in Finland and they had all worked less than a year in prehospital emergency care after graduation. For a demographic description, see Table 2. The participants have been numbered based on the order of their participation in the study.

3.2. Expressions of professional values and belonging

Through a thematic construction, we formulated three main categories: the performance of paramedic work, the sense of professional community, and the dimensions of professionalism. These were based on nine main themes and 24 sub-themes, describing professional value formation and sense of belonging. For a detailed overview of groups, themes, sub-themes, and participant quotes, see Table 3. A description of the themes and sub-themes follow below.

3.2.1. Performance of paramedic work

The **autonomy to act and help others** was described by the paramedics as being accountable agents in their patients' care and treatment [Q1], simultaneously providing empathetic care to patients and their relatives [Q2] while ensuring good care encounters [Q3]. Meanwhile, the paramedics described how they carried out **compassionate emergency care** aiming to ensure equal care and treatment [Q4], regardless of the acuity of the alarm [Q5], as well as paramedics' understanding that their patients' sense of emergency can manifest in various ways and that the paramedics' task is to recognize that [Q5]. The **idea of being a respected and capable professional** was shaped from newly graduated paramedics sense of being a respected 'bringer of safety' to patients and the general population [Q7], as well presenting a level of capable, problem-solving, professionalism [Q8].

3.2.2. Professional community

The paramedics felt it was important that **the paramedic work has an impact**. This concept was formed from the newly graduated paramedics' sense of fulfillment that newly graduated paramedics feel from seeing the result of their work [Q9] and not limiting that sense to 'cool cases' [Q10], finding meaning through the positive 'flow of teamwork' [Q11] and a sense of meaningfulness from their role in the EMS

Table 2
Participant demographics and interview info.

#	UAS	Gender, age	Story length (words)	Duration (min)
1	A	female, 22 yrs	201	40 min
2	A	female, 23 yrs	295	33 min
3	A	female, 23 yrs	185	33 min
4	B	male, 35 yrs	153	52 min
5	A	male, 23 yrs	209	1 h 7 min
6	C	female, 21 yrs	115	1 h 9 min
7	D	female, 34 yrs	231	50 min
8	E	female, 23 yrs	90	1 h 9 min
		Total [words/time]:	1479	6 h 53 min
		Mean [words/time]:	184.9	51,6 min
		Median [words/time]:	193	51 min
		Range [words/time]:	90—295 words	33—69 min

community. [Q12] **Being part of a loyal community** also arose from the paramedics' sense of social inclusion within the tight EMS community [Q13], to the point of it feeling like "a second home" [Q14], while descriptions also surfaced of a closed-knit community [Q15], but with potential bias for those, who come as outsiders [Q16], potentially thus impacting value formations in newly graduated paramedics. [Q17, Q18] **Trust in your team** was shaped out of a strong focus on teamwork-centered work and being able to work with all people [Q19], sensing a just and open culture within EMS teams [Q20-Q22] while having strong collegial support to back you up. [Q23].

3.2.3. Dimensions of professionalism

The **competence to be adaptable** stemmed from newly graduated paramedics' ability to handle imperfections [Q24] and not to "have to be perfect" [Q25], having tools for flexibility in their complex work [Q26] and strengthening professionalism through their actual and expected competence [Q27, Q28]. **Responsibility for professional development** stemmed from the responsibility the newly graduated paramedics had in terms of managing their own work [Q29] and expectations [Q30], and having to protect themselves from the negative burdens of prehospital emergency care work [Q31, Q32] while performing tasks which at times go beyond their training [Q33]. **Feelings of integrity as professional paramedics** stemmed from the newly graduated paramedics' internal drive to always perform their job well [Q34], going home "feeling a sense of accomplishment" [Q35], having the drive to learn and develop [Q36] in their professional role, "absorbing" new experiences [Q37].

3.3. Formulations of manageability, comprehensibility, and meaningfulness

The aforementioned themes were further deductively analyzed utilizing the defined sub-constructs of SOC; comprehensibility, manageability, and meaningfulness (Table 1). This gave us a chance to express descriptions of professional values and belonging through these formulated sub-constructs. This analysis has been described further in Table 4.

The construct of **manageability** was formulated from such values and dimensions of belonging, which expressed the newly graduated paramedics' ability or resources to cope with potential stressors related to their work. These we identified as related to the paramedics' competencies which enable them to adapt during their complex work, having trust in their team and team members, as well as taking personal responsibility for their work, their development and shielding themselves from the burdens of work. The construct of **comprehensibility**, meanwhile, was formulated from themes describing the extent to which EMS work was perceived as making logical sense for newly graduated paramedics. These were related to understanding the diverse nature of compassionate care, accepting the variations of patients' emergencies, feeling a sense of loyalty from within EMS communities and seeing oneself as a respected and capable paramedic professional. Finally, the construct of **meaningfulness** was formulated from expressions of significance attributed to the newly graduated paramedics' experiences in their professional role. These were related to descriptions of being able to perform autonomous helping work as a compassionate and empathetic agent of change, feeling a sense as of strong professional integrity a paramedic, and finding meaning from having an impact on peoples' treatment. For a visualisation, see Picture 1. below.

4. Discussion

In order to understand how professional values formulate in newly graduated paramedics, and how they help to shape their sense of coherence, our aim was to explore newly graduated Finnish paramedics' interpretations of professional values and sense of belonging during their first year in practice. We further investigated how these

Table 3
Paramedics' descriptions of professional values and sense of belonging.

Grouping	Main Themes	Sub-Themes	#	Statement examples		
Performance of paramedic work	Autonomy to act and help others	accountable agent of change	Q1	(P4 interview): You get that sense that my being here mattered to these people, I got the balls rolling to help them, even if it didn't involve actual "clinical" work.		
		empathetic emergency care	Q2	(P6 interview): The feeling that you still want to help the relatives [of the resus patient] somehow, give them something to hang on to.		
		good care encounters	Q3	(P3 interview): The value of actually being there, being able to sit down with them [patients] and talk to them. This is something I've realised during the year.		
	Compassionate emergency care	equal care and treatment		Q4	(P2 interview): For me, having empathy as central value to EMS work is very important; treating people equally and nice is what this work is about for me, having that value base to stand on.	
			diversity of appropriate help	Q5	(P3 interview): I've come to realize it's about making a difference, creating trust in the moment, hearing about peoples' problems and being there for a time.	
				Q6	(P5 story): The sense of emergency is a subjective feeling, our place is to recognize any sense of emergency.	
	Respected and capable professional	bringing safety professionalism as visible		Q7	(P4 interview): We bring a sense of safety and trust with us, when we arrive.	
				Q8	(P5 interview): Paramedics are like police; we have a level of professionalism. That's what people expect, they want to be met by problem-solving paramedics.	
				Q9	(P6 interview): The sense of meaningfulness is..actually, unrelated to what the actual outcome has been..[comes from] when you feel you have given the patient some help.	
	Professional EMS community	Paramedic work has impact	fulfillment from result	Q10	(P2 interview): You can't just live out of the 'cool work', they are not that many. If that's all that matters to you, you wont last long.	
			finding meaning through flow of work	Q11	(P3 interview): You get a sense of accomplishment from good work and good, functioning teamwork..a good flow.	
			inclusion empowers meaning	Q12	(P7 interview): You get that sense of meaningfulness from having a good community with an open culture around you.	
		Being part of a loyal EMS community	feeling included in EMS community		Q13	(P3 interview): That sense that you have some common thing that you share with your colleagues [in EMS], a warm welcome
					Q14	(P6 story):..your work community becomes like your second home
			insider equality, outsider bias		Q15	(P5 interview): There is som dark humour at the fire station, but no one inside the group is ever discriminated.
					Q16	(P1 interview): As a student, you felt judged and evaluated. Then, as a colleague, you were treated as an equal.
		Trust in your team	community impact value formation		Q17	(P2 story): At the same time, I want to believe that with these values, which are often reasonably similar to those of colleagues', our values are strengthened and we then do even better as professional paramedics.
				Q18	(P7 story): Such attitudes easily create the feeling that this is how you have to think at work, and then you might easily internalize those thoughts as part of yourself and your own ways of working. Especially at the beginning, you don't necessarily know anyone from the workplace, and there will be a need to become part of the community, in which case it may feel easier when you adapt to others' opinions and ways of working.	
				Q19	(P5 interview): Teamwork skills is definitely a requirement in EMS, You need to be able to work with people, also those who you don't share values with.	
strong focus on teamwork	open and just culture			Q20	(P1 interview): That sense of [psychological] safety makes working much easier.	
				Q21	(P8 story): The prevailing value culture strongly affects whether you dare to share your own reflections or to bring out ideas publicly.	
	strong collegial support			Q22	(P4 interview): You are allowed to discuss, you don't have to show absolute responsibility and have all the answers ready.	
				Q23	(P4 interview): The sense that you didn't have to have all the clear answers for patient care on day 1, but you can rely on your colleague for help.	
Dimensions of professionalism	Competence to be adaptable	ability to handle imperfection	Q24	(P3 interview): It's managing the new things. Like, I did the best I could, I have never met a patient like this before and next time I know what to do. [...] Sometimes you meet these really tricky patients, like social calls or psych, that you might not have clear answers to.		
			Q25	(P4 interview): The initial thought that you need to be perfect was quickly dispelled by a notion that we are doing and learning together.		
		tools for flexibility	Q26	(P1 interview): Seeing EMS as a broad work, where we sometimes have to think outside the box of what is "helping". This requires a bit of stretching on our problemsolving skills.		
	professionalism through competence			Q27	(P5 interview): Where is that line to what you should know? As a newly graduated [paramedic], there is a level of competence you should have, and are expected to have.	
				Q28	(P3 interview): Sometimes a high threshold to ask for feedback from ER, you want to be competent.	
		Responsibility for professional development	self-responsibility		Q29	(P6 interview): Sometimes, there are days when you just think, the most important thing is, I will manage. Sometimes there is a huge responsibility on the individual person.
					Q30	(P4 interview): We have a very autonomous job. There is a lot of expectations on oneself, I mean.
	Integrity as professional paramedic	protecting yourself from the work		Q31	(P5 interview): There is a requirement that you need to handle the "though calls", you cant break down now otherwise someone might loose their life. You need to be able to act in the moment. Being able to shut it off.	
				Q32	(P8 story): As work experience accumulates, you will inevitably find yourself in situations where you aren't always able to act according to your values, and this, in my opinion, increases the workload.	
			self-challenging roles	Q33	(P8 interview): Paramedics do a lot of work that wer're not really trained to do. We can do it, but there is not really support for it	
		performing your job well	Q34	(P3 interview): Sometimes they [patients and relatives] are grateful and sometimes they can't thank you in the moment, but you know you've done the best you can. It might not always be enough though..		

(continued on next page)

Table 3 (continued)

Grouping	Main Themes	Sub-Themes	#	Statement examples
		drive to self-development	Q35 Q36 Q37	<i>(P3 interview): I want to go home feeling a sense of accomplishment.</i> <i>(P4 interview): It's very much about who you are as a person; you want to learn new things, see new things. You look up to your colleagues and think, I want to be on that level.</i> <i>(P5 interview):...you're kind of continuously absorbing these new things from your more experienced colleagues and people around you; experiencing and seeing.</i>

Table 4
Formation of sense of coherence from professional values and belonging.

SOC	Main Themes	Sub-Themes	Grouping
Comprehensibility	Compassionate emergency care	<i>equal care and treatment</i> <i>diversity of appropriate help</i>	Performance of paramedic work
	Being part of a loyal EMS community	<i>community impact value formation</i> <i>feeling included in EMS community</i> <i>insider equality, outsider bias</i>	Professional EMS community
Manageability	Respected and capable professional	<i>bringing safety professionalism as visible</i>	Performance of paramedic work
	Competence to be adaptable	<i>ability to handle imperfection</i> <i>tools for flexibility</i> <i>professionalism through competence</i>	Dimensions of professionalism
	Trust in your team	<i>strong focus on teamwork</i> <i>open and just culture</i> <i>strong collegial support</i>	Professional EMS community
	Responsibility for professional development	<i>self-challenging roles</i> <i>protecting yourself from the work</i> <i>self-responsibility</i>	Dimensions of professionalism
Meaningfulness	Autonomy to act and help others	<i>accountable agent of change</i> <i>empathetic emergency care</i> <i>good care encounters</i>	Performance of paramedic work
	Integrity as professional paramedic	<i>drive to self-development</i> <i>performing your job well</i>	Dimensions of professionalism
	Paramedic work has impact	<i>fulfillment from result</i> <i>finding meaning through flow of work</i> <i>inclusion empowers meaning</i>	Professional EMS community

interpretations can be formulated in terms of the manageability of work, the comprehensibility of being a paramedic, and meaningfulness in their paramedic role.

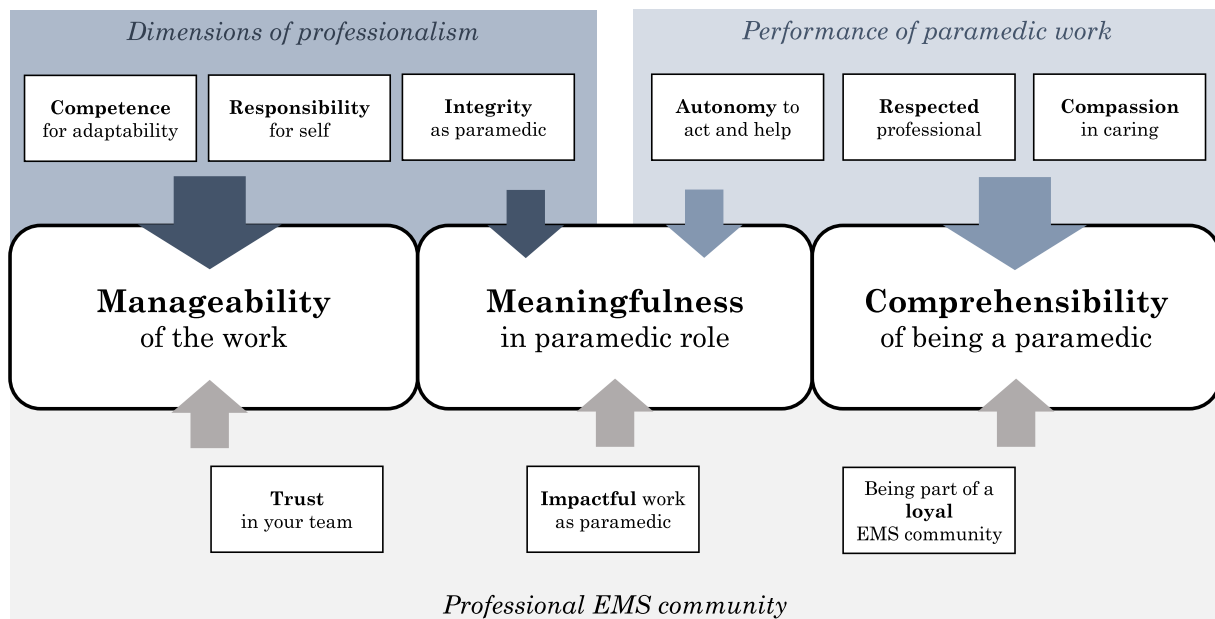
To the best of our knowledge, this area of research is somewhat unexplored. Our findings suggest that paramedic values are multi-dimensional, ranging from autonomy, compassion, and loyalty to a sense of competence and professional integrity. These values could be formulated as three distinct themes: the performance of paramedic work, belonging to an EMS community and dimensions of professionalism. We further recognized that professional values connect to the

manageability, comprehensibility, and meaningfulness of the paramedics' work. However, via an uneven dispersion of professional values across the SOC constructs; values based on the EMS community and belonging impacted all three constructs, whereas values based on professionalism leaned towards both manageability and meaningfulness, while performance-based values, in turn, leaned more towards both comprehensibility and manageability constructs (Picture 1).

The strong representation of values related to community and belonging, across all three constructs of SOC, seems to fit the perception that paramedic work relies strongly on community and belonging. Although there are clear positive implications of this [35], it also includes a caveat of potentially negative impacts that such strong communities can have if values become misaligned at an early stage [36,43]. For instance, Allari (2018) notes that hospital ethical climates can have a positive and significant impact on nurses' professional values, while their professional values mediate the relationship between the hospital's ethical climate and nurses' job satisfaction [44]. In other words, our work climate impacts our own values, which affects our job satisfaction. The manageability and meaningfulness of the paramedics' work seem to be connected to values of professionalism (such as competence and integrity) and the performance of paramedic work (such as autonomy, respect, and compassion), respectively.

Paramedic education and work traditionally focus on critical emergency care and developing clinical competencies to manage acute situations. Paramedic education further focuses early on strengthening teamwork skills, which further impacts newly graduated paramedics' sense of manageability of prehospital emergency care work from an early stage. Inherent values within EMS thus often mirror such pragmatic and practical perspectives [9,36]. As one participant noted, paramedics' mission is to "solve patients' problems through various means, sometimes as emergency care." This is further supported by our findings of newly graduated paramedics often expressing managing their work through such values as adaptability, responsibility, loyalty, and trust in their colleagues. The aforementioned values might enhance newly graduated paramedics' sense of self-efficacy, which, as noted by Mann et al [45], is a potential factor influencing their resilience. If extrapolated, such findings might further have implications on paramedics with more work experience also. All the while, many paramedics expressed personal responsibility for their work and their own competence development, as well as protecting themselves from the emotional burdens of paramedic work, as factors for managing their new profession. Although responsibility, as a value, is central to the paramedic profession [35,36], it also carries inherent expectations. Tanninen et al [46] noted that developmental responsibilities should also be recognized and supported by supervisors, leadership, and appropriate work environments. Newly graduated paramedics further identified open and just cultures and collegial support [7,30,35] as affecting the manageability of their work in positive ways. These findings are also applicable to more experienced paramedic professionals. Psychologically safe environments enhance the sense of trust, especially at an early stage of role transition involving uncertainty. [35,36].

As paramedics increasingly face work outside the traditional borders of EMS, emphasis of newly graduated paramedics' development of meaningfulness and comprehensibility in their work become all the more central. There are indications that focusing solely on professional values related to pragmatic outcome-related, i.e. the clinical side of paramedic work, while neglecting more humanistic values, might risk



Picture 1. Formation of sense of coherence from professional values and belonging.

manifesting in negative attitudes towards patients and calls perceived as not belonging to traditional EMS core mission [5,7,47]. This, in turn, might correlate with increased risk of burnout and compassion fatigue among more experienced paramedics [48], thus reducing their work engagement early on [35]. Our findings seem to suggest that newly graduated paramedics formulate their sense of meaningfulness and comprehensibility through values based on professional respect and integrity, compassionate care and autonomy, as well as a sense of doing impactful work, but also through a strong sense of community. [49] Paramedics' perceptions of the meaningfulness of their professional role, and the comprehensibility of their work, should therefore be emphasized at an early stage by nurturing humanistic values during this professional transition. This is further supported by Cao et al (2023), defining nursing professionalism as providing care based on principles of professionalism (such as knowledge, evidence-based practice, learning and excellence), caring, and altruism [50]. By recognizing and strengthening such values, we might increase future professionals' appreciation of the diverse impact of contemporary paramedic work. Paramedics today more often work beyond merely critical emergency care. With value alignment, even smaller impacts from their work can help shape a sense of meaningfulness. This becomes especially critical even before graduation, as professional values are espoused during early education and clinical placements in ambulances [9,36] but nevertheless also applies to professional paramedics with more work experience.

Evidence shows that upholding professional values positively influences individual resilience in nursing professionals [11,51] and SOC is strongly associated to resilience [13,52], with evidence indicating that SOC acts as mediating and predicting variable for better coping with work stress [12,13,52]. A recent study by Hulkkonen et al. [49] revealed that paramedics with over ten years' work experience had lower mean salutogenic health scores and were at higher risk of leaving EMS, compared to those with less than ten years' experience. Leaning on our findings, we propose that, in addition to strong clinical skills, an increased awareness of and emphasis on positive professional value formation during the early stages of paramedic work and education can be advantageous for securing a future resilient paramedic workforce. Furthermore, a belonging uncertainty, sensing that you do not belong, or are not valued in your professional society are connected to occupational stress [36,53]. Based on our findings, we further propose that enhancing newly graduated paramedics' professional belonging within

EMS communities is of utmost importance during this transitional period. This would strengthen a deeper resilience among future paramedics by not only giving them the tools to manage prehospital emergency care work, but also providing stronger meaning and better comprehension of their invaluable professional role.

5. Methodological Considerations

We approached the research questions from a qualitative perspective in order to gain rich, in-depth data related to individual experiences, not aiming for generalizability [54]. While SOC research has mainly been conducted using quantitative approaches, there are publications [55] exploring it from a qualitative perspective, which we also adopted to inform our own research approach and methodology. Furthermore, as professional values and SOC are individual, developed and formed as part of lived experiences, the study involved an inductive-deductive approach. This was chosen as it lends itself well to observing the data and empirical findings to look for the most reasonable explanations of the findings. This fit well with our intentions to explore the phenomena of paramedic value formation and draw inferences utilizing SOC. As the research questions related to education-specific values, we included only a bachelor's degree in emergency care, as it is considered a standard of paramedic education in Finland. Furthermore, SOC has a connection to age development [56]; as such, including any further education or previous degrees might have direct implications on the trustworthiness of findings. We further chose to utilize reflexive thematic analysis over other forms of analysis, as this particular analysis method allowed us deeper interpretation of our findings, which we found to be suitable for our research topic around professional values.

The stories and subsequent interviews were conducted completely through digital solutions. The aim was to recruit at minimum ten participants or until thematic saturation was reached, that is, until the phenomena start to reappear among participants' descriptions, as per literature recommendations [33]. Although we tried multiple recruitment rounds from various sources, we ended up with eight participants. We agree this is less than optimal, however, we assessed that the length of interviews and multiple data sources (story stems and interviews) still provided us with adequately rich and deep data. We can thus not guarantee data saturation was achieved by the eighth interview, although similar topics were found to be expressed and we had gained

an understanding of the themes [57]. We fully acknowledge this low participant involvement to be a limitation of our study. Confirmability of the findings was done through member validation and utilizing multiple investigators' perspectives on the data. While our roles as researchers can be construed a biasing factor, as there is an inherent risk of unchecked assumptions, we also saw it as an advantage for both data collection and construction of findings, as these roles aided in both building trust and understanding the field work, as well as reading beyond words for capturing concepts [42].

6. Conclusions

In our study exploring newly graduated Finnish paramedics formation of professional values and sense of belonging, we found that paramedics share multiple dimensions of professional values at this early stage related to the performance of paramedic work (autonomy, compassion, and respect), a sense of professional community (loyalty, trust, and impact), and dimensions of professionalism (adaptability, responsibility, and integrity). These further correspond to the formation of manageability, comprehensibility, and meaningfulness of work for the newly graduated paramedics. Our findings add to a better understanding of the importance of professional value formation at an early stage of paramedic education.

Ethical statement

This research protocol was approved by the University of Helsinki Ethical Review Board in Humanities and Social and Behavioral Sciences, statement number 29/2023. The study used no external funding.

CRedit authorship contribution statement

Christoffer R Ericsson: Writing – review & editing, Writing – original draft, Visualization, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Veronica Lindström:** Writing – review & editing, Supervision. **Ann Rudman:** Writing – review & editing, Supervision. **Hilla Nordquist:** Writing – review & editing, Supervision.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. This paper has not received any external funding, apart from submission fees covered by University of Helsinki.

Data availability

Data will be made available on request.

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