A meaningful work in a strained context

- exploring midwives' work situation and professional role

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Cover illustrations:
Front '*A contradictory strained tensity*' by **Ada Forssander**.
Back '*Tree of life*' by **Egon Forssander**.

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Dedicated to Egon, Ada and Oskar you are my everything! 

To all midwives out there 'Just right, Just in time'!

ABSTRACT

Midwives report a challenging work situation globally with a work force shortage, which is a large challenge for health-care organisations and can influence midwives' professional role. The **overall aim** of this thesis was to explore midwives' work situation and professional role in relation to models of care, salutogenic factors and job satisfaction and demands. The **methods** used in studies I-IV and the synthesis were classical grounded theory (I: n=27, III: n=12, synthesis) simultaneous mixed method (II: n=16/58) and statistical analyses of survey measurements (IV: n=1747). Data were collected by conducting focus group and face-to-face interviews and surveys, one of which was nation-wide. **Results**: In study I, other professions' main concern were midwives marching to own drum and safeguarding midwifery and that the midwifery profession was veiled. The other professionals thus used unveiling strategies scrutinising, streamlining and collaborating admittance. All professionals co-existed in a strained baby factory context. In study II, a theoretical midwifery model of woman-centred care had the potential to strengthen midwives' professional role and practice but not the strained work situation. In study III, the substantive theory of professional courage to create a pathway within midwives' fields of work provided an explanation of health-promoting facilitative conditions in midwives' work. However, there were vital organisational prerequisites that needed to be fulfilled, organisational resources, visualising midwifery and a reflective environment. In study IV possibilities for development, quality of work, role conflict, burnout and recognition, explained most of the variance in midwives' job satisfaction (R^2 =.626). Midwives demonstrated the largest mean difference from the reference population in terms of higher emotional demands, lower influence at work and a greater meaning in their work. The theoretical synthesis of the results of studies I-IV emerged as a '*professional courage to maintain a meaningful work in a strained context*'. The **overall conclusion** was that midwives report great meaningfulness in their work related to having a possibility to work based on the midwifery profession and having organisational prerequisites. Having a distinct professional role was facilitated by professional courage and by safeguarding a high-quality evidence-based midwifery care. These resources enhanced the motivational processes and job satisfaction. However, the midwives were found to work in a highly strained, factory-like, over-medicalised context with high demands and lack of organisational resources and support systems. Which in turn streamlined midwifery work, induced the impairment processes and adversely affected job satisfaction and occupational health.

Keywords: Work situation, Work environment, Midwifery, Professional role, Salutogenesis, JD-R

SAMMANFATTNING PÅ SVENSKA

Barnmorskor världen över rapporterar om en ansträngd arbetssituation med begränsade möjligheter att tillgodose behovet av högkvalitativ och säker hälso- och sjukvård inom fältet för sexuell, reproduktiv och perinatal hälsa. I Sverige anger 19 av 21 regioner att det råder en brist på barnmorskor vilket leder till stora utmaningar för hälso- och sjukvården, något som också kan påverka barnmorskors arbetssituation och professionella roll negativt. Därför tar denna avhandling ett utforskande perspektiv gällande barnmorskors arbetssituation och professionella roll med ett specifikt fokus på vårdmodeller, salutogena faktorer, arbetstillfredsställelse och arbetskrav.

Resultaten är baserade på fokusgrupp och individuella intervjuer samt enkäter, varav en är nationell. Analyserna är gjorda med klassisk grundad teori, mixad metod samt statistiska analyser både deskriptiva, jämförande och regressionsanalyser.

I studie I uttryckte andra professioner som arbetade på förlossningen att barnmorskeprofessionen var otydlig och beslöjad. Barnmorskor upplevdes marschera till sin egen trumma eftersom de beskyddade och värnade den normala förlossningsprocessen och strävade efter en kvinnocentrerad vård. Barnmorskorna upplevdes arbeta olika och bakom stängda dörrar vilket minskade interaktionen och samarbetet med de andra professionerna. Detta i sin tur ledde till att de andra professionerna använde sig av strategier för att ta bort beslöjandet. De försökte få barnmorskeprofessionen att arbeta mer likartat genom att granska och strömlinjeforma deras arbete. Alla professioner befann sig i en ansträngd arbetssituation som beskrevs som en 'baby factory' med en löpandebandprincip med högt arbetstempo samt brist på personal. Resultaten av studie II visar att en teoretisk barnmorskemodell för kvinnocentrerad vård (MiMo) hade potential att stärka barnmorskeprofessionens yrkesroll och praktik genom att den tydliggjorde och konkretiserade barnmorskans arbete och professionella roll inom organisationen. Dock påverkade inte MiMo den ansträngda arbetssituationen som rådde med höga krav samt brist på stöd och tid för att utföra högkvalitativ kvinnocentrerad vård. I studie III undersöktes vilka hälsofrämjande resurser som fanns i barnmorskors arbetssituation. En resurs som framkom var att som barnmorska uppnå ett professionellt mod för att skapa en väg inom barnmorskans arbetsfält som rör sig mellan normalt och medikaliserat födande samt mellan att arbeta autonomt och att vara reglerad. För att uppnå ett professionellt mod krävdes vissa förutsättningar. Det behövdes organisatoriska resurser, att barnmorskors kunskapsområde var tydligt och visualiserat i en reflekterande och lärande miljö vilket i sin tur ledde till att barnmorskorna kunde

arbeta som professionella barnmorskor och inte som medikaliserade sjuksköterskor. Möjligheten att arbeta som barnmorska genererade en grundad professionell kunskap och identitet som ledde till resursen professionellt mod. Modet kan ses som en motståndskraft för att hantera den ansträngda och oförutsägbara arbetssituationen samt för att stå upp för barnmorskans kompetensområde. I studie IV förklarade utvecklingsmöjligheter, arbetskvalitet, rollkonflikter, utmattning och erkännande det mesta av barnmorskors arbetstillfredsställelse (R^2=.626). Barnmorskor skiljde sig mest från referenspopulationen med högre känslomässiga krav, lägre inflytande och med att barnmorskor upplevde en större meningsfullhet i sitt arbete.

Slutligen gjordes en syntes av delstudiernas resultat där det framkom att barnmorskor rapporterar stor meningsfullhet i sitt arbete relaterat till att ha en möjlighet att arbeta utifrån barnmorskeprofessionen, med en tydlig professionell roll och ett professionellt mod att främja en högkvalitativ, evidensbaserad och kvinnocentrerad vård. Dessa resurser krävde dock organisatoriska förutsättningar för att främjade motivationsprocesserna och arbetstillfredsställelsen. Det framkom dessutom att barnmorskor arbetade i ett mycket ansträngt, fabriksliknande, övermedikaliserat kontext med höga krav och brist på organisatoriska resurser och stödsystem. Den beskrivna arbetssituationen strömlinjeformade barnmorskearbetet och framkallade försämringsprocesser som påverkade arbetstillfredsställelsen och den arbetsrelaterade hälsan negativt.

De identifierade resurserna med en stärkt barnmorskeprofession och tydlig yrkesroll samt de höga kraven med brist på organisatoriska resurser är de tydligaste modifierbara förändringsfaktorerna som påverkar barnmorskors arbetstillfredsställelse. Avhandlingens resultat lägger grunden för hälso- och sjukvårdsorganisationer att genomföra strukturella förändringar som krävs vad gäller styrning, ledning, organisation och resursfördelning för att påverka och förbättra arbetsmiljön och arbetsvillkoren för barnmorskor och möjliggöra för dem att arbeta utifrån sin profession och sitt kunskapsområde. Detta skulle kunna främja att barnmorskor som valt att lämna yrket återvänder och dessutom ge förutsättningar för att behålla barnmorskor i yrket. Det verkar inte röra sig om brist på barnmorskor i Sverige utan en brist på hållbara arbetsförhållanden och ett hållbart arbetsliv.

En förbättrad arbetssituation och arbetsrelaterad hälsa för barnmorskor bör dessutom vara konstandseffektivt och bidra till att tillhandahålla en säker högkvalitativ kvinnocentrerad vård inom fältet för sexuell, reproduktiv och perinatal hälsa i Sverige.

LIST OF PAPERS

This thesis is based on the following studies, referred to in the text by their Roman numerals I–IV.

I. Hansson, M., Lundgren, I., Hensing, G., & Carlsson, I-M. (2019). Veiled midwifery in the baby factory - A grounded theory study. *Women and Birth*, 32(1), 80-86. doi: 10.1016/j.wombi.2018.04.012

II. Hansson, M., Lundgren, I., Dencker, A., Taft, C., & Hensing, G. (2020). Work situation and professional role for midwives' at a labour ward pre and post implementation of a midwifery model of care – A mixed method study. *International Journal of Qualitative Studies on Health and Well-being*, 15(1), 1848025. doi: 10.1080/17482631.2020.1848025

III. Hansson, M., Lundgren, I., Hensing, G., Dencker, A., Eriksson, M., Carlsson I-M. (2021). Professional courage to create a pathway within midwives' fields of work: a grounded theory study. *BMC Health Services Research*, 21(1), 312. doi: 10.1186/s12913-021-06311-9

IV. Hansson, M., Dencker, A., Lundgren, I., Carlsson, I-M., Eriksson, M., Hensing, G. (2021). Job satisfaction in midwives and its association with organisational and psychosocial factors at work: A nation-wide, cross-sectional study. *Under review.*

CONTENT

ABBREVIATIONS

CGT	Classical Grounded Theory
COPSOQ	Copenhagen Psychosocial Questionnaire
GRRs	Generalised Resistance Resources
GRDs	Generalised Resistance Deficits
ICM	International Confederation of Midwives'
JD-R	Job Demand-Resources
MiMo	Midwifery Model of woman-centred care
SOC	Sense of Coherence
SPSS	Statistical Package for Social Sciences
SRMNAH	Sexual, Reproductive, Maternal, New-born and Adolescent Health
SRRs	Specific Resistance Resources
UNFPA	United Nations Population Fund
WHO	World Health Organisation

DEFINITIONS IN SHORT

Generalised Resistance Resources	Any characteristic of a person, group, or environment that can facilitate effective tension management (1).
Health	Health is seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasising social and personal resources, as well as physical capacities (2).
Health Promotion	Health promotion is the process of enabling people to increase control over, and to improve, their health. (2).
Healthy workplace	A healthy workplace is one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and well-being of workers and the sustainability of the workplace (3).
Midwifery	Midwifery is the profession of midwives, and only midwives practise midwifery. It has a unique body of knowledge, skills and professional attitudes drawn from disciplines shared by other health professions such as science and sociology, but is practised by midwives within a professional framework of autonomy, partnership, ethics and accountability (4).
Models of care	Broadly defines the way health services are delivered. It outlines the best practice care and services for a person, population group or patient (5).
Outcome variable	A variable that represents the observed values of the outcome, i.e. the health-related state or event (e.g. job satisfaction) in a statistical

	model. It is also called a dependent variable. In linear regression, the outcome variable is a continuous variable.
Predicting variable	A variable that predicts the degree of explained variance in the outcome variable. It is also called an independent variables.
Salutogenesis	Antonovsky developed a theory about the origin of health, focusing on the factors that cause and maintain health (1). Today there is an expanded understanding of salutogenesis as a theory, a model of health, a life orientation and the sense of coherence (6).
Sense of coherence	The sense of coherence is a global orientation that expresses the extent to which one has comprehensibility, a feeling of confidence that the stimuli derived from one's internal and external environments are structured, predictable, and explicable. Manageability, resources are available to meet the demands posed by these stimuli. Meaningfulness, demands are challenges, worthy of investment and engagement (7).
Workplace Health Promotion	The combined efforts of employers, employees and society to improve the health and well-being of people at work (8).

1 INTRODUCTION

This chapter introduces the contextual and theoretical framework that formed the basis for the research process, the studies and the thesis.

Work situation research is a wide field and this thesis focuses on midwives work situation and the midwifery professions context and models of care. The thesis presents a theoretical and contextual framework in midwifery. At our university, midwifery is considered a sub-concept under the health and care sciences umbrella. Midwifery is a profession in which midwives work with unique professional knowledge and skills; only midwives can practise midwifery (4). The professional role and position in midwifery are to promote normal physiological processes, which can be linked to a salutogenic health-promoting approach in the sexual, reproductive, maternal, new-born and adolescent health (SRMNAH) field (4, 9-11). To understand midwives' work situation, a deeper comprehension of the midwifery profession and midwifery care, as well as the context in which midwives work, is required. This thesis aims to highlight midwives' work situation and professional role to facilitate a sustainable and health-promoting working life for the midwifery profession. In addition, this thesis contributes to the provision of safe and high-quality care for women and their families. The overall aim is to explore midwives' work situation and professional role related to models of care, salutogenic factors and job satisfaction and demands.

There is a global shortage of 900 000 midwives, which aggravates the ability to meet the need for health-care services within the SRMNAH field (11). The midwifery work-force shortage and the high turnover rate of midwives are huge challenges for health-care organisations in Sweden. The National Board of Health and Welfare states that 19 of 21 regions report a midwifery shortage due to reasons such as strained work situation and low salary (12). Midwives have the second-highest level of sick leaves among health-care professionals. The midwifery profession has a large unequal gender distribution, with female domination (99.6% females and 0.4% males). The work situation for midwifery and other women-dominated professions is more strained than that in other sectors (13, 14). There is a lack of research on midwives' work situation in Sweden, where midwives have an independent responsibility for normal childbirth (15). In addition, there is limited research on salutogenic resources in midwives' work situation. Therefore, this thesis takes an exploratory approach with a focus on both the salutogenic resources and the demands in the midwifery profession's work context.

1.1 CONTEXTUAL FRAMEWORK

This section describes the contextual framework of the thesis. It starts with a historical overview of midwifery work and woman-centred care, a central concept within midwifery, which is followed by a description of previous knowledge of midwives' work situation. Then, models of care and a theoretical midwifery model of woman-centred care (MiMo) are described. The section concludes with a description of a health-promoting workplace.

1.1.1 MIDWIFERY WORK

Midwifery work has a long tradition and is often said to be the oldest profession in the world. In almost all times and places, other women have gathered to assist the becoming mother, and it is in this ancient women's community that the midwifery profession has its roots. As early as 2500 BC, a midwife was described as a guide for a woman who independently gives birth to her child (16) that can be interpreted as having a woman-centred approach. The traditional midwife had no formal education, and midwifery knowledge was transferred over generations (17). However, the midwife was seen as a wise woman, healer and an expert in childbearing due to her own experiences both in giving birth and helping other women (18). The traditional midwife had a clear position and rather high status in the society (17). However, during the Middle Ages, traditional midwifery became vulnerable, and some traditional midwives were accused of being witches due to their knowledge of herbs and the use of rituals. The patriarchal society and the church found midwifery threatening due to midwives' knowledge of procreation, herbalism, fertility and childbirth, as well as controversial issues such as contraception and abortion (19).

Midwives in Europe have historically had a major involvement in birthing (20). However, in the 17th century, childbirth became part of the medical science, which mainly had a pathogenic focus (17, 21). The physicians entered the once relatively private, female dominated, at home, labour room, which became more public (21). In 1711, the first educated midwives were graduated, and midwifery became the first female profession in Swedish health-care (17). From here on midwifery was regulated by law and seen as an important profession to enhance public health and reduce maternal and child mortality (22).

According to the regulations, one can begin to perceive the division into normal and complicated childbirth and the different responsibilities assigned to midwives and physicians. Midwives were responsible for normal childbearing while physicians had a medical responsibility in the case of complications. Prominent in

the midwifery oath, as, for example, in Sweden, was that the midwife should be by the birthing woman's side during the whole labour. She should not unnecessarily intervene and promote good cooperation with the woman (22). The medically educated midwives met resistance and protests because the people in parishes wanted to keep their traditional midwives. In the beginning of the 1900s, traditional midwives still assisted 20% of births in the northern parts of Sweden and 10% in the southern parts (23). Over time, births were transferred to hospitals, which led to the medical perspective being incorporated even into normal births (24, 25). Hence, there has been a pronounced transformation of midwives' professional role over time, from handling births in home settings to being a part of an interprofessional team in labour wards.

Midwifery, from a theoretical (26) and a professional (27) perspective is mainly grounded in focusing on normal childbearing. Therefore, midwives still perceive pregnancy and birth as an individual and normal process, in contrast to the more pathogenic view of the medical establishment (28, 29). This can be problematic due to the different philosophical views on childbirth leading to midwives working between different belief systems (24). Conflicting ideologies in an organisation can generate emotional demands and ethical stress, which can aggravate the work situation (30). Ethical stress in midwives' work situation means knowing the morally ideal way to conduct work but being constrained to carry out the work. Ethical stress can lead to emotional, physical and psychosocial consequences (31, 32).

Midwives in Sweden have an independent competence area and professional responsibility in the SRMNAH field from a lifecycle perspective (15). Midwives have a health-promoting perspective with an ethical code to maintain normality (15), which can be related to the salutogenic theory. The philosophy of midwifery is universally defined by International Confederation of Midwives (ICM), which means that midwives should focus on normal physiological processes and have a holistic and woman-centred approach (4). Despite the stated definitions of midwifery practice, most birth clinics are nowadays structured from a medical viewpoint, which may lead to midwives being submissive to the medical authority (33, 34). This has, according to Johansson et al. (29), led to an increased technicalisation and implication of obstetricians, leading to medical interventions becoming routine in normal childbirth, some without evidence of effectiveness. These interventions have been found to be negatively associated with satisfaction with the birth experience (35). In addition, medicalisation has been found to lead to midwifery knowledge, skills and clinical experience being less valued (36). Midwives might feel forced to conform to the guidelines that lead to an increase in interventions (37), which in turn constrains individual women-centred care (28) and complicates midwives' work situation.

Therefore, it is important to evaluate midwives' work situation further, to ensure patient safety, high-quality woman-centred care and a sustainable health-promoting workplace for the midwifery profession.

1.1.2 WOMAN-CENTRED CARE

As described above, midwives have historically provided care to women. One text presented as early as 2500 BC described the woman in focus, which can be related to the concept of woman-centred care (16). Woman-centred care is a central concept in midwifery, which is inevitably intertwined with the midwifery profession, where midwives take a promoting approach towards the woman's own resources. According to a review of theoretical midwifery models, women-centred care is connected to the salutogenic approach with a focus on health-promoting resources rather than risk factors (38). Woman-centred care is a contextual framework in this thesis, but it is also a theoretical framework in midwifery. However, woman-centred care is so interconnected to midwifery work and the current work situation that it needs to be presented early in the thesis.

Woman-centred care is a theoretical perspective (10, 26) as well as a main goal in midwifery (4, 15). In the Lancet series of midwifery, woman-centred care is described as a philosophy and value basis that every midwife should work in accordance with (9). ICM states that woman-centred philosophy is a fundamental approach for midwives and that the standard practice should be to promote the right to self-determination and that woman-centred care assumes a partnership and normalcy in midwifery (4). A recent review found that there are no universally accepted definitions of woman-centred care (39). This ambiguity is in line with other researchers' exploration of a definition of woman-centred care, which states that it is a variety in the interpretation of the concept and that it has transformed over time and places (40, 41).

Nevertheless, I will attempt to conceptualise the concept from the existing literature in the field. Woman-centred care shifts the locus of control and focus from professionals and the institution towards a woman's individual needs, aspirations and expectations (42, 43). Midwives should strive for recognising each woman's physical, emotional, social, spiritual and cultural needs, expectations and context. The woman herself should define this, not the caregiver (42-44). Hence, the needs of an individual woman must be taken into account and integrated within the care. It is the woman's choice that governs care, and a midwife's role is to empower her and protect normality (41).

The characteristics of women-centred care are women's choice, control, protecting normality, reciprocal relationship, providing continuous care, striving after a holistic view, showing respect and providing safe care. Such care empowers the women, provides continuity of caregiving, autonomy for the care providing midwives, and societal reform (41, 42, 45).

There has been a discussion about the difference between wom**a**n-centred care, which emphasises an individual woman's needs, and wom**e**n-centred care, which is viewed as a philosophy applied to an entire organisation of care (42). Brady et al. and Crepinsek et al. called for a universal definition and formalisation of the concept of woman-centred care that can provide a clarification and support for midwifery practice (39, 41). In this thesis, these concepts are seen as inter-related, as a philosophy in organising care and a holistic framework within midwifery (40, 45).

1.1.3 MIDWIVES' WORK SITUATION

Midwives' work situation is the psychosocial and organisational context in which midwives work. Investment in midwives and their work environment can lead to improved health outcomes for both women and new-borns as well as in the quality of care and effectiveness in health-care systems (11). Midwives' work situation can be problematic due to the different philosophical views on care, leading to midwives working between different belief systems and with conflicting demands (24). The conflicting ideologies in an organisation can generate emotional demands and ethical stress, which can aggravate midwives' work situation (30). Swedish midwives have reported that their professional role has transformed due to other professions gaining more influence in labour ward work and that the increased medical technicalisation and organisational changes have led to their handcraft skills, knowledge and clinical experience being less valued (36). In the exploration of evidence-based maternity care worldwide, two extremes have been found in the organisation of care: too little, too late and too much, too soon. Too little, too late is a primary care organisation in low-income countries, indicated by a lack of resources and care, with low evidence-based practices resulting in high maternal morbidity and mortality. In contrast, too much, too soon is characterised by an over-medicalisation and overuse of non-evidence-based medical interventions in normal pregnancies and labours. It leads to increased health costs, accelerating interventions and reduced influence for women in mainly high-income countries (46).

The work environment for Swedish midwives is regulated by the Work Environment Act and the Swedish Work Environment Authority, which states that employers have statutory obligations to continuously and systematically control the physical, organisational and psychosocial work environment (47). However, during the last decade, Swedish midwives have called out for more resources for midwifery care in the media, claiming that an important factor missing is opportunities to provide safe and women-centred care due to a strained work situation.

1.1.4 JOB DEMANDS

In 2013, Hildingsson et al. found that approximately 30% of Swedish midwives considered leaving the profession. This was attributed to a lack of staff and resources, high levels of stress, conflicts at work, low salary as well as a concern over their own health (48). Another Swedish study reported that midwives' dissatisfaction with the work environment affected their quality of life. In addition, midwives reported high levels of work-related exhaustion (49).

Midwives have been found to have a strained work situation with poor organisational climate (50), staggered working hours, lack of service staff (51), insufficient work resources and being under-staffed (50, 52). Furthermore, midwives have reported high levels of work-related stress and burnout (48, 50-58). Facilitating midwives' work–life balance is an important factor affecting levels of burnout; therefore, it can reduce both personal and organisational costs (58). A Danish study compared midwives to other employees in the service sector and found that midwives reported higher levels of both work- and client-related burnout, as well as the highest demands from clients of all occupations (56). A recent review of prevalence and predictors of burnout in midwives indicated that less work experience and living alone, as well as a lack of resources and a stressful work environment, are risk factors for burnout (57). A literature review of occupational sources of stress in midwifery, with studies from various countries, found that a dysfunctional working culture with long hours and high emotional demands is a strong predictor of psychosocial stress in midwives (59).

Another literature review found that various working conditions affect the emotional well-being of midwives, such as being under-staffed, having a high workload and receiving low support from colleagues. Another issue is a lack of continuity in the care being provided and midwives not having the opportunity to work autonomously (60). Being dissatisfied with the professional role as a midwife and the care organisation has been found to predict leaving intentions in Australian midwives (61). Geraghty et al. described the work situation as 'war like',

where midwives are fighting a losing battle trying to deal with unsustainable levels of work-related stress, which leads to them considering leaving the profession (62).

1.1.5 JOB RESOURCES

The work situation can also be seen from a salutogenic viewpoint by exploring the work situation factors and the resources present in the work environment that promote work motivation (63). Crowther et al. explored the sustainability and resiliency in midwifery and found that midwives express passion, pride and love for midwifery and being able to make a difference and cultivate the reciprocal relationship with women and their families as well as with colleagues' enhanced resiliency. Other important factors are having control, self-determination and a resilience to cope with challenges at work (64). This is in line with another study of midwives' workplace resiliency that emphasised a strong professional identity (65). Similar results were found in a study of midwifery empowerment, which also proposed that a strong professional identity and autonomy is vital (66). Research about midwives' work situation has found that sufficient organisational resources are important, such as a facilitating organisational climate, sufficient staffing, support from colleagues, manageable demands and scheduling (50-52, 60). In addition, modifiable organisational factors and models of care and continuity can improve many of the negative factors affecting midwives' emotional well-being and work situation (60, 61). Moreover, specific resources have been found to moderate the negative association between demands and nurses' intention to leave (67).

Reviews on midwives' work situation have indicated a lack of research focusing on health-promoting conditions, studies with a salutogenic approach (68) and those on midwives' occupational health and work environment in general (51). Thus, there is a knowledge gap in line with the aim of this thesis.

1.1.6 MODELS OF CARE

This thesis focuses on the work situation of midwives', which is influenced by the context in which they work as well as their psychosocial relationships with other professions.

Models of care broadly define how health services are delivered, and describe best practice care and services for a person, group or patient (5). There are various perspectives and models of care. In high-income countries, the medical model of

care is dominant even in midwifery practice with over-medicalisation in normal births. This is attributable to a general risk focus in society, and particularly in healthcare, where healthcare professionals try to prevent, manage and control risk and risky situations (69). Internationally, the medical–technical model of care with a risk focus dominates labour wards, which leads to high levels of interventions even during normal births (70). Labour wards that support women-centred care, practice a midwifery model of care and view birth as a normal life event are relatively rare (70). Risk-centred policies limit women-centred care and promote the medical approach (42). However, women-centred care has recently gained interest in both research and developing guidelines (71).

Midwifery, from theoretical (26) and professional (27) perspectives, is grounded in focusing on normality, which is in line with its scope of practice (4). Therefore, in midwifery work, pregnancy and birth are viewed as individual and normal physiological processes in contrast to the more pathogenic view of the medical establishment (28, 72). According to Bryar (28), midwives mostly perceive birthing as a normal life event; they adopt a woman-centred approach and strive to maintain low intervention rates (29, 73). However, midwives might move on the continuum towards the medical model depending on an individual labour. Meanwhile, from a medical perspective, birth is viewed as normal only retrospectively and has a physician-centred approach (28).

MacKenzie and Teijlingen (69) compared the social model of maternity care with the medical model. In the social model, childbirth is seen as a natural physiological event in which most women experience a normal and safe birth without medical intervention. The social model adopts a holistic, woman- and family-centred approach, with a focus on a good experience alongside the aim of a live, healthy mother and baby. The medical model perceives birth as normal first in retrospect, where the need for medical control, like monitoring, arises to guarantee safety and have the ability to intervene at the earliest sign of risk or pathology. The medical model is task-oriented and aims for a live, healthy mother and baby. However, in Bryar (28) and MacKenzie and Teijlingen's (69) medical models, the satisfaction of individual needs was lost. The empowerment focuses on the medical profession instead of the woman's feeling of control. Another key difference between the social and medical models is gender-based practice. The male medical practice avoids risk, operates in clinical settings and focuses on doing, having control, interventions and clock time as well as theoretical knowledge. In contrast, the feminine midwifery social model focuses on nature's time, letting things be, accepting the risk, and striving towards soft values, such as listening, attachment and embodied knowledge. This is in line with de Jonge et al.'s concept of letting things take time and being a 'watchful attendance', which is one important factor in midwifery (74).

Smith (75) proposed that a conceptual framework is required to have an interprofessional collaborative practice that can lead to safe, cost-effective, efficient and women-centred care. In various countries and midwifery settings, theoretical models have been developed. Although similarities have been found, a disparity related to diverse professional responsibilities and cultural dissimilarities has also been observed (76). On this account, a theoretical MiMo has been developed based on research in Sweden and Iceland (76) to evolve and improve midwifery care in the Nordic context.

1.1.7 A MIDWIFERY MODEL OF WOMAN-CENTRED CARE (MIMO) – FROM A NORDIC CONTEXT

The first two studies in this thesis are related to MiMo but in a separate project focusing on the work situation of midwives. MiMo is a theoretical and evidence-based, women-centred model in which midwives' supportive role and professional knowledge are integrated (76). Theoretical models are important for implementing care philosophies and guiding clinical work in line with the scope of midwifery practice. Few theoretical models have been evaluated in clinical care settings. The regional and cultural context are vital for the model's applicability to clinical practice (71) and therefore, a Nordic midwifery model of woman-centred care was developed.

MiMo is based on a synthesis of findings from previously published qualitative research in a Nordic context, focusing on women's and midwives' experiences of care during childbirth (70, 77-87).

The model includes five main themes (Figure 1), of which three are intertwined in the middle. This model aims to create a birthing atmosphere that is calm, trustful, safe and strengthening and supports normality. The midwife is in a reciprocal relationship with the birthing woman, where one strives to be available, present, affirming and facilitate participation. The midwife uses internalised grounded knowledge, which can be theoretical, evidence-based or intuitive, in relation to the individual woman's wishes and needs (76). The midwife fosters the three central dimensions through a balancing act in a cultural context that contains both promoting and hindering norms for perusing woman-centred care (76). According to MiMo, the midwife is constantly trying to balance the organisational demands with a high throughput of birthing women and to maintain women-centred care where the individual needs and wishes of the woman are met. This balancing act is performed in a cultural context, which can have both promoting and hindering norms. One hindering norm is that in labour

wards today, there is a lack of one-to-one care (84), which obstructs women-centred care. A promoting cultural norm should on the other hand enable the midwife to be by the birthing woman's side and support and empower her and her partner (81, 82, 84). Birthing should be seen as a normal life event, and this perspective should be supported and maintained even when there is abnormality (82, 84, 85, 87).

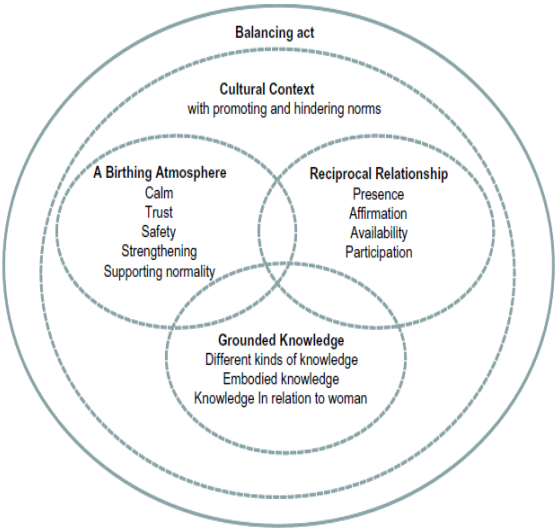

Figure 1. A midwifery model of woman-centred childbirth care – MiMo (76, p. 83).

The usefulness of MiMo has been tested in clinical practice in hospital-based labour wards in Sweden. Midwives, obstetricians and managers perceived MiMo as useful, even though they did not express an explicit need for a theoretical model prior to its implementation. The results also identify barriers to implementing MiMo in practice, such as heavy workload, stress and the fact that assistant nurses did not find the model useful. Some midwives express that MiMo is too theoretical and therefore difficult to understand. For this reason, a study in Iceland developed practical guidelines to facilitate MiMo's clinical use (71).

1.1.8 HEALTH-PROMOTING WORKPLACE

The health-promoting idea was developed in 1986 based on Ottawa Charter's strategy, which reoriented health services (2). The salutogenic theory was later suggested as the theoretical foundation for health promotion (88, 89). This theory enabled theoretically founded health-promoting strategies in addition to the practical intentions from the WHO conference.

The term health promotion has many definitions. In this thesis, the WHO definition is used (2) according to which health promotion is an enabling process to increase peoples control over, and to improve, people's health. Health is therefore, seen as a facilitating concept and a social and personal resource in every aspect of life. It is not viewed as an objective of living. Health promotion goes beyond healthy lifestyles and includes well-being and facilitating health (2). Health promotion can be facilitated by creating environments that are characterised by clear structures and social arenas where people see themselves as active, participatory subjects (90).

The workplace is a complex psychosocial and structural context that affects employees' health and well-being (3). It also influences social and economic well-being and hence affects the whole society (91). A literature review of health-promoting workplace interventions indicates that there is ambiguity and diversity regarding what a sustainable and health-promoting workplace is (92). This ambiguity is attributed to different perspectives on health-promoting concepts and on various contexts in different studies (92).

WHO defines a healthy workplace as one where the employee and the employer work together to improve, protect and promote health, safety and well-being of the employees and strive for a sustainable health-promoting workplace (3). Health-promoting factors in the work situation is an area that has already in 1987 been emphasised by WHO as an important aspect for promoting health in work life (93). The European Network for Workplace Health Promotion stated that, to improve the health and well-being of employees, combined efforts from employers, employees and society are required. The emphasis is on improving the work organisation and environment as well as expanding workers' participation in forming the working environment and achieving personal development based on the identified needs (8).

Employees spend much of their time at work; therefore, health promotion in the workplace is a key factor for sustainability in their working life. The workplace is therefore a key setting for health promotion due to its effect on both physical and mental health, as well as being an environment that most adult people are exposed to (91). Workplace health promotion is a multidimensional concept with two approaches to health. One emphasises the individual responsibility for managing health and lifestyle, whereas the other is characterised by a multifactorial approach to health, where many factors are beyond individual control (94). Group-level workplace health promotion has not been as extensively researched as health promotion processes at an individual level (95, 96). In a transdisciplinary approach, bridging occupational, organisational and public health, the following three levels are described to contribute to workplace health: micro level—

occupational health, meso level—organisational health and macro level—public health (97). This thesis mainly analyses the micro- and meso levels of occupational and organisational health, but hopes to influence health system policymakers on the macro level to enable a sustainable work life for midwives.

Antonovsky (89) proposed that the salutogenic theory can be used as a conceptual basis to guide health promotion towards a broader perspective, rather than just focusing on health education, which has been common in previous health-promoting models. Connecting salutogenesis to a health-promoting workplace implies trying to invigorate the employees' sense of coherence (SOC) by developing sustainable working conditions (7, 98, 99) and strengthening the persons' generalised resistance resources (GRRs). Antonovsky (89) suggested that salutogenesis should be implemented in health promotion practice. According to Gregor et al., work situation research should focus equally on the salutogenic, health-promoting perspective, as the more common pathogenic risk factor perspective (63). This dual perspective is in line with the aim and theoretical framework of this thesis; the latter is presented in the next sub-chapter.

1.2 THEORETICAL FRAMEWORK

The salutogenic theory of health (1, 7) and the Job Demand-Resources (JD-R) model (100) form the theoretical foundation interlaced with the synthesis when exploring midwives' work situation and professional role. The theoretical perspective enables an exploration of both salutogenic and risk factors in the context in which midwives work, which together affect their job satisfaction.

1.2.1 SALUTOGENESIS

In 1979, Aaron Antonovsky, a medical sociology professor, developed a theory on how people maintain their health through successful tension management and SOC, called salutogenesis (salus from Latin and genesis from Greek). Salutogenesis implies the origin of health (1). Development of health can be considered from two analytical perspectives or paradigms: pathogenesis and salutogenesis. Pathogenesis analyses how risk factors lead to diseases, and health is considered the absence of disease (101). In contrast, salutogenesis focuses on how resources maintain and develop health-promoting processes with the key values of empowerment, participation and equity (88). Antonovsky emphasised that the continuum of health should not be health to disease; rather, the focus should be on a movement on the continuum of ease to dis-ease. This movement is affected by the ability to comprehend a situation, to use the resources at hand and to find meaningfulness in the situation (89). No one is categorized as in total wellness or as in total illness, and that people moves on the ease - dis-ease continuum during the lifetime (102).

The salutogenic, health-promoting idea assumes that every organisation, workplace or individual has resources that can be used to maintain and improve health and develop a strong SOC. The three components of SOC are comprehensibility, manageability and meaningfulness (103, 104).

Comprehensibility depends on the level of cognition and the ability to understand and reflect on events, as well as to structure and organise one's context and role in the workplace to make it easier to understand and cope with; '*What one comprehends is easier to manage*' (104, p. 97). Manageability relates to the practical and behavioural aspects of how constructively a person handles different situations and events, as well as the extent to which a person feels that there are resources, internal and external, available to manage the situation or problem at hand (104). Meaningfulness has an emotional aspect with a motivational force, which determines the extent to which the person finds life worth living or work worth commitment. The feeling of meaningfulness dictates whether a person sees

a problem or a stressor as a challenge or a burden or work worth engaging in (104).

The factors contributing to strengthening ease even during difficult conditions are a SOC, GRRs and specific resistance resources (SRRs). SOC is based on cognitive, motivational and behavioural factors, as well as empowering relationships and meaningful occupations and pursuits. A strong SOC is, according to Antonovsky, correlated to a movement towards ease where the person can maintain and develop their health through their GRRs and SRRs. When exposed to stress, a strong SOC generates the ability to use one's resources and therefore handle and minimise the stressors at hand (6, 89). How a person deals with the tension determines the movement on the health continuum (7). GRRs include external and internal resources, which can be biological, materialistic and psychosocial (89, 104). SRRs are resources that are activated in specific situations through a stressor to prevent the tension from being transformed into stress (105), (e.g. a workplace that provides a supportive social and physical environment).

People who have adequate GRRs and SRRs and know how to utilise them have a basis to develop a strong SOC meaning that they perceive life as comprehensive, meaningful and manageable (7, 89, 104). A person with a strong SOC strives to be motivated to cope (meaningfulness), to believe that the stressor can be understood (comprehensibility) and to recognise the available GRRs and use them to cope (manageability) (7). Later, Antonovsky merged the concepts of GRRs and stressors into a combined concept of GRR-GRD in a continuum, where GRD stands for generalised resistance deficit (7). Employees at the GRD end of the continuum tend to perceive work as inconsistent and experience an overload as well as low participation in decision-making (106).

A strong SOC is associated with perceived good health, especially mental health, and a high quality of life (107, 108). SOC was initially described at an individual level (1) but later, Antonovsky broadened the concept to a group level (7). Since then, SOC has been found to be applicable even at an organisational level, such as the workplace. Organisational SOC describes the salutogenic quality of an organisation (109-115).

1.2.2 JOB DEMAND-RESOURCES MODEL

To explain how the psychosocial work environment affects health, a well-known theoretical model has been developed, the JD-R model (100). This model proposes and provides evidence for two simultaneous processes that affect employees' health and well-being.

On one hand, demands represent physical, mental or organisational efforts with costs, which lead to the health-impairment process if not balanced by the resources. On the other hand, the motivational process is promoted by the physical, social and organisational resources that also buffer the impact of the demands (100, 116). Job resources are positive health-promoting aspects of the physical, social or organisational work situation, such as social support, job control and feedback. Job demands are physical, social or organisational work situation factors associated with physiological and psychological costs for the employee, such as work overload, interpersonal conflict and job insecurity (116). Demands are not necessarily negative; they might be if the individual does not have the resources to meet the demands. Then, the demands require physical and mental effort, which, due to the lack of resources, incurs physical and psychological costs, which can lead to health-impairment processes (100). However, low demands can lead to low motivation in relation to work and negatively influence motivational processes (63, 100). The resources have multiple benefits besides reducing job demands and costs; they also operate in achieving goals and stimulating personal growth and development (117). The dual processes interact with and affect each other in a mutual interplay (100, 116).

The JD-R model is considered useful because it is not limited to specific factors but instead refers to all demands and resources in the environment that can affect an employee in the workplace (100). It is an empirically validated model that is applicable to various professional areas and organisations (116, 118), although the specific work environment characteristics need to be explored to determine specific resources and demands in the targeted profession and organisation (100).

2 AIM

The overall aim of this thesis was to explore midwives' work situation and professional role in relation to models of care, salutogenic factors and job satisfaction and demands. The specific aims of the included studies were to:

I. Explore midwives' work in a hospital-based labour ward from the perspectives of other professions, working in the same ward.

II. Explore and analyse the experience of work situation and professional role for midwives at a labour ward pre and post the implementation of a midwifery model of care (MiMo).

III. Explore health-promoting facilitative conditions in the work situation on labour wards according to midwives.

IV. Identify predictors in the organisational and psychosocial work environment associated with midwives' job satisfaction and identify differences in how midwives assess the organisational and psychosocial work environment compared to a Swedish reference population.

3 METHODS

This chapter conceptualises the ontological and epistemological approaches used in this thesis, reflects on the research process and describes the methods used in the studies. An overview of the study designs and methods is shown in Table 1.

Ontology is related to the understanding of reality and the difference between the physical world itself and the world that exists through our experiences. Ontology in a research context deals with the relationship between the researcher and the issue being researched. In terms of understanding reality, there are two main paradigms: positivism and constructionism (119). In this thesis, the two ontological perspectives are represented at different degrees. The constructionism view is mainly present in the qualitative studies, where reality is viewed as a subjective construction through individuals' interpretations. Both scientific data and psychosocial reality are created by the participants and researchers and, therefore, are constructed, and the understanding depends on the context. The researcher will inevitably be a part of the process and can interact with what is being researched. The research results are created in an interactive process and can therefore be viewed as an inductive or abductive process. However, the researcher must strive for objectivity (119). In contrast, the positivism view is mainly found in the quantitative studies, where it is believed that the world exists in itself as an objective truth and the researcher is considered independent of what is being investigated. The researcher is viewed as not influencing the findings. Nevertheless, the researcher defines the research questions and determines which empirical evidence is to be examined. Thus, the researcher inevitably affects the results in different ways, even in this view of reality. Positivism often focuses on the objective and the quantifiable in order to generalise and confirm a theory or hypothesis and can therefore be seen as a deductive process.

Epistemology is related to the doctrine of knowledge and insight, what we can know about reality and what conditions are required for a belief to constitute knowledge (119). In this thesis, epistemological issues have been discussed continuously. In particular, preunderstandings and preconceptions are scrutinised due to the effect they can have on the interpretation and analysis of results, to avoid interpretation bias. Behind the directly observable is a dimension of meaning that cannot be observed directly but can only be understood through interpretation. The epistemological stance of a researcher is related to the underpinning ontological paradigm (119). It is necessary to reflect on how we can proceed to gain knowledge about people, psychosocial processes and society in terms of our perspective as a researcher. This research group comprises researchers with different expertise and perspectives who have expanded the

reflections about the research questions and discussions regarding the analyses and results. Furthermore, the research has been presented and discussed at seminars, conferences and with clinicians relevant in the field of midwifery.

3.1 THESIS DESIGN

This thesis is a multiple-method research project that uses the triangulated design described by Morse and Niehaus (120) and Noble and Heale (121). This design aims to improve the credibility and validity of the research findings by approaching the research field from different theoretical perspectives and with different methods. This thesis uses different ontological and epistemological perspectives with theoretical, method, data collection and investigator triangulation (Figure 2).

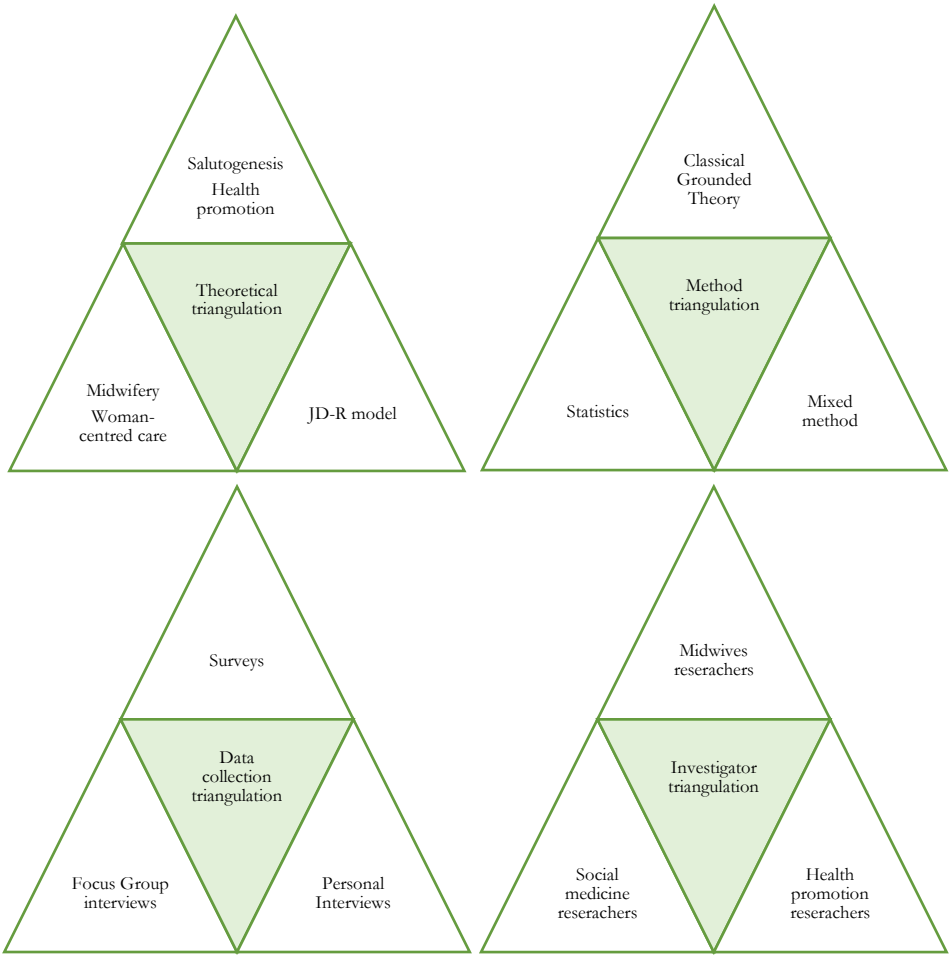

Figure 2. Theoretical, method, data collection and investigator triangulation. Own figure.

There are different underlying theoretical and contextual frameworks with a basis in midwifery as well as in woman-centred care, models of care and the work environment. The synthesis of studies I–IV is interlaced with a theoretical framework that uses salutogenesis and JD-R in the exploration and analysis of midwives' work situation and professional role. The thesis integrates the knowledge of midwives' work situation and work environment with professional roles and identities. Multiple analysis methods with an inductive and deductive theoretical drive are used, and qualitative, quantitative and mixed-method analyses are conducted. Various data collection techniques are applied, including focus group interviews, surveys and personal interviews. The project also involves researchers from multiple disciplines, such as midwifery, social medicine and health promotion, to broaden the perspective and obtain an enriched, comprehensive and complex understanding of the different aspects of midwives' work situation, context and professional role. The methods used are classical grounded theory (CGT) (studies I, III and synthesis), simultaneous mixed method with a qualitative core component (study II) and statistical analyses of survey measurements (studies II and IV), which are detailed below.

3.1.1 RESEARCH PROCESS – HOW ONE ARTICLE LED TO THE NEXT

The research process started with me entering an ongoing research project with the aim of implementing MiMo in labour ward care. Studies I and II, in this thesis, are based on this project but have an independent focus: to explore midwives' work situation and professional role, as well as to conceptualise the context with an overarching perspective.

To understand midwives' work situation, more knowledge was required about the context in which midwives work, as well as the interprofessional collaboration in childbirth care. There was limited research about midwives' work situation and professional role from other professionals' perspectives. This led to study I, with an exploratory qualitative design focusing on obstetricians', assistant nurses' and managers' views of midwives' work in labour wards. The midwifery profession was depicted as veiled, and as marching to own drum in a baby factory context with a strained work situation for all professionals. This led us to wonder how midwives themselves perceived the work situation and professional role. Thereby, the research question of study II focused on how midwives experience their work situation and professional role in the same labour wards. This was also studied in relation to MiMo with a mixed-method design using both focus group interviews and a survey pre and post implementing MiMo. MiMo promoted a conceptual

view of the midwifery profession, increased awareness of midwives' professional role and provided an opportunity to verbalise midwifery knowledge. However, midwives could not work completely according to the model due to the strained work situation.

After these studies, it was evident that midwives in labour wards work in a strained context, and that there exist significant positive factors, such as the professional identity and role. However, we did not find any Nordic studies with a salutogenic focus on what is good and health-promoting in midwives' work situation, which led to the research question of study III, where we set out to explore health-promoting facilitative conditions in the work situation in labour wards from the perspective of midwives themselves. This was achieved through face-to-face interviews, which gave us a qualitative in-depth comprehension of important factors for individual midwives' job satisfaction. Facilitative conditions were found to be related to having organisational prerequisites and being able to have a feasibility to work as a midwife and develop professional courage to feasibly move between midwives' fields of work. This made the work situation comprehensive and related to SOC components.

Then we asked ourselves if the previous studies results were generalizable to midwives outside labour wards? Until then, the focus had been on labour ward midwives; however, what about other midwives in Sweden? Midwives work in a wide variety of fields, and the societal debate demonstrated that midwives overall have a strained work situation and, at times, an unclear professional role. In study IV, a digital national survey was conducted, exploring midwives' organisational and psychosocial work situation, work-related burnout, salutogenic health indicators and SOC. This study focused on identifying the predictors of job satisfaction and the differences in how midwives assess the organisational and psychosocial work environment compared to a Swedish reference population. The salutogenic theory, as well as JD-R, formed the theoretical foundation for study IV.

To obtain a comprehensive and expanded understanding of the results obtained in studies I–IV, a synthesis was performed through a re-analysis of the results. Then, a generic theoretical model for understanding the job demand and resources in relation to a job satisfaction continuum emerged through the modification and expansion of Gregor et al.'s (63) model, which integrated the salutogenic theory for the context of work (103) with JD-R (100, 122). Finally, the synthesised results were interlaced with the generic model for a theoretical understanding of midwives' work situation and professional role.

3.2 STUDY DESIGN

Table 1. Overview of studies I-IV and synthesis

Study	Aim	Design	Data Collection	Participants	Data Analysis
I	Explore midwives' work in a hospital-based labour ward from the perspectives of other professions, working in the same ward.	Exploratory Qualitative Design	Secondary analysis of focus Group Interviews in two rounds	T1: 6 assistant nurses 5 obstetricians 4 managers T2: 5 assistant nurses 3 obstetricians 4 managers	Classical Grounded Theory (CGT) a constant comparative analysis Abductive process Inductive/ Deductive
II	Explore and analyse the experience of work situation and professional role for midwives at a labour ward pre and post the implementation of a midwifery model of care (MiMo).	Mixed Method QUAL + quan design	Secondary analysis of focus Group Interviews in two rounds. Survey: CBI, PSS, JDC, SOC	Midwives at a labour ward T1: n=5 T2: n=11 Midwives at a labour ward, T1 and T2: n=58	Inductive and deductive content analysis - an unconstrained matrix to make a corresponding comparison of T1-T2. The related samples were analysed using the non-parametric Wilcoxon test.
III	Explore health-promoting facilitative conditions in the work situation on labour wards according to midwives.	Exploratory Qualitative Design	Personal Interviews	Midwives at five different labour wards in three different hospitals. n=12	CGT – a constant comparative analysis Abductive process Inductive/ Deductive

IV	Identify predictors in the organisational and psychosocial work environment associated with midwives' job satisfaction and identify differences in how midwives assess the organisational and psychosocial work environment compared to a Swedish reference population.	Quantitative Nation-wide cross-sectional design	Survey: COPSOQ III	Midwives registered at the Swedish Association of Midwives and Swedish Association of Health Professionals n=1747	Univariable regression Multivariable, stepwise linear regression Descriptive statistics MID, one-sample t-test.
Synthesis	Explore a theoretical understanding of midwives' work situation and professional role in relation to salutogenesis and JD-R	Exploratory Qualitative Design	Re-analysis of the result of Study I-IV.	A summary of participants in study I-IV.	CGT – a constant comparative analysis Abductive process Inductive/ Deductive

3.2.1 CLASSICAL GROUNDED THEORY – STUDY I, STUDY III AND SYNTHESIS

A troubleshooting seminar led by Barney Glaser and other international and national senior CGT experts, the research course 'Grounded theory in theory and practice' in Karlstad and my supervisor Ing-Marie Carlsson made an important contribution to these CGT studies by expanding my understanding of CGT and the development of the analytical process and my ability to conduct CGT.

CGT was developed from sociology and social sciences in the 1960s by Glaser and Strauss (123) and has its roots in quantitative methodology and qualitative mathematics (124). Glaser himself defined grounded theory as '*a general methodology of analysis linked with data collection that uses a systematically applied set of methods to generate an inductive theory about a substantive area*' (125) p.16. Glaser indicated that CGT is free from philosophical and theoretical positions (126). It aims to generate conceptual theories that are abstracted from time, place and people. The theories conceptualise how the participants try to address their main concerns in the studied substantive area. The pattern of human behaviour and psychosocial processes, rather than people, is categorised; therefore, personal quotes are not used (127-129).

CGT is useful in diverse fields of research, particularly research about social interaction and processes with an open approach, as in study I, study III and the synthesis. The studies' aims are consistent with the explorative open-mind approach of CGT, allowing the data to guide you, with an aspiration to be unbound by pre-existing theoretical frameworks or hypotheses. This is done not to affect your view of the data but to be able to discover the emerging theory without pre-assumptions (125). The synthesis was performed to put the results obtained from the individual studies into a larger context, creating a framework of understanding. Then, the synthesis was interlaced with the theoretical foundation, which is in line with the CGT methodology.

On one hand, CGT has a positivist stance in relation to being open-minded and not contaminating the emerging theory with preunderstanding. On the other hand, emphasising the inductive process and conceptualising can be related to the constructivist direction. Glaser, who maintained his position that CGT is free from philosophical and theoretical positions, rejected both these claims. The literature and theory are interlaced after the substantive theory and main concern emerge, and the researcher should strive to be as objective as possible, although conceptualisation involves a certain interpretation. Glaser also claimed that by having an inductive approach and focusing on participants' perspective, not forcing data, one can be as close to reality as a researcher can get (130).

I started drawing during my novel reading of the Glaser literature and designed a model in an attempt to make sense of CGT. My model of understanding CGT has evolved continuously during my research process. The current version is presented below in Figure 3.

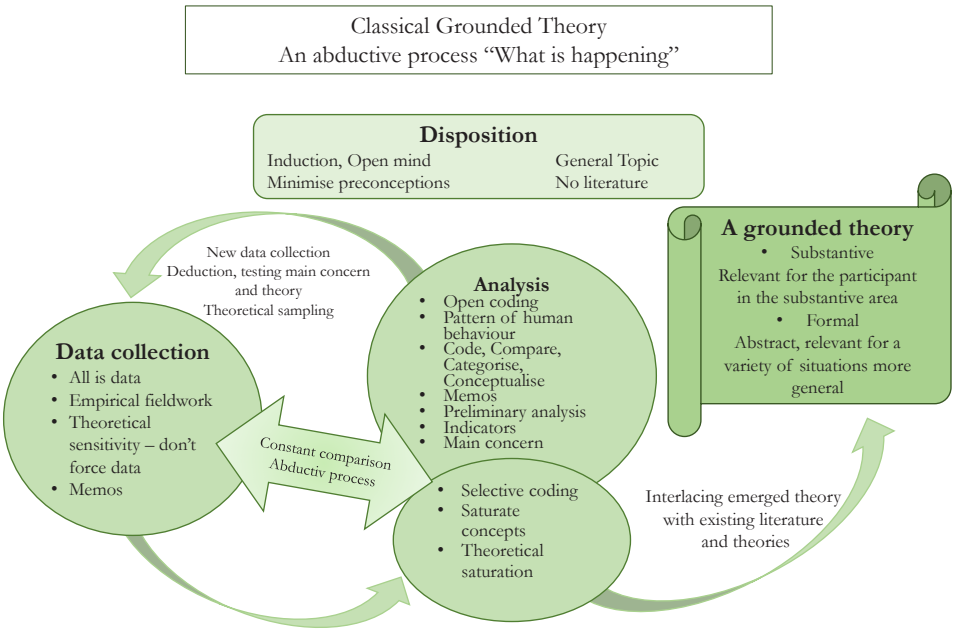

Figure 3. Classical Grounded Theory: Theory generation through an abductive process. Own figure.

The disposition of CGT is that you start inductively with a general topic and open mind. By not conducting a literature review before the analysis, you minimise the preconceptions in order not to affect your perception of what to find in the data. During CGT data collection, 'all is considered data'; therefore, it is a general method that can include both qualitative and quantitative data (123), as well as observational materials. To obtain a theoretical sensitivity derived from the data, you should not force data neither during data collection nor during the analysis (127). In this thesis, a secondary analysis of focus group interviews was used in study I, and personal interviews were used in study III. In the synthesis, the four studies' results were analysed as a whole and then interlaced with the salutogenic theory and JD-R model.

In study I, a secondary analysis was conducted of the focus group interviews in the MiMo project. In the synthesis, the results of studies I-IV results were analysed. The deductive process of testing the main concern was performed by going back to data and re-analysing it for theoretical sampling. In study III, the

theoretical sampling was performed by including new questions in future interviews about the emerging main concern.

CGT allows data to guide the researcher, who should strive to be unbound by a pre-existing theoretical framework or hypothesis and do not intend to confirm or reject an existing theory. CGT strives to find an explanation for the problem that emerges from data, rather than just describing it and focusing on how the participants try to solve the problem (123, 124). This is evident in study I, where the assistant nurses, obstetricians and managers used strategies to unveil the midwifery profession, which they considered was marching to its own drum. In study III, the midwives attained a professional courage to find a pathway within their fields of work. In the synthesis, the midwives attained a professional courage to maintain a meaningful work in a strained context.

In the beginning, the analysis process was similar in all CGT analyses. It started with a close empirical perspective, and I tried to capture the reality through the interviews and results at a descriptive level with open coding. Open coding was guided by asking the data 'What is happening?' and 'What is the main concern being faced by the participants?'. The analysis in study I was conducted by me and the last author separately, and then our findings were jointly discussed, because it was my first time performing CGT. In study III, the last and second authors read all interview transcripts and followed the conceptualisation process, but this was not as hands-on as in study I. In the synthesis, the results of studies I-IV was analysed by me, as a whole, but the conceptualisation described below was discussed with the research group.

Codes were named as gerunds, which means that they were kept short, precise, active and analytical and held close to the empirical data. Then, the conceptualisation process began. Codes with similar content were clustered into concepts with a higher abstraction level, revealing the emergent social pattern. The conceptual categories were constantly compared in an abductive process, and the main concern emerged through abstraction.

The conceptualisation process can be described through the four C:s — Code, Compare, Categorise and Conceptualise — to reach a theory with a more distant and conceptualised perspective, as visualised in Figure 4.

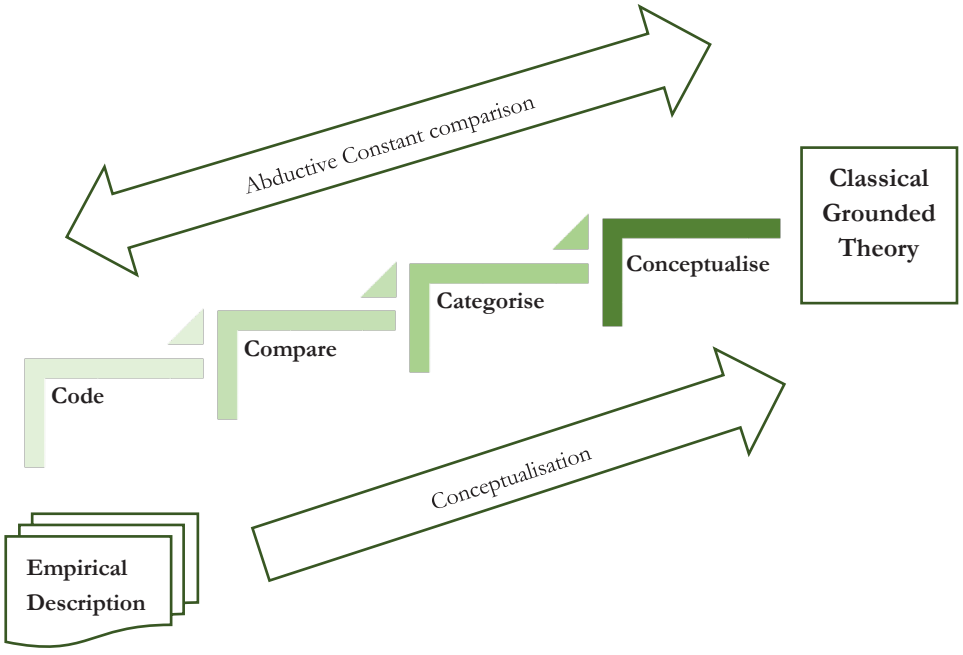

Figure 4. Analysis process in CGT. Own figure.

The main concern emerged through numerous indicators, which are the characteristics of the main concern (129). Here, one can perceive the roots in the quantitative methodology and qualitative mathematics within the latent trait theory (129); attention is directed to a latent property or concept that cannot be observed directly but must be observed through numerous indicators that constitute signs of the latent property. In other words, the main concern and its indicators, i.e. the concept indicator model (129). The indicators, but not the concept or main concern, are observable in the data; this requires the emergence of the indicators and conceptualisation (129, 131).

The coding in all CGT analyses is an abductive process, where you move back and forth between the parts and the whole, as well as between the indicators and concepts. Hence, both inductive and deductive approaches were used, which is customary in CGT (129, 131) and is referred to as an abductive process. When the main concern emerged, selective coding was performed, which means that only data related to the main concern and its concepts were coded. This was done to develop the theory further and saturate the concepts (126, 127). Memos were written during the entire data collection and analysis process. They were descriptive in the beginning but evolved to ideas of relationships between concepts (126). By writing memos on memos and sorting them carefully, the

theoretical codes emerged, which developed the theory further (129-131). Theoretical saturation was reached when no data were found that could develop the concepts or theory further (124, 127). According to Glaser, this approach permits the researcher to achieve a grounded theory with theoretical sensitivity (124, 127).

In study I and III, a substantive theory emerged, meaning a theory that is relevant for the participants in the substantive area. In study I, the theory was relevant for other professionals' views of midwifery work and their work situation in labour ward care. In study III, the theory was relevant for midwives and the health-promoting facilitative conditions in labour wards. In the synthesis, a professional courage to maintain a meaningful work in a strained context emerged. The synthesis was then interlaced with the theoretical framework of salutogenesis and JD-R for a theoretical understanding of midwives' job resources and demands in relation to job satisfaction and perceiving a coherent work experience.

3.2.2 MIXED METHOD – STUDY II

I adopted a predefined design in Study II, because I entered the ongoing MiMo project with a mixed-method design. Although this design was suitable for the research question in study II, where the aim was to explore and analyse the experience of work situation and professional role for midwives at a labour ward pre and post the implementation of a midwifery model of care (MiMo). Thus, the research question was complex and required the utilisation of both qualitative and quantitative data.

Data collection, pre-intervention, had already been done with focus group interviews with midwives, with the questions 1) 'What is your professional role related to woman-centred care? ' and 2) 'What is your opinion of the applicability of a midwifery model of woman-centred care?'. Additionally 78 midwives at the same labour ward answered a physical paper format survey. The same researchers as pre intervention did the qualitative post intervention interviews. I digitalised the survey, performed a pilot study to evaluate the digital format and then distributed the survey through the midwives' work e-mail addresses. Three reminders were sent out. Of the original sample of 78 midwives that were included pre intervention 10 had had either quit their job, were on sick or parental leave. Additionally 10 did not answer the post-intervention survey. Post intervention, 58 midwives answered the survey, which yielded a response rate of 74%.

The analysis conducted in study II adopted a simultaneous (QUAL + quan) mixed-method design where the qualitative and quantitative data were collected at the same time at two different time-points, pre and post the implementation of the theoretical MiMo. According to Morse and Niehaus, the analysis had an inductive and deductive qualitative core component that drove the quantitative supplement component and, thus, a QUAL + quan mixed method (120). The qualitative core component comprised focus group interviews with midwives, pre and post, the implementation of MiMo. Exploring the change in the experience in terms of work situation and professional role, an inductive and a deductive content analysis, as proposed by Elo and Kyngäs (132) were conducted. The supplemental component consisted of a quantitative survey analysis of midwives' work situation, pre and post the implementation of MiMo, and the deductive analysis was driven by the qualitative result. The study design adopted in study II can be observed in Figure 2 in study II (133).

The qualitative analysis was conducted in two steps. First, an inductive analysis of the pre-intervention focus group interviews was performed, focusing on midwives' experience of their work situation and professional role. Second, an unconstrained matrix was used in the analyses of the post-intervention focus group interviews with a deductive, and in parts, inductive approach. A corresponding comparison was performed among the different time points (132). To create coding sheets, NVivo was used when performing open coding. The codes were grouped into sub-categories with a classification under higher-order headings. The main categories were classified by categorising and abstracting the data (132). Three generic categories were revealed in the pre-intervention analysis, which together with their sub-categories were used as an unconstrained matrix (132) during the analysis of the post-intervention interviews. This resulted in four generic categories, some in coherence and others novel for the post-implementation data. Finally, a corresponding comparison between the different time points was conducted (132).

The quantitative supplement component analysis was driven by the emerged qualitative concepts. The survey was systematically reviewed section-by-section to identify items that measured the corresponding aspects of the concepts in the qualitative result. The items included social support, work ability, worries, organisational climate, stress, burnout, demand, control, work commitment and SOC. To expand the qualitative results, the corresponding quantitative items were analysed by conducting the Wilcoxon signed rank test pre and post the implementation of MiMo (120). Finally, the results were synthesised and the point of interface was in the result section, analysing whether the results corresponded or contrasted over time (120).

3.2.3 LONGITUDINAL AND CROSS-SECTIONAL DESIGN – STUDIES II AND IV

In addition to the mixed-method design, study II also adopted a longitudinal design, gathering data from two time points, as mentioned above. In longitudinal designs, it is common to follow the same group of individuals in a cohort over time to measure the occurrence of a disease or, in this case, repeated measures of the midwives' work situation (134). This design enables the researcher to establish causal inference about an exposure, leading to specific consequences or diseases, by analysing the effects and directions between the measured variables (135). However, causal inference was not the focus in study II but we aimed to explore and analyse the work situation and the professional role of midwives in relation to implementing MiMo.

Study IV is a baseline measurement of a national prospective longitudinal cohort study. As it is a baseline measurement with a single time point, it is, to date, defined as a cross-sectional study in which descriptive measures, prevalence, correlations and associations between variables can be analysed. However, causal inference cannot be stated because the causal action of an exposure needs to be measured over time to identify the direction of the effects between the measured variables (134, 135).

3.2.4 STUDY IV

Study IV adopted a national cross-sectional design; Figure 5 shows the theoretical framework with assumed assessments and associations of the COPSOQ III scales. The framework and assumptions were based on the JD-R model (100, 118) and previous research, both our own and others' about midwives' work situation and job satisfaction.

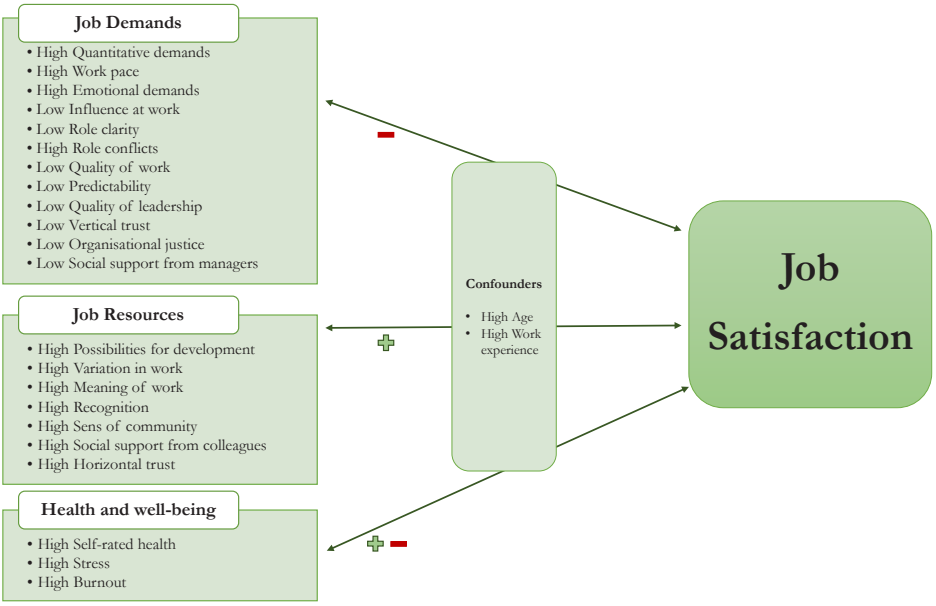

Figure 5. Theoretical framework in study IV with assumed associations of predicting scales and the outcome job satisfaction. Own figure.

Settings and Participants

The study used baseline data of Swedish midwives. Included in the data collection were all members of the Swedish Association of Midwives as well as midwives in the Swedish Association of Health Professionals.

Inclusion criteria: Midwives being a member of the Swedish Association of Midwives or in the Swedish Association of Health Professionals.

Exclusion criteria: Not working as a midwife (e.g. pensioner, student, other work etc.).

The data collection started on 4th February 2020 for one union and 6th February for the other. Individual links to the survey were generated by a data collection company and were sent out by the unions to the registered e-mail addresses of all midwives in the unions. The fact that the unions themselves sent out the invitation indicated that the data collection was started at marginally different time points. Three reminders were sent out to the participants, and the data collection was closed on 20th April (Figure 6).

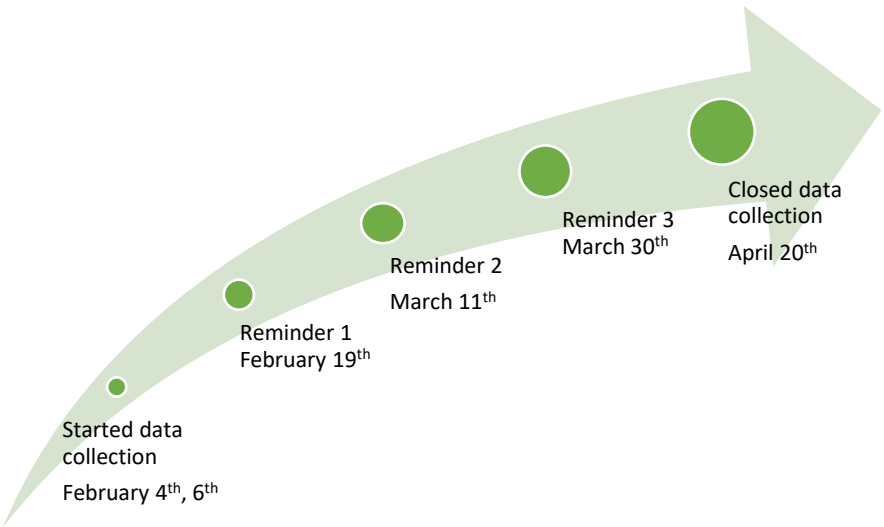

Figure 6. Data collection study IV. Own figure.

A request to participate in the study was sent to 5076 midwives of which 2060 answered the survey, which gives a response rate of 41%.

During the data collection, 502 midwives reached out to me, through e-mail, social media and telephone or in person, because they did not meet the inclusion criteria or had not received an invitation (Table 2).

Table 2. Ineligible for inclusion in study IV.

Cause	Number of individuals	Swedish Association of Health Professionals	Swedish Association of Midwives
Staffing agency	10	7	3
Another occupation (Manager, Nurse, Health and Social care inspector, Politician, Project manager in other sector, Self-employed, 1177, University)	274	230	44
Got link from both unions (members of the midwifery union)	35	35	
Pensioner	37	37	
Sick leave	10	6	4
Not a midwife	1	1	
Unsubscribe from participation	72	68	4
No link	63	63	
Total	**502**	**447**	**55**

The participant characteristics of included Swedish midwives can be observed in Table 2 in study IV.

Data Source

Study IV used the baseline data of the above-described data collection, although the COPSOQ III instrument was exclusively used. The COPSOQ instrument covers a broad range of organisational and psychosocial work environment factors with the dimensions: demands at work, work organisation and job content, interpersonal relations and leadership, social capital and health and well-being (136, 137). COPSOQ is theoretically grounded in various work environmental theories, such as the JD-R model (136).

A conceptual model for study IV, with the predicting COPSOQ III scales, is shown in Figure 7.

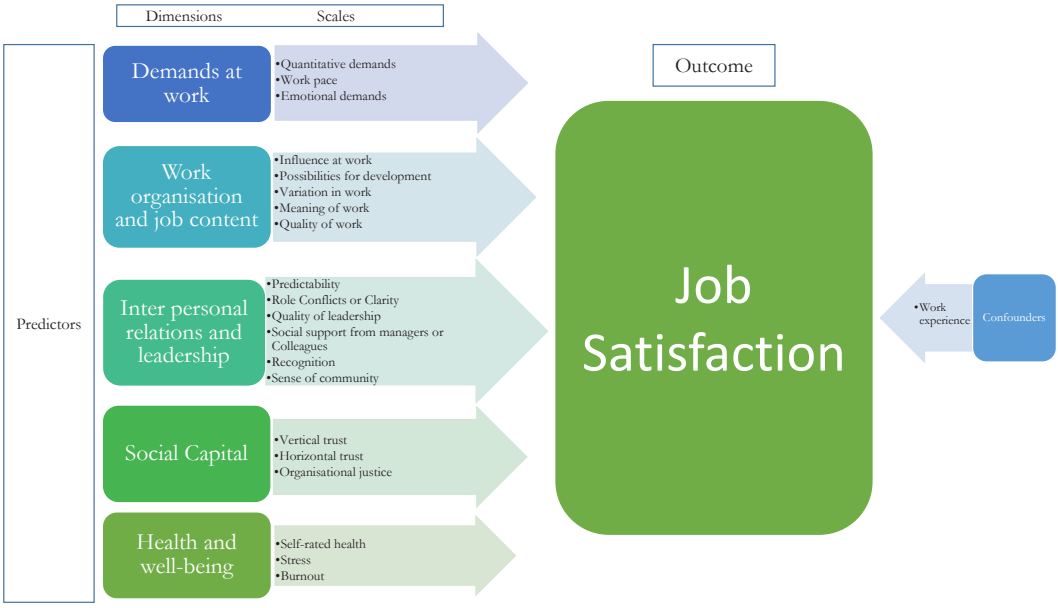

Figure 7. Conceptual model of the multivariable regression analysis with the outcome job satisfaction. Own figure.

The COPSOQ II instrument was used in the national survey with an additional scale for measuring the quality of work. In our previous research, quality of work was found to be important for job satisfaction. This addition was performed after a dialog with the Swedish COPSOQ developers because COPSOQ III was under validation and we wanted to use it in the follow-up study. In the analysis, we modified COPSOQ II into COPSOQ III according to the Swedish COPSOQ guidelines and through a dialog with Berthelsen (138) to be able to compare midwives' responses with Swedish reference values, which are only available for COPSOQ III.

Variables

The outcome - job satisfaction

The outcome variable job satisfaction was measured on a four-item COPSOQ III scale. The following are the four questions about job satisfaction: Regarding your work in general, how pleased are you with 1) your work prospects?, 2) the physical working conditions?, 3) the way your abilities are used? and 4) your job as a whole everything taken into consideration? The questions were responded on a five-point Likert scale ranging from Very satisfied (100), Satisfied (75), Neither/Nor (50), Unsatisfied (25), to Very unsatisfied (0). In this study sample, the psychometric properties of COPSOQ III were found to be satisfactory (137, 138), and the internal consistency of the outcome job satisfaction was found to be good with Cronbach's alpha coefficient of .82.

Predictors

Description of potential predictors in COPSOQ III for Swedish midwives are listed in Table 1 in study IV. If >50% of the items' responses were missing, the scale measurements were recorded as missing. A conceptual multivariable regression model with the predicting scales is seen in Figure 7. In this study sample, the COPSOQ III scales' internal consistency was analysed with Cronbach's alpha with coefficients ranging from .65 to .89.

Potential confounders

Age and work experience have been found to be associated with job satisfaction and other work environmental factors (139-142). Therefore, they were adjusted for in the regression analyses.

Minimal important score difference

Pejtersen et al. (143) suggested a conventional minimal important score difference (MID) of +/-5 as a clinically noticeable difference for the COPSOQ III scales in addition to statistical significance. The predefined MID of +/-5 between our study sample of midwives and the Swedish reference values for the COPSOQ III scales was analysed to assess the organisational and psychosocial work environment for midwives (138). Berthelsen et al. (138) established Swedish reference values for COPSOQ III scales by using an adult working population in Sweden. A random sample of 2847 and a convenience sample of 1818 gainfully employed people in Sweden, aged 25–65 years, were included.

Data analysis

A statistical analysis plan (SAP) was done by me and was discussed in the research group. The SAP was then reviewed with a statistician before the analyses began.

Statistical analysis

First, the predicting variables were analysed separately in univariable linear regression analyses with job satisfaction as an outcome variable. The assumption of normal distribution and homoscedasticity of residuals, as well as that of linear functional form, was examined by diagnostic plots of the COPSOQ III scales and potential confounders. The univariable regressions were thereafter adjusted for age and work experience as a midwife. Age and work experience were strongly correlated $r = .87$, and work experience had a better degree of explanation. Therefore, only work experience was adjusted for in this and further analyses. In the univariable regression analyses, the full analysis set varied from 1754 to 1911 in the different COPSOQ scales. In accordance with the SAP, significant predicting independent variables ($p < 0.05$), were included in a multivariable regression model, using bi-directional stepwise regression, hence, forward selection and backward elimination. Beta estimates with 95% CI, associated p-value and amount of explained variance R^2 from the univariable and multivariable regression models are reported in Table 3 in study IV. The complete analysis set in the multivariable regression model comprised 1747 midwives.

In the MID analysis, scales were computed as mean of items, and standard deviation was analysed for each COPSOQ III scale. One-sample t-tests were conducted to analyse the difference between the midwives' means and the Swedish reference values as well as to analyse if there was at least a predefined MID between the groups. All tests were two-sided and alpha of 0.05 was applied. The results are presented in Table 4 in study IV. In this analysis, the complete analysis set varied from 1754 to 1911 for the different COPSOQ scales.

3.3 METHODOLOGICAL CONSIDERATIONS

In this sub-chapter I will discuss methodological considerations in relation to the thesis design, reflexivity and the synthesis. Then the strengths and weaknesses of the qualitative studies will be discussed in relation to trustworthiness and the quantitative studies in relation to reliability and validity.

3.3.1 DESIGN AND REFLEXIVITY

The triangulated design of this thesis reduces the risk of one method's weakness and bias, which are counterbalanced by the other methods' strengths (121). The design is suitable for the thesis due to limited research in the specific field of midwives' work situation and professional role. The decision to use multiple methods was based on the complex research questions and the aim to explore the micro level (e.g. individual), meso level (e.g. group) and macro level (e.g. organisational), which cannot be achieved using a single method (120). The research questions determined the design of the included studies (119), and the triangulated methods facilitated a comprehensive understanding of the research field. The different methods have diverse purposes. Qualitative studies explore a field for a deep understanding and can generate a hypothesis, where the strengths and limitations are discussed in relation to trustworthiness. In contrast, quantitative studies test a hypothesis or assess the association between quantifiable variables; the limitations and strengths are discussed in relation to reliability and validity (119, 144).

Investigator triangulation, having the research group's support during the research process, promotes a multifaceted understanding and further hampers a one-sided preconception and enhanced objectivity. Consequently, the risk of interpretation bias is reduced (121). As a researcher, you are usually investigating areas that you are interested in and are connected to. Striving to be neutral is facilitated by being aware of one's preconceptions and preunderstanding. The research areas that evoke strong positive or negative opinions or emotions in the researcher aggravate neutrality. This makes exploring midwives' work situation and professional role during the research process challenging, because I am a midwife myself with 17 years of experience in labour ward care and have professional experience in other areas of midwifery as well. Nevertheless, the previously mentioned investigator triangulation and triangulated design adequately counteract the challenge of one-sided positionality and enhance my awareness and reflexivity. In contrast, my preunderstanding and professional experience have led to a greater understanding of the field being researched and

an awareness of what questions to ask and how to interpret area-specific situations and descriptions.

3.3.2 SYNTHESIS

The synthesised findings comprised both qualitative, mixed-method and quantitative data and combined theories for a theoretical understanding of midwives' work situation and professional role. The results of the individual studies were considered as a whole and had many similarities but also differences that complemented each other and put the result in a larger context in a triangulated design. This improved the trustworthiness and validity of the research findings (120, 121). Triangulation is a way to facilitate the exploration of complex human behaviour and obtain the prerequisites to introduce a cohesive and balanced explanation (121) of the CGT concept of 'what is happening' and 'how are the participants trying to solve it' (130) in the researched filed. The CGT trustworthiness concepts are further discussed below. Interlacing the synthesis with the theoretical framework of salutogenesis and the JD-R model generated a comprehensive theoretical understanding of the complex field of midwives' work situation and professional role. Working in an interdisciplinary research group that combines areas of knowledge, theory and research is not uncommon. However, integration of work environment with professional roles and identities is rare. As the latter is an unusual approach, there might certainly be room for development and improvement of the research process. Additionally, there is a need for further research to deepen the knowledge of the importance of midwives' professional role and identity in relation to the work environment.

3.3.3 QUALITATIVE STUDIES – TRUSTWORTHINESS

In qualitative studies, the strengths and weaknesses are traditionally discussed in relation to trustworthiness and the concepts of credibility, dependability, conformability and transferability (119, 145). Credibility implies confidence in the truth of the research findings and the data, which is dependent on data collection and participants' characteristics. Dependability relates to the stability of the data over time and under different conditions. Conformability is connected to the objectivity and interpretation of data and the possibility of transferring the results to other contexts.

However, in CGT, trustworthiness is expressed by *fit, relevance, workability* and *modifiability* (127). *Fit* indicates how closely indicators, concepts and theory fit with the problem they are representing and whether the CGT analysis steps have been adhered to. In addition, the generated theory can be justified on the basis of the fit (127). A possible limitation in the deductive process of the analysis is that selective coding, with the search for indicators that support the main concern, might be characterised by the researcher's preunderstanding. If a main concern emerges prematurely, by forcing the data, the researcher might be overlooking the real main concerns that are of greater importance to the participants in the study. Investigator triangulation moderates this eventual limitation. Furthermore, I strived to be attentive not to force data and to use a constant abductive comparison process. Nevertheless, one can question whether abstractions can be solely derived from data and emerge without any form of interpretation based in preunderstanding. This means that it is of utmost importance that a researcher is aware of one's preconceptions and enhances reflexivity. *Relevance* is related to whether the study deals with the real concern of the participants and whether it evokes 'grab' and is not solely of academic interest. This was sought by presenting and discussing the results in seminars, conferences and with clinicians in the field, which confirmed the results. As an example, the theory of attained professional courage to create a pathway within midwives' fields of work evoked recognition by clinical colleagues when presented prior to publication. *Workability* determines whether the theory explains how the participants solve the main concern and, consequently, the theory works. The emerging theories in this thesis conceptualise how the participants solve their main concern. In study I, the focus group interviews were conducted at a single hospital, and the transferability of veiled midwifery and the unveiling strategies might need to be further explored in other contexts. In study III, an expansion of workplaces was sought to include participants from different labour wards and organisations of care to increase transferability to other contexts. Five different labour wards were represented in the Västra Götalands region in Sweden, which provided and facilitated a more general understanding of salutogenic health-promoting facilitative conditions for midwives' work situations in labour wards. In the synthesis midwives had to attain a professional courage to maintain a meaningful work in a strained context. *Modifiability* means that a theory can be modified when new relevant data emerge and a theory is not to be considered definite (127).

Given that coding and abstractions are the starting point for theory generation in CGT, one can argue whether the process is objective. Coding and naming concepts will presumably be influenced by the researcher's preunderstanding acquired through previous experiences and the researcher's profession, as expressed by Glaser (125, 130). However, Glaser indicated that the researcher must strive to be neutral in relation to what is being researched (129).

Nevertheless, one might wonder whether this is actually possible in inductive and abductive processes. In this reasoning, one can regard the theory generated as constructions of reality characterised by the researcher's restrained subjective interpretations of the data. The analysis process can therefore be viewed as having ontological roots in both constructivism and positivism, which in turn has led to CGT being criticised for being inconsistent (146). Discussing this with Glaser at the previously mentioned troubleshooting seminar, he maintained his position that CGT is a general methodology free from philosophical and theoretical positions. There was also a discussion about secondary analysis of data in CGT. Glaser stated that 'all is data' and that the deductive process of testing the main concern can be realised by reanalysing the data instead of a continued data collection. Reanalysing was conducted in study I and the synthesis, and continued data collection was conducted in study III.

It is also possible to argue that the use of a different qualitative method can generate a different result. This is because different methods focus on different aspects and are applicable depending on the aim of the study. CGT conceptualises general concepts of human behaviour and their characteristics to generate conceptual theories abstract from time, place and people. Hence, personal quotes are not used. Although the voices of the participants are embedded in the analysis through conceptualisation or as in vivo codes, where the wording of the participants is used as codes. The theory explains how the participants try to address their main concern in the studied substantive area. Meanwhile, for example in the phenomenological hermeneutic method, there is a focus on people and the individual person describes their lived experience. You obtain a deeper description of a delimited phenomenon based on the informants' descriptions, and quotations are commonly used (147). As the purpose of this thesis relates to multiple areas in midwives' complex psychosocial and organisational work situation and professional role, CGT was considered a more appropriate method.

3.3.4 QUANTITATIVE STUDIES – RELIABILITY AND VALIDITY

In quantitative studies, the strengths and weaknesses are traditionally discussed in relation to reliability and validity. The concepts are used to assess and evaluate the quality and accuracy of the method being used (119, 135). In study IV, the validated and well-used COPSOQ instrument was used, as it is a comprehensive instrument developed to assess the organisational and psychosocial work environment (136). Reliability refers to the consistency and stability of a measure and the consistency between items. The reliability of an instrument is often tested

using internal consistency and Cronbach's alpha coefficient. In study IV, the internal consistency of the outcome job satisfaction was found to be good, with Cronbach's alpha coefficient of .82. The internal consistency of the potential predictors in the COPSOQ III scales had Cronbach's alpha coefficients ranging from .65 to .89. Ideally, these values should be above .70, although values over .50 are also acceptable to be used for Cronbach's alpha test; otherwise, a mean inter-item correlation would have been more appropriate (148). Cronbach's alpha values are sensitive to both high and low numbers of items included in the scales. Most scales with less than 10 items have low Cronbach's alpha coefficients, while Cronbach's alpha values >.90 indicate items with a large overlap in a scale (148, 149). This sensitivity calls for caution when interpreting the coefficients and being observant of the number of items in the scale. A small number of items indicated the predicting scales in COPSOQ III that did not meet the criteria of .70 in study IV. However, the Cronbach's alpha values were all over .50.

Validity refers to the degree to which a test can measure what it is intended to measure. A high validity represents a result that is close to the true value (119, 135). The COPSOQ III instrument used in study IV has satisfactory psychometrical properties and is a validated instrument (137, 138). The concept of validity is often evaluated according to the sub-concepts internal and external validity (119, 135). Internal validity is defined as the degree to which a measure is correct for the group and a context that is being analysed. Internal validity depends on a high-quality research design, eliminating systematic errors and bias. Using validated questionnaires, as in study II and IV, increases the internal validity (144). Confounding factors are an additional threat to internal validity, which indicate confusion or mixing of the effect of predictors and the outcome with other variables, leading to a bias result (134). In study IV, confounders were adjusted for in the linear regression analyses. As previous research on midwives' job satisfaction and work environment identified age and work experience to be associated with both the work environmental factors and job satisfaction (139-142) they were controlled for in the regression analysis. Initially, the predicting independent variables were analysed separately in univariable analyses, which were adjusted for age and work experience. Age and work experience were found to be strongly correlated ($r = .87$), and work experience had a better degree of explanation. Therefore, only work experience was adjusted for in this and further multivariable analyses.

However, good internal validity is less important if the study results cannot be compared with previously obtained results. This leads us to determine the importance of external validity and generalisability (i.e. whether the results can be applied to individuals who are not included in the existing study) (135, 144). To avoid sampling bias, it is important to consider how representative the included

sample is in relation to the total population. The main strength of study IV is that it is a nationwide sample of midwives with a diversity of participants' workplace, age and work experience, which promotes the generalisability of the results. Selection bias threatens the external validity (119, 144) and cannot be completely ruled out in study IV, due to the possible differences between midwives who are members and non-members of the included unions. Selection bias can be considered a weakness in study II because MiMo was tested in a single labour ward on few midwives. However, it was a total sample of midwives at that ward, yet the generalisability needs to be confirmed in further research.

During the data collection in Study IV, 502 midwives reached out to me, through e-mail, social media, telephone or in person, because they did not meet the inclusion criteria or had not received an invitation. It can only be assumed that they represent a minority and that many midwives with similar problems did not reach out to me. This can be seen as a participation bias or a non-response bias (134, 135).

Study IV is a cross-sectional study; further longitudinal research is required to enable causal assumptions. We have ethical approval to carry out a follow-up study on midwives' psychosocial and organisational work environments and thereby prerequisites for establishing causality regarding multiple factors in midwives' work situation.

3.4 ETHICAL CONSIDERATIONS

A researcher must always consider the benefits and potential risks of conducting a research project for the participants or others who may be affected (150, 151). This is in line with the ethical codes and principles that globally regulate midwives' work in addition to the local laws and regulations, such as doing no harm, preserving autonomy, the principle of justice and doing good (152). The benefit of this project lies in the generation of new knowledge about health and risk factors linked to midwives' work situation and professional role. The identification of risk factors can lead to preventive measures to improve the existing work situation. Knowledge of salutogenic factors can improve health promotion in the workplace. The potential risk of participating in the studies included in this thesis is that reflections on factors in the work situation can create stress and anxiety among the participants. Overall, the research group believed that the benefits of the project outweighed the risks that could arise with reflections on factors in the work situation.

All studies I-IV, were designed and conducted according to the World Medical Association Declaration of Helsinki, with its ethical principles for medical research involving human subjects (150, 151). In agreement with the Helsinki principles that projects involving humans should be examined by an independent ethical review committee, ethical approval was obtained before conducting any of the studies in this thesis.

The Ethics Committee in Gothenburg, Sweden, approved studies I and II in December 2014 (no. 840-14). All participants received written and oral information about the studies aim and design and gave informed consent in advance of the interviews and before answering the survey. The participants were informed that the participation was voluntary and that they could withdraw from the studies at any time without explanation; moreover, they were ensured confidentiality throughout the research process. The qualitative analysis in studies I and II was a secondary analysis of focus group interviews (153, 154) collected in the MiMo project, which can be ethically problematic if the research questions are vastly different. However, the research questions were closely related to the original research questions, focusing on midwives' work situation instead of their role in woman-centred care and usability of MiMo in practice. According to Long-Sutehall et al. (154) secondary analysis is a sufficient way of using already gathered data and is a valid approach in its own rights. Studies I and II were part of the MiMo project but with an independent focus on midwives' work situation and professional role.

Studies III and IV were approved by the Swedish Ethical Review Authority, Department of Umeå in 2019 (Dnr 2019-03776). All participants were assured of confidentiality and anonymity. In study III, informed consent was obtained for participation, and the participants were informed that the interviews would be recorded, transcribed and analysed by the research group. All participants had the opportunity to decide the time and place of the interview. In study IV, the unions' Swedish Association of Midwives and the Swedish Association of Health Professionals sent out individual survey links to the registered e-mail addresses of all midwives. The unions sent out three reminders to the participants during the data collection period of 4th February to 20th April 2020. These unions organise a majority of unionised midwives in Sweden and have access to the midwives' e-mail addresses. Personal information, such as e-mail addresses, was difficult to obtain after the general data protection regulation was applied in 2018. Due to the stated regulation, we decided to include midwives through the unions. The participants gave informed consent digitally before taking part in the survey. The research did not aim to affect the research subjects either physically or mentally.

The collected materials in studies I–IV were coded, analysed and abstracted at the group level to ensure that no individual participant could be identified in the results. The original data, consent forms and databases were stored according to general data protection regulations (EU) at the Institute of Health and Care Sciences, Sahlgrenska Academy, University of Gothenburg.

4 RESULTS

This chapter first presents a result summary of the individual studies I–IV and then a subsequent generic theoretical model for understanding job satisfaction in relation to the theoretical framework, salutogenesis and JD-R. In the last section, the synthesised results of studies I–IV are interlaced with the generic model for a theoretical understanding of midwives' work situation and professional role.

4.1 SUMMARY OF RESULTS OF THE INDIVIDUAL STUDIES I–IV

In study I (155), assistant nurses', obstetricians' and managers' (n=27) perceptions of midwives' work in a labour ward were explored. Through the analysis, an explanation of the social processes between the professionals emerged as the substantive theory of *veiled midwifery*. Midwifery was perceived as a solitary profession that was veiled from the other professionals, and the midwives were perceived as *marching to their own drum*. They were viewed as working dissimilarly, with different capacities to collaborate with the surrounding team. They were also seen as safeguarding their professional field of normality and balancing the pathological approach in the prevailing medical model of care. When the midwives marched to their own drums, the other professionals felt excluded from the midwifery field, which created feelings of frustration and loss of control among them. To handle the way midwives marched to their own drum, the other professionals used unveiling strategies: *scrutinising, streamlining* and *collaborating admittance*. These strategies were related to the indicators of midwives marching to their own drum: *safeguarding, working dissimilarly* and *non-collaborating*. When midwives safeguarded their work, they were scrutinised and assessed by the other professionals. The second unveiling strategy, streamlining, was an attempt to streamline midwives' work in a more coherent manner, and the strategy was a response to midwives working dissimilarly. The final strategy was used to achieve a collaborating admittance due to their experience of midwives' different abilities to collaborate with the team around the birthing woman. The unveiling strategies, in some cases, led to resistance among the midwives, thereby strengthening the way they marched to their own drum. The other professions were thereby back to square one, and the unveiling processes were started all over again. All professionals co-existed in a strained context, which was depicted as a *baby factory* with an assembly-line principle with high throughput of birthing women and their families. The baby factory is a strained context with high demands, conflicting

objectives regarding the organisation of labour ward care and a work situation that was described as untenable.

Study II (133) adopted a longitudinal mixed-method design to explore midwives' work situation and professional role in a labour ward pre and post the implementation of a theoretical midwifery model of care (MiMo). Focus group interviews were conducted with 16 midwives and 58 midwives answered a survey, both data collections were done pre and post the implementation. The results showed that the midwives experienced a strained work situation both pre and post MiMo, characterised by not only a great commitment from the midwives but also a feeling of being insufficient in terms of meeting the high demands set by the organisation. The midwives experienced discrepancies between their high-standard goal of care and their possibilities to provide that care in the strained work context with a lack of organisational resources. There was also a lack of support for the supporter; that is, the midwives and the work environment were described as stressful. The midwives had a feeling of general lack of time to be able to provide qualitative care and to have a sustainable work situation. MiMo was experienced as an aid in focusing on the important aspects of midwifery. However, midwifes could not work completely according to the model because of the strained work situation. MiMo promoted a conceptual view of the midwifery profession and increased awareness of midwives' professional role, and provided an opportunity to verbalise midwifery knowledge. MiMo created a balance between midwifery and the organisation and enabled a focus on normality, woman-centred care and midwifery skills, in contrast to a more pathological perspective and medical focus.

In study III (156), 12 midwives from different labour wards were interviewed face-to-face about the health-promoting and positive factors in their work situation. The substantive theory of attained *professional courage to create a pathway within midwives' fields of work* emerged during the analysis and involved a four-stage process. The first stage entailed contextual prerequisites, where midwifery was visualised and there were organisational resources in a reflective and learning environment. When the contextual conditions were fulfilled, the midwives had the prerequisites to work according to best-known midwifery theory and practice. Then, in the second stage the *feasibility of working as a midwife* was attainable. In the third stage, the midwives could focus on their professional domain; develop a grounded knowledge and professional identity. In the fourth stage, they attained *professional courage*, which was seen as a resistant resource that made it conceivable to create a pathway within midwives' fields of work, which extended between physiological and medicalised births and being autonomous and regulated. The professional courage enabled the midwives to become resilient to the unpredictable work situation and to practice midwifery as an autonomous

midwife with a focus on normality rather than working as a medicalised obstetrical nurse. However, the first stage's facilitative health-promoting organisational conditions: *visualising midwifery*, *organisational resources* and a *reflective and learning environment* needed to be fulfilled to attain professional courage and a sustainable work situation for midwives.

Study IV was a nationwide cross-sectional web survey of midwives' assessment of their organisational and psychosocial work environment and predictors of job satisfaction. The COPSOQ III instrument was used in this study. A multivariable regression model (n=1747) with 13 predictors was found to explain 65% (R^2 = .654) of the variance in midwives' job satisfaction (Table 3 in study IV). Possibilities for development, quality of work, recognition, influence, vertical trust, sense of community, meaning of work, quality of leadership, variation of work and self-rated health were positively associated with job satisfaction. In contrast, role conflict, burnout and emotional demands were negatively associated with the outcome. The first five predicting variables (Table 3 in study IV) explained 63% of the variance in midwives' job satisfaction (R^2 =.626) and were primarily focused in study IV. When analysing a predefined minimal important score differences (MID) between the midwives' results and Swedish reference values, the midwives differed in eleven scales (Table 4 in study IV). Midwives had a negative difference reporting a higher mean difference in quantitative demands, work pace, emotional demand, role conflicts as well as burnout and lower organisational justice, self-rated health, influence and recognition at work. However, variation and meaning of work showed a positive mean difference compared to the Swedish reference values.

4.2 INTEGRATION OF A GENERIC THEORETICAL MODEL FOR UNDERSTANDING JOB DEMANDS AND RESOURCES IN RELATION TO JOB SATISFACTION

In the Handbook of Salutogenesis (104), Gregor et al. (63) presented two models of the application of salutogenesis to work, which relate to job demands and job resources. The models integrated the salutogenic theory in a work context (103) with JD-R (100, 122) in relation to a health continuum (63). Job resources are described as part of GRRs and job demands are described as part of GRDs (63). I modified and expanded Gregor et al.'s theoretical model to understand job resources and job demands in relation to a job satisfaction continuum (Figure 8). My theoretical model can be seen as a generic model in which any demand and resource can be inserted to explore the work environment for different professionals. The model is useful to explore salutogenic motivational processes and work situation resources in addition to the demands and pathogenic impairment processes (63, 100) in relation to job satisfaction.

Antonovsky made a distinction between the elimination of demands and the development of facilitating resources that enhance positive job characteristics and motivational processes (89, 103). The former originated from a risk factor approach, while the latter originated from a salutogenic approach. The salutogenic theory emphasises organisational prerequisites for the employer to perceive a coherent work situation and a strong SOC (103). SOC is a global orientation based on cognitive, behavioural and motivational dimensions that reflect the interaction between an individual and the environment. A strong SOC is positively related to job satisfaction, intention to stay and job commitment (6). Employees with a strong SOC can handle strain in a work situation in a more sufficient manner (157), which can also lead to reduced work-related stress (158). This in turn can promote motivational processes, buffer health-impairment processes (63) and balance the work situation demands (100).

For employees to have a coherent work experience and perceive job satisfaction, Antonovsky (103) emphasised consistency, underload–overload balance and decision-making opportunities for employees (159). These organisational factors provide prerequisites for building a strong SOC, which supports the employees' perception of a comprehensive, manageable and meaningful work environment. A coherent work experience moderates how demands are perceived, if they are experienced as stressors that induce tension or as challenges that can be managed.

The salutogenic theory emphasises that organisational and motivational factors, such as social support and autonomy, are required to access GRRs. In contrast, GRDs such as work overload or time pressure inhibits the availability of GRRs and the feeling of having a coherent work experience (63). The employers' ability to provide organisational prerequisites and to cope with the demands can determine their position on the job satisfaction continuum. Job satisfaction can enhance the resources and perception of a coherent work situation and provide successful coping with demands. However, demands can diminish access to resources, reduce coherent work experiences, and job satisfaction in a reciprocal relationship (Figure 8).

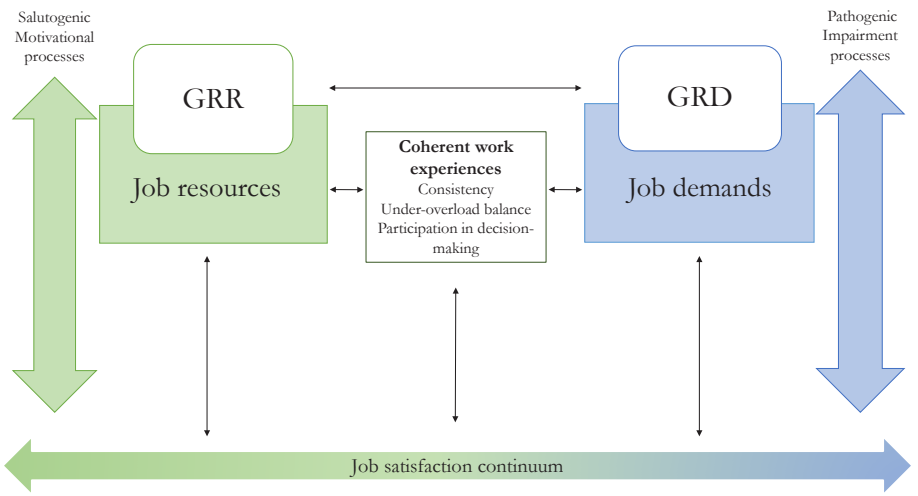

Figure 8. Theoretical model for understanding job demands and job resources in relation to job satisfaction. Own figure modified and expanded after Gregor et al. (63).

After an in-depth study of the salutogenic theory and the JD-R model, it was evident that they share a common understanding framework of how challenges in work life affect the motivational and impairment processes as well as job satisfaction. A salutogenic pathway is presented on the left-hand side of the figure: the motivational processes. On the right-hand side, a pathogenic pathway with demands and impairment processes is visualised. The pathways are in a reciprocal relationship with the job satisfaction continuum as well as intertwined with the employee experiences of a coherent work situation (figure 8). In my model, job resources and job demands (100, 116) are interpreted as part of Antonovskys GRR and GRD (7, 106) which is consistent with Gregor et al.'s (63) interpretation.

4.2.1 A THEORETICAL UNDERSTANDING OF MIDWIVES' WORK SITUATION AND PROFESSIONAL ROLE

The theoretical model presented in the previous subchapter is used as a foundation for the synthesis of the results in studies I–IV. '*Professional courage to maintain a meaningful work in a strained context*' (Figure 9) is a model for theoretically understanding midwives' work situation and professional role. The model can be supplemented with new knowledge about midwives work situation, which can be integrated when new research results emerges. This model explores the job resources, the salutogenic motivational processes (on the left-hand side) and demands and the pathogenic impairment processes (on the right-hand side) in midwives' work situation and the impact the processes might have on midwives' job satisfaction continuum (Figure 9).

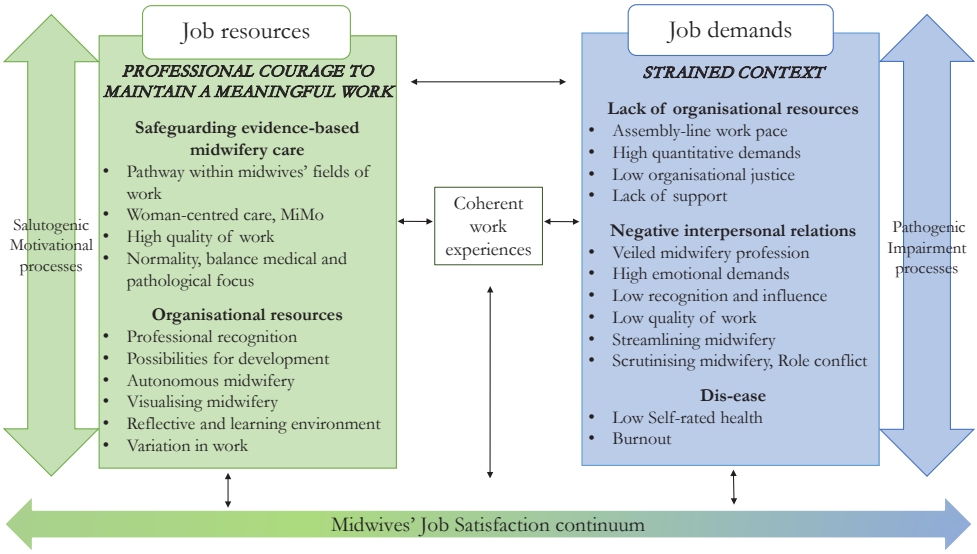

Figure 9. Professional courage to maintain a meaningful work in a strained context. A model for a theoretical understanding of midwives' work situation and professional role. Own figure for synthesised results, model expanded and modified after Gregor et al. (63).

4.2.2 JOB RESOURCES

Theoretically, job resources are part of midwives' GRRs, which enhances the motivational processes and allows for a coherent work experience. Having a '*Professional courage to maintain a meaningful work*' emerged as a central resource during the analysis of the results of studies I–IV, which is indicated by '*Safeguarding evidence-based midwifery care'* and having '*Organisational resources'*.

Midwifery work was found to be greatly meaningful for midwives, as described in all studies I–IV. Having a meaningful work is a health-promoting facilitating condition in relation to midwives' work environment. In this thesis, meaning of work showed the largest positive difference between the midwives and the Swedish reference population, where the midwives estimated their meaning of work significantly higher. Meaning of work was also found to predict job satisfaction. Maintaining a meaningful work required professional courage to safeguard evidence-based midwifery and normality, the professional domain of midwives as an autonomous profession with a unique area of expertise and knowledge. Safeguarding evidence-based midwifery care implies that the midwives strived to preserve normality, have a holistic view of their work, and shield the normal physiological birth process. The midwives strived to clarify their professional role in the organisation and in relation to other professionals and to be able to work as professional midwives. MiMo, as a theoretical model of woman-centred care, had potential to strengthen midwives' professional role and midwifery practice. The visualisation of the midwifery profession was needed both in practice and in the organisation for midwives to perceive job satisfaction and to have a clear and distinct professional role. The midwives expressed that working woman-centred according to MiMo was perceived as a resource, as well as a way of balancing and dissolving the pathogenic focus and medicalisation in care. One desirable way of working woman-centred was providing continuous support and one-to-one care. The midwives had to find a pathway within their fields of work, and hence the professional domain and area of expertise. The pathways extended over a continuum of working autonomously with normal physiological processes, to handling medicalised births, which required collaboration with obstetricians and being more regulated.

The organisational prerequisites that were seen as resources included having the feasibility of working as an autonomous midwife, not as a medicalised obstetrical nurse. This required a visualisation of the midwifery profession and professional recognition, where the midwives had influence over their work and work situation. In addition, the influence contributed to the midwives' room for manoeuvre and promoted their ability to manage their work environment. Another organisational resource was having a reflective and learning environment that facilitated the development of professional skills, knowledge and a deepening

of the professional identity. Having possibilities for professional and personal development and variation in work were predictors of job satisfaction. The midwives reported a higher variation in their work compared to a Swedish reference population.

4.2.3 JOB DEMANDS

In contrast to the resources with salutogenic motivational processes, job demands may lead to pathogenic impairment processes. Theoretically, these demands can be understood as GRDs that can induce impairment processes if not balanced with resources or GRRs. In the synthesis, the demands are conceptualised as a '*Strained context*', indicated by a '*Lack of organisational resources', 'Negative interpersonal relations'* and a '*Dis-ease'*.

Midwives work in a strained factory-like context with a lack of organisational resources and an assembly line work pace, with a high throughput of women seeking midwifery care. Midwives were reported to have high quantitative demands in all the studies, with a disproportionate workload in relation to the time available to perform the tasks. The strained work situation hindered them from using MiMo in practice. In addition, midwives reported low organisational justice regarding how tasks and recognition are distributed and how conflicts are resolved. In the organisation of care, there is a lack of support for midwives to be able to work as a professional midwife with a strengthened professional role. Additionally, there was a lack of time to be able to perform high-quality care in line with theoretical midwifery models of care.

Negative interpersonal relations related to the lack of organisational resources included midwives reporting low quality of work. Thus, they perceived that it was not possible to perform their tasks with satisfactory quality. In addition, midwives had low influence and recognition, which contributed to a limited room for manoeuvre that made it more difficult to handle different situations occurring in the work situation. Low recognition means not feeling seen or respected as an employee and as a professional midwife.

Another demand that emerged was that the midwives' professional role was inexplicit. The midwifery profession was perceived as unclear in terms of the midwifery scope of practice. The midwifery profession and the work of midwives were depicted as veiled and unclear by other professions, which evoked role conflicts with inconsistent expectations and demands. Unveiling coping strategies from the organisation and other professionals was streamlining and scrutinising midwifery. Midwives and their work were reviewed, and the organisation and

other professionals strived to structure and streamline midwives' work through memorandums and guidelines to get them to work in a more coherent manner.

The midwives reported notably high emotional demands, with the largest mean difference in relation to the reference population. Emotional demands also generated ethical stress and were negatively correlated to job satisfaction.

A pathogenic impairment process was evident regarding midwives reporting a disease with low self-rated health and high levels of burnout. Working midwives assessed their own overall state of health as significantly lower than that of the working Swedish reference population. Self-rated health was found to predict job satisfaction. In addition, working midwives' measures of physical and mental fatigue and exhaustion (i.e. burnout) were significantly higher compared to the working reference population. Burnout was negatively associated with job satisfaction.

5 DISCUSSION

The results of this thesis form a basis for a comprehensive understanding of midwives' work situation and professional role related to models of care, salutogenic factors and job satisfaction and demands. However, further research is required to deepen the understanding and to establish causality. This chapter first presents a general reflection of the overall results. Then, it addresses the main findings of the synthesis, a meaningful work in a strained context and midwives' professional role in relation to models of care, interlaced with relevant previous research.

To summarise, the synthesis reveals a contradictory strained tensity and imbalance between midwives' job resources and job demands. The main resources included having *professional courage to maintain a meaningful work* and safeguard the professional role and high-quality evidence-based midwifery care. These resources can be seen as GRRs on a micro level (i.e. individual), which influence midwives' job satisfaction. The emerging organisational resources that were important for midwives' job satisfaction included having an autonomous visual professional role that was recognised in a reflective and learning environment. However, these organisational resources were rarely reported to exist. In contrast, the demands conceptualised as a strained context were constantly present, mainly at the group and organisational levels. The midwives worked in a context indicated by a lack of organisational resources with high demands and an assembly-line principle. There were also negative interpersonal relations with an inexplicit professional role, high emotional demands, high role conflicts and low recognition and influence; moreover, the midwives were streamlined and scrutinised. In addition to these external contextual demands, gainfully employed midwives reported a dis-ease with low self-rated health and high levels of burnout.

According to the findings of this thesis, midwives work in a field full of contrasts with conflicting and inconsistent demands and resources, opposing views on care models and professional belief systems. They work behind closed doors, with an invisible midwifery woman-centred care that they are expected to perform but which is still not accepted in the medical care model. To identify a pathway among different paradigms, models of care, professional belief systems and professional roles and power hierarchies, midwives need professional courage and a strong professional identity. These findings are supported by previous research that emphasises the importance of a strong professional identity and autonomy (65, 66). However, further research is required to deepen the understanding of midwives' professional role and identity in relation to the work environment.

The synthesised theoretical understanding of midwives' work situation and professional role indicates that midwives not only experience promoting facilitators (i.e. resources in their work situation) but also high demands. This suggests that a salutogenic perspective is relevant in addition to the traditional risk factor's focus when exploring midwives' work situation. The salutogenic approach and what it is that facilitates occupational health have also been requested by reviews about midwives' work environment (51, 68). Midwives perceive their work as highly meaningful; in addition, professional courage and a clear and visual professional role are important resources in the synthesised results. The resources make it feasible to work as a midwife and perceive a coherent and consistent work situation with an under–overload balance, as well as have the opportunity to participate in decision-making, emphasised by the salutogenic theory as vital for a sustainable work life (103). Midwives' recourses mainly originate from internal and individual GRRs, as not only safeguarding midwifery but also strengthening the midwifery profession to maintain meaningfulness in their work. Meaningfulness promotes salutogenic motivational processes and enhances midwives' job satisfaction. Meaningfulness can also be interpreted as a requirement that leads to stress, which needs to be explored further in future research.

However, the health-promoting resources identified in this thesis are challenged by the high demands, which are mainly derived from external GRDs, at the group and organisational levels, with a lack of organisational resources, negative interpersonal relations and indicators of dis-ease in a strained work context. Consequently, the main pathogenic impairment processes and demands are largely beyond the control of midwives, as they originate from the organisational environment and negatively affect their job satisfaction. This is in line with the results obtained by Brauchli et al. (160) who proposed that job demands are strongly dependent on factors in the organisational environment (160). Accordingly, it is reasonable to assume that the high demands in midwives' work situation apply to other professions that are involved in the same healthcare. However, high demands in midwives' work situation can be problematic due to the disproportion between tasks that must be performed and the time available to perform them with satisfactory quality and safety. An alternative interpretation of the result can be that midwives have high demands on the quality of the care they would like to provide. However, then we must ask ourselves if women giving birth in Sweden in 2021 should not be offered high-quality midwifery care defined by the midwifery profession?

Despite the contradictory strained tensity and imbalance between midwives' job resources and demands found in the synthesised results, midwives seem to have a tenacity in their pursuit of professional courage and meaningfulness in their

work. However, the work environment to which midwives are exposed does not facilitate professional courage or the prerequisite organisational resources. According to the findings of this thesis, organisational prerequisites are essential to facilitate and strengthen the midwifery profession and promote a sustainable work environment and work life for midwives. In addition, it enables retention of midwives in the profession and does not impoverish the unique professional competences and skills in midwifery that are required for sustainable evidence-based safe woman-centred care.

5.1 A MEANINGFUL WORK IN A STRAINED CONTEXT

Having a clear and distinct professional role and being able to work as a professional midwife created a meaningful work, which emerged as vital resources in midwives' work situation, even enhancing the motivational processes. The professional role is further discussed in the next sub-chapter. Meaningfulness was seen as a health-promoting facilitating condition that additionally predicted job satisfaction. Midwives expressed a meaningfulness in their work in all studies and assessed their meaning of work significantly higher than the Swedish working reference population. Meaning was found to have the largest positive mean difference of all measured scales in the organisational and psychosocial work environment. Perceiving meaning in work gives midwives a commitment and facilitates a coherent work experience, which may balance the high demands and strained work context. However, the lack of organisational resources and assembly line principles aggravates the manageability to perform high-quality evidence-based midwifery care. This is in line with the results obtained by a study of Swedish nurses who assessed their work as considerably meaningful but difficult to manage (161). Having a meaningful work corresponds to an integrated review of midwives' job satisfaction (68), which emphasises making a difference and being of use. In the search to understand why midwives stay in the profession, it was found that love for the profession, supportive colleagues, making a difference, being with the woman and passing on midwifery skills and knowledge to junior colleagues are important factors (162).

Meaning is one of the salutogenic core concepts that is an original force in life that is health promoting (163), which also enhances the motivational processes (63). Nevertheless, the synthesised results indicate that work engagement and meaningfulness can play a two-fold role for midwives, inducing both motivational and impairment consequences depending on how coherent the work experience

is. Meaningfulness is an SOC component that is an important personal resource (108) that contribute to strengthening well-being and an ability to handle stressors in the work situation (89, 104). A strong SOC in midwives have been found to lead to less work-related stress, and SOC is a determinant for health (158). If the employer provides employees with a resource facilitating work environment, it supports the building of a strong SOC, which in turn enhances the job resources (164). This is in line with the JD-R model, where job resources are considered to play a buffering role in relation to the work situation demands (122). The ability to utilise the job resources makes a coherent work experience feasible (104) for midwives, which in turn will determine the position on the job satisfaction continuum. Therefore, one may conclude that the salutogenic motivational resources of having a professional courage to maintain a meaningful work in addition to facilitating organisational resources is great determinants of job satisfaction in the synthesised results. However, perceiving a coherent work can be aggravated by the high demands and strained work situation, which can impair motivational processes. In addition, having high job engagement and insufficient organisational resources, as in the synthesised results have previously been found to contribute to exhaustion and burnout for both midwives and nurses (165, 166). In contrast, job engagement can be interpreted as a contributing factor to self-criticism and a feeling of being insufficiently connected to midwives' high-standard goal of care. According to our results, having these high demands on oneself while feeling unable to fulfil them is challenging.

The midwives in all four studies were found to have high emotional demands, which is supported by previous research about midwives' emotional work and emotional well-being (167, 168). Emotional demands were the scale with the largest mean difference compared to the reference population and were negatively associated with job satisfaction. Midwifery work could be interpreted as inherently emotionally demanding, which requires midwives to distinguish the professional role from the private persons, being empathic while distancing themselves. It can be a difficult balance to show empathy while maintaining a distance in order not to internalise the emotional demands. High emotional demands in midwifery have previously been described (167, 168), and the midwifery profession is known to be inherently emotionally demanding.

It is alarming that gainfully employed midwives reported significantly lower self-rated health than the working Swedish reference population, since low self-rated health has been shown to be an independent risk factor for morbidity and mortality (169, 170). Having good health can be seen as a fundamental precondition for midwives' ability to reach their full professional potential and being able to provide evidence-based safe midwifery care. In addition, in this thesis, working midwives reported higher levels of burnout than the reference

population. It can be assumed that high levels of burnout affect aspects such as motivation, quality of the performed care and patient safety. Our results are in line with those obtained by previous international studies that demonstrated high burnout levels among midwives (48, 53, 57, 166, 171-173).

In this thesis, midwives were found to work in a highly strained context with an organisational and psychosocial work environment characterised by high demands and low control. These results are supported by previous research on midwives' work environment (52-54). When exposed to high demands at work a strong SOC can generate the ability to use one's resources and minimise the stressors at hand (89) and can be seen as a personal resource to reduce work strain (6). An individual with a strong SOC perceives work life as comprehensive, manageable and meaningful (7) and strives to be motivated (meaningfulness), to believe that the stressors can be understood (comprehensibility) and to recognise which resources are available and use them to cope (manageability) (89). Employees with a strong SOC can handle emotional job strains better (157); a strong SOC leads to less work-related stress and is a determinant of health (158). However, SOC is not solely relevant in relation to demands; it also plays an important role in the motivational process with job resources and job satisfaction. Job satisfaction is, according to the JD-R model, related to work engagement, influencing productivity and the quality of work (118). Can midwives cope with a strained work environment due to a high SOC? This is an interesting hypothesis to be analysed in future research.

Having resources in the work situation has been presented as balancing the demands of the JD-R model (100). The question is whether a meaningful work is sufficient to counterbalance the high demands present in the highly strained context. As demonstrated in this thesis and presented previously there is substantial evidence that midwives' work environment is strained and that there is a lack of psychosocial and organisational resources. However, this thesis adds new knowledge about facilitating resources, as midwives perceive a meaningful and varied work. In addition, it emphasises the importance of a clear and recognised professional role, which is further discussed in the next sub-chapter in relation to models of care.

5.2 MIDWIVES' PROFESSIONAL ROLE IN RELATION TO MODELS OF CARE

As presented in studies I–IV and in the synthesis, midwives' work environment is a complex multifactorial organisational and psychosocial context that can affect midwives' professional role and work. Crucial factors include being able to work as a professional midwife with a clear and visual professional role with possibilities for development, being recognised, having prerequisites for an evidence-based high-quality midwifery care and not working as a regulated obstetrical nurse. A theoretical midwifery model of care, such as MiMo can be a tool for strengthening the midwifery profession and its autonomy. These results are supported by a recent study that found midwives' job satisfaction to be associated with having the possibility to work according to the full scope of midwifery practice (174).

The results of this thesis present a contradictory strained tensity between different concepts in midwives' work situation. The concepts are in contrast to each other and pose a challenge for the midwifery profession and the work environment. The contrasting concepts with contradictory logics include resources—demands, salutogenic—pathogenic models of care, woman-centred care—a streamlining over-medicalised context, ethical stress—value conflict and competing objectives between midwifery ethical standpoints and the medical organisation of care.

First, we found an imbalance between the perceived resources and demands. Thus, the midwives had a strained work situation with a high work pace and reported a dis-ease, which is discussed in the foregoing sub-chapter. These results agree with those obtained in previous research about midwives having insufficient work resources (51, 52) and reporting high levels of burnout and work-related stress (48, 50, 53-55, 57, 58, 166, 175). The Swedish Work Environment Authority (13, 14) reported that the Swedish work environment is not gender-equal. Female-dominated work has inferior prerequisites with a higher risk of ill health and job dissatisfaction, leading to excessive physical and emotional stress. This was not found to be related to biology but to the lack of organisational and social factors in the work environment. The Swedish Work Environment Authority stated that the strained work environment, therefore, had to be managed at an organisational level and not at an individual level (13, 14). This is consistent with the results and conclusions of this thesis. A high work pace can be seen as an intensification of work and has historically been known in assembly-line work in industries and factories. However, in recent years, we have seen new areas in which great emphasis is also placed on intensification, for example, in labour ward care. This reasoning is supported by our findings of an assembly-line factory-like context. This development is based on reforms that have been made in the organisation and governance of the public sector with new public management methods for

organising care (176). This includes the use of private business practices with a production-oriented quantity focus to increase efficiency and where production, economy and quantity are valued higher than the procedure and quality of care. This is despite the fact that in the healthcare system, you work with people and do not produce products.

Second, our results revealed prevailing conflicting paradigms and models of care reaching from a salutogenic normal physiological approach to an over-medicalised pathogenic approach. According to our results, midwives can be seen as having a salutogenic focus and a common goal of safeguarding normality and physiological births in care. This approach is in line with the midwifery scope of practice purposed by ICM (4). The salutogenic theory can also strengthen the health-promoting perspective in labour ward care (177). Our results correspond with those obtained for an integrative review about midwives' intention to stay in the profession, which indicated that midwives feel a passion for midwifery as well as protecting normality, which is in line with the professional domain of midwives (68) and working woman-centred (40, 41). The pathogenic approach with an over-medicalisation of care predominantly perceives labour and pregnancies as inherently risky and clinical interventions are routinely used even in normal pregnancies and births. A recent systematic review stated that a risk-based approach is a barrier to working towards evidence-based physiological midwifery care (178). In addition, the centralisation of care in medicalised units in high-income countries led to a power imbalance between midwives and obstetricians, where the latter led to hierarchical decision-making with a risk management focus (178). A Norwegian study found that medicalisation of labour ward care was dominant over other models of care and inhibited the health-promoting perspective (177). The over-medicalisation with too much too soon in primary high-income countries, such as Sweden, with its non-evidence-based interventions in normal pregnancies and births, needs to be restrained. In relation to the two extreme concepts in the organisation of care 'Too much, too soon and Too little, too late' (46), I suggest a classical Swedish 'lagom' i.e. moderate approach, of organisation and models of care. I propose the tentative concept of ***'Just right, Just in time'*** facilitating a high-quality evidence-based midwifery practice and care, with adequate organisational resources. This is a differentiated care from home births to highly medicalised care depending on the birthing woman's needs, which enables the prerequisites for woman-centred (42, 45) one-to-one care and a visualisation and strengthening of the midwifery profession. It means that only intervene when needed (*just right*) and at the appropriate time (*just in time*). The proposed differentiated form of care consists of healthy women's own choice to give birth at home or at a low-risk midwifery-led unit. Women with risk factors or illnesses should have access to a highly medically specialised unit, yet with a preserved focus on the normal physiological process and a promotion

of the woman's health resources. *Just right, just in time* requires major structural and organisational changes. However, it ought to facilitate midwives' salutogenic normal physiological approach, a differentiated care and enhance their work satisfaction, enabling midwives to return and stay in the profession as well as improve outcomes for women and new-born.

Third, we found a contrast between midwives' aspiration towards woman-centred care and the medicalised factory-like context with an assembly-line principle. The context was a barrier when implementing MiMo. Midwives' work was streamlined with guidelines and memorandums to make midwives work in a more coherent manner. Streamlining influences midwifery practice and the general regulations aggravate care based on the individual woman's needs and wishes, in addition limiting midwives' room for manoeuvre. In the synthesis, midwives were found to have a tenacity in attaining a professional courage to create a pathway within their fields of work. Midwives' fields of work extend between working autonomously with normal births and collaborating with obstetricians, when needed, in medicalised births. The professional courage enabled safeguarding of evidence-based high-quality midwifery care. This result is consistent with that obtained by Darling et al. (178), who stated that the promotion of midwifery autonomy and interprofessional collaboration is a facilitator of physiological births and woman-centred care. According to ICM and the Swedish Association of Midwives, woman-centred care is a main goal in midwifery (4, 15). In the Lancet series of midwifery, woman-centred care is described as a philosophy and value basis that every midwife should work according to (9). However, the following question must be asked: Is it possible for midwives to work woman-centred in the dominant medical model of care and in the present work situation? According to this thesis and previous research, a strained work situation inhibits the possibility of working according to a theoretical woman-centred care model, such as MiMo (71). Our results indicate that the prevailing medical model of care in Sweden is not compatible with the current definition of woman-centred care. However, there is a wide variation in how woman-centred care is interpreted in health-care policy documents and by practitioners (41). Brady et al. (41) indicated that it is justified to develop a universal definition. Woman-centred care might also need to be modified and expanded beyond the areas of normal childbirth, one-to-one care and continuity models, as proposed by Carolan and Hodnett (179), for usability in other care models. Further research is required on how woman-centred care can be developed in a Swedish context.

Fourth, because there is no extended understanding of woman-centred care in various contexts, such as the over-medicalised care, mainly prevailing in Sweden, there is a value conflict and competing objectives between midwifery ethical standpoints and the organisation of care. In this thesis, midwives were found to

have an ideal way of conducting their work but were inhibited from carrying it out in an eligible way due to the work situation. This in turn evoked experiences that can be interpreted as ethical stress among midwives. Conflicting ideologies in the organisation have been found to be a source of ethical stress that can aggravate the work situation (30). Ethical stress can also lead to emotional, physical and psychosocial consequences (31, 32). The fragmented medicalised organisation of care has been a reason for not only leaving the midwifery profession but also a dissatisfaction with the professional role and not being able to provide high-quality care, especially for early-career midwives (61). The medical-dominated environment inhibits the ability to work autonomously and to use midwifery knowledge and skills, which leads to midwives feeling disempowered and despondent about their work situation and workplace (180). A Swedish study about ethical dilemmas and moral distress in the health-care system found that there is a conflict between the staff's care-giving obligations and the organisation's regulations inducing ethical stress (181). This reasoning is supported by the findings that moral distress in midwives is mainly associated with asymmetries of power and authority (182). In addition, assertiveness, moral motivation and self-distance are pertinent moral competencies among midwives, which can be related to our results obtained on the importance of a strengthened professional role and midwifery autonomy with room for manoeuvre. To be able to work sufficiently side-by-side, midwives and obstetricians ought to be aware of each other's paradigms and views of birth to be able to work woman-centred and as an interprofessional team around the woman.

Fifth, Sweden is known as one of the countries that provides the safest maternity care. However, our results indicate that midwives pay a high price to be able to provide the said care in the current strained work situation. Midwives have to attain the resource of a professional courage to maintain a meaningful work and safeguard women's rights and evidence-based midwifery care in a strained context with high demands, lack of organisational resources and an over-medicalised model of care. One of the most prominent issues for healthcare organisations is how health promotion programs should be designed, implemented and evaluated to attain both optimal clinical and cost-effectiveness (183). How should the healthcare system best utilise the knowledge that this thesis has generated? A dual perspective with both salutogenic health-promoting factors and risk factors is required in order for organisations and individuals to have prerequisites for a movement towards enhanced health and be able to utilise their resistance resources (63). For midwives to experience a coherent work situation and be able to make use of the GRRs, the workplace should facilitate consistency, underload–overload balance and an ability to participate in decision-making (7). The salutogenic, health-promoting idea assumes that every organisation, workplace and individual has resources that can facilitate a coherent work experience and,

therefore, preserve and develop health and SOC (63). However, then the specific work situations resources and demands need to be identified, which the result of this thesis has contributed to for the field of midwifery.

6 CONCLUSION

Midwives report a great meaning and meaningfulness in their work, although it is of utmost importance to have organisational prerequisites to be able to work according to the full scope of midwifery practice and woman-centred care. Consequently, it is important to have a possibility to work based on the midwifery profession and in accordance with the midwifery profession's area of expertise at an organisational level. Experiencing work as meaningful is a personal resource that can be seen as a protective mechanism in relation to the high demands prevailing in the work environment.

Another resource is having a clear professional role and identity with the attained professional courage to safeguard high-quality evidence-based woman-centred midwifery care. Professional courage is a protective resource that enables midwives to be resistant when dealing with high demands and a strained work situation. In addition, the courage enhances motivational processes and job satisfaction.

However, midwives work in a highly strained factory-like context with high demands, lack of organisational resources and lack of supportive systems. Midwives have high quantitative and emotional demands, high role conflict, low recognition, low influence, low organisational justice and low quality of work. The organisational external demands and the medical model of care have streamlined midwifery work, induced impairment processes and negatively affected job satisfaction. In addition, working midwives report alarmingly high levels of burnout and low self-rated health.

The strained work environment enhances the value conflict and competing objectives between midwifery ethical standpoints and the medical model of organising care, which creates ethical stress.

The current over-medicalisation of midwifery care adversely affects midwives' work situation and professional role. To address this issue, I propose the tentative '*Just right, Just in time'* concept, which states that intervene only when required (*just right*) and at the appropriate time (*just in time*). This ought to be a collective interprofessional and organisational approach and a common goal that enables a balance between physiological birth and over-medicalisation, preventing too much too soon and too little too late.

7 CLINICAL IMPLICATIONS

Given the importance of the unique midwifery profession in sexual, reproductive and prenatal healthcare, improvements in the work environment are key to retaining midwives in the profession, optimising job satisfaction and preventing midwifery skills and professional competence from deteriorating.

The identified resource of a strengthened professional role and the high demands with lack of organisational resources are the main modifiable factors associated with midwives' job satisfaction. This knowledge enables healthcare organisations to provide prerequisites for a sustainable and health-promoting work environment for midwives. This facilitates the possibilities for establishing new policies and regulations to strengthen the midwifery profession, improve the work environment and facilitate a sustainable working life for midwives.

In the national-wide survey conducted in study IV, merely 52% of midwives worked full time. The employers shall adhere to the Swedish Work Environment Authority's regulations, strive for an equal working environment and enable midwives to work full time.

Major structural changes are required in terms of governance, management, organisation and resource allocation in order to influence and improve the work environment and working conditions of midwives. This enables a retention of midwives in the profession and in addition, promote a return of the midwives that have chosen to leave the profession. There does not appear to be a shortage of midwives in Sweden but a lack of sustainable working conditions.

Improved work-related health, job satisfaction and well-being of midwives ought to be cost-effective for employers and generate a sustainable work life for midwives. Moreover, it should add to the provision of safe, high-quality woman-centred care for women and their families.

There needs to be an integration of the knowledge about midwives' professional role and work situation presented in this thesis, in terms of: educating midwives, educating healthcare managers the promoting resource approach in addition to the risk factor preventive approach, present the knowledge to unions, employers and decision-makers. This can enable them to utilise the awareness of health resources and risk factors in midwives' work situation when implementing new policies and regulations in clinical practice to improve midwives' work environment, in accordance with the Swedish Work Environment Act.

8 FUTURE PERSPECTIVES

Further research is warranted in various fields, as major structural changes are required in terms of governance, management, organisation and resource allocation to influence and improve the work environment and working conditions of midwives.

- Analyse midwives' work environment with a deeper focus on the organisational perspective: analysing resource allocation, leadership and organisational structure in midwifery care.
- Identify predictors of ethical stress in midwifery.
- Explore further what the tentative '*just right, just in time*' concept should encompass.
- Develop and implement a '*just right, just in time'* policy and make structural changes in the organisation of care in line with the further developed concept.
- Evaluate '*just right, just in time'* facilitators and barriers and possible effects on the work environment.
- Assess prevalence and predictors of midwives' work-related burnout.
- Assess the prevalence and predictors of midwives' salutogenic health indicators.
- Analyse if a high SOC moderates the effects of a strained work environment.
- Expand the woman-centred care concept for adaptability to different contexts, such as medicalised care.
- Conduct prospective studies to establish causality about midwives' organisational and psychosocial work environment.

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