

DECISION MAKING OF EXPERIENCED MIDWIVES RESPONDING TO OBSTETRIC EMERGENCIES

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Abstract

Obstetric emergencies are a rare event; however, when they occur, experienced midwives if not already present may be summoned to manage the situation until the arrival of the obstetric team. Concerns around sub-standard care in the recognition and management of obstetric emergencies persist. This is in spite of the expansion of and up-dating of clinical guidelines, the development and recommended use of early warning scores (EWS) coupled with yearly mandated, enhanced multi-disciplinary skills and drills training.

In view of the above, the aim of this study was to understand and explain the decision making processes of experienced midwives as the primary responders during obstetric emergencies and to develop a substantive explanatory theory of emergency decision making.

An Interpretivist Case Study design using constant comparative method and analytical strategies that draw from dimensional analysis was adopted. Data collection comprised of a biographical questionnaire, researcher generated video elicitation methods with informal researcher observation as a companion method and document review of local and national guidelines in the management of obstetric emergencies. Participants were seven experienced midwives from 3 NHS Trusts.

Findings suggested that the effect of watching themselves and others in a representational world (videos of obstetric emergencies), triggered the midwives to become self-aware of their own behaviour within the representational world and from their past experiences. Positioned as sitting on the edge of the representational world, conceptualised as the window to the world, they self-regulated their behaviour. First, they positioned themselves relative to others and objects to explain, support and excuse specific decisions and actions. Second, they became the non-diegetic narrator reflectively reconstructing events in the representational world and from past experiences. It is proposed that their retrospective assessment and subsequent understanding of these experiences labelled as the wisdom of hindsight may have resulted in some cognitive reconstruction and modifications of the events within the experiences that favours their position of experienced midwives. These defensive strategies were used to affirm their knowledge, judgement and decision making and **self-guard** their reputation as experienced midwives. Significantly, the midwives were implicitly operationalising their knowledge, judgement and decisions in a way that self-guarded their reputation.

The emergent substantive theory of **self-guarding through a window to the world** extends the notion of positioning, hindsight bias and guarding identities. This has implications for practice and education with respect to how practitioners reflect and learn and the impact of this on patient safety.

Table of Contents

Abstract	<i>i</i>
Tables	<i>vii</i>
Figures	<i>ix</i>
Boxes	<i>x</i>
Midwifery Acronyms	<i>xi</i>
Glossary of Midwifery Terms	<i>xiii</i>
Acknowledgements	<i>xv</i>
Declaration	<i>xvi</i>
Chapter 1 Introduction.....	<i>1</i>
1.1 Introduction	<i>1</i>
1.2 Researcher Interests	<i>1</i>
1.3 Decision Making and Midwifery	<i>4</i>
1.4 The Clinical Issue of Concern	<i>6</i>
1.5 Decision Support Systems	<i>9</i>
1.5.1 Clinical Guidelines	<i>9</i>
1.5.2 Mnemonics	<i>11</i>
1.5.3 Partogram and MEOWS	<i>12</i>
1.5.4 Skills and Drills Training	<i>16</i>
1.6 Structure of the Thesis	<i>21</i>
1.7 Summary	<i>23</i>
Chapter 2 Background	<i>24</i>
2.1 Introduction	<i>24</i>
2.2 Operational Definitions of Decision Making.....	<i>25</i>
2.3 Theoretical Approaches to Examining Decision Making.....	<i>28</i>
2.3.1 Normative Approaches	<i>32</i>
2.3.2 Prescriptive Approaches	<i>32</i>
2.3.3 Descriptive Approaches	<i>34</i>
2.3.4 Naturalistic Approaches	<i>35</i>
2.4 Approaches used in Decision Making.....	<i>35</i>
2.4.1 Analytical Processes	<i>36</i>
2.4.2 Intuitive Approaches	<i>37</i>
2.4.3 Naturalistic Models	<i>40</i>
2.5 Experience, Expertise and Knowledge	<i>42</i>
2.6 Experienced Decision making in (Obstetric) Emergencies	<i>46</i>
2.7 Summary.....	<i>47</i>
Chapter 3 Methodology.....	<i>49</i>

3.1 Introduction	49
3.2 Philosophical Assumptions.....	49
3.3 Theoretical Perspective.....	53
3.3.1 An Interpretivist Approach	53
3.3.2 Pragmatism	54
3.3.3 Symbolic Interactionism.....	57
3.4 Research Approach – Interpretive Case Study.....	61
3.5 Methods Approach	70
3.5.1 Biographical Questionnaire.....	71
3.5.2 Visual Elicitation Methods	71
3.5.3 Photo Elicitation.....	74
3.5.4 Video Elicitation	75
3.6 Developing and Validating the Scenarios for Filming.....	77
3.6.1 Selecting the Scenarios	78
3.6.2: Developing the Simulations	79
3.6.3 Content Validity	86
3.6.4 Methods for Assessing Content Validity	89
3.6.5 Findings from the Panel of Experts	91
Content Validity	91
3.6.6 Predictability of Relationships between Key Decision Variables	92
3. 7 Document Review.....	93
3.8 Data Analysis.....	93
3.9 Strategies for Enhancing Methodological Rigour.....	97
3.9.1 Credibility.....	97
3.9.2 Dependability and Confirmability	102
3.9.3 Transferability	102
3.9.4 Summary.....	103
<i>Chapter 4 Methods.....</i>	<i>105</i>
4.1 Introduction	105
4.2 Ethical Considerations.....	107
4.2.2 Participant Autonomy and Consent Procedures.....	107
4.2.3 Anonymity and Confidentiality	108
4.3 Gaining Access and Case Recruitment.....	109
4.4 Data Generation and Collection	113
4.4.1 Theoretical sampling.....	120
4.4.2 Theoretical Saturation/Sufficiency.....	122
4.5 Data Analysis.....	123
4.5.1 Dimensionalising	124
4.5.2 Differentiation.....	133
4.5.3 Identifying the Central Organising Perspective	146
4.5.4 Integration	147
4.5.5 Conclusion.....	149
<i>Chapter 5 Findings.....</i>	<i>150</i>

5.1 Introduction.....	150
5.2 Representations of the Professional Self	150
5.2.1 The Experienced Professional Self	150
5.2.2 The Expected Professional Self	157
5.2.3 The Preferred Professional Self.....	160
5.3 Balancing Expectations (Contexts in which decisions are situated)	166
5.3.1 Expectations of Childbirth.....	166
5.3.2 Expectations of the Organisation.....	170
5.3.3 Expectations of Simulation	176
5.3.4 Expectations of the Researcher	185
5.4 Strategies for Managing the Expectations (Process of Decision Making)	189
5.4.1 Ruling in/Ruling Out	189
5.4.2 Making Credible (the Escalation)	201
5.4.3 Demonstrating Personal Agency.....	209
5.5 Factors influencing the Representations of the Professional self (Factors influencing their decision making)	230
5.5.1 Working with Others.....	230
5.5.2 Performance Contradictions	237
5.6 Conclusion.....	246
Chapter 6 Discussion.....	250
6.1 Introduction	250
6.2 The Substantive Theory	250
6.3 Identity	256
6.3.1 Self-guarding Representations of Self.....	256
6.3.2 Self-guarding within Organisational Structures	262
6.3.3 Self-guarding within intra and inter-disciplinary Working	266
6.4 A Reflective Space	269
6.5 Position	276
6.6 Self-guarding as a Performance	279
6.7 Reputation Management in a Just Culture.....	280
6.8 Conclusion.....	282
Chapter 7 Reflections, Limitations and Implications	284
7.1 Introduction	284
7.2 Benefits of Applying Grounded Theory Methods	284
7.3 Limitations	285
7.3.1 Practical Limitations.....	285
7.3.2 Methodological Limitations	287
7.4 Implications.....	289
7.4.1 Implications for Learning and Practice.....	290
7.4.2 Implications for Research	295
7.4.3 Conclusion.....	296

References.....	298
Appendices.....	340
Appendix 1 Maternal Mortality Summary of Contributing Factors and Recommendations relevant to this study	340
Appendix 2 Studies on Emergency Decision making.....	344
Appendix 3 Biographical Questionnaire	347
Appendix 4 Content Validity and Complexity of Case Simulations	356
Appendix 5 Placental Abruption Relevance Scale	378
Appendix 6 Septic Shock Relevance Scale.....	379
Appendix 7 Antepartum Haemorrhage Predictability of Relationship Scale.....	380
Appendix 8 Septic Shock Predictability of Relationship Scale	381
Appendix 9 Ethical Approval – University of Brighton	382
Appendix 10 Research and Design Approval Trust X	384
Appendix 11 Research and Design Approval Trust Y	386
Appendix 12 Research and Design Approval Trust Z.....	388
Appendix 13 Participant Information Sheet.....	390
Appendix 14 Consent Form.....	396
Appendix 15: Letter of Invitation	398
Appendix 16: Recruitment Poster	402
Appendix 17: Interview Agenda for the Video Elicitation Interviews	403
Appendix 18: Interview Agenda for Round Two.....	405
Appendix 19 Data Extraction Grid – Antepartum Haemorrhage	406
Appendix 20 Data Extraction Grid - Sepsis.....	409
Appendix 21 Diagram of the Explanatory Matrix	411

Tables

1.1 Definitions of Non-technical skills	18
1.2 Levels of Fidelity	18
1.3 Types of Fidelity	19
2.1 Contested Definitions of Decision Making	26
2.2 Research Approaches to Decision Making	30
2.3 Benner's Novice to Expert Model	43
2.4 Knowledge Classification	44
3.1 Research Design	61
3.2 Perspective of Case Study	64
3.3 Limitations and Challenges of other Methods of Data Collection	72
3.4 Maternal Obstetric Emergencies	79
3.5 Example of Questions and Answers from the Placental Abruption Simulation	85
3.6 Summary of the Research Design	104
4.1 Overview of the Application of the Methods	106
4.2 Characteristics of the Cases	112
4.3 Sources of the Data	114
4.4 Grounded Theory Definitions of Theoretical Saturation	122
4.5 Dimensions and Properties from Round One of Data Collection	129
4.6 Transition to Final Analytical Positioning	131
4.7 Pronoun use by the Midwives	138
4.8 Hypotheses Testing	140
4.9 Interrogation of the 'Stirring-up Emotions' Dimension	142
4.10 Being Watched Dimension	144
4.11 Final Dimensions and their Properties	146
4.12 Development of the Substantive Theory	148

5.1 Experiences of the Midwives	151
5.2 Preparation for Managing Obstetric Emergencies	152
5.3 Clinical Involvement with Obstetric Emergencies	152
5.4 Recent Clinical Involvement	152
5.5 Role in Recent Clinical Involvement	153
5.6 Confidence in Managing Obstetric Emergencies	153
5.7 Areas for Training	154
5.8 Representation of the Attributes of a Experienced Midwife	161
5.9 Escalation Cues and who was Called	197
5.10 Guidelines for the Management of Shoulder Dystocia	217
5.11 Protocol for the Management of Sepsis in the puerperium	225

Figures

Figure 3.1 Design Features for Simulations	80
Figure 3.2 Model of Concealed Placental Abruption	81
Figure 5.1 The Experienced Professional Self	157
Figure 5.2 The Expected Professional Self	160
Figure 5.3 The Preferred Professional Self	165
Figure 5.4 Contextual Factors Impacting on the Midwives Representations of Self and Decision Making	187
Figure 5.5 Strategies for Managing the Expectations	228
Figure 5.6 Factors Influencing the Representations of Self and Decision Making	245
Figure 6.1 Theoretical Model of Self-Guarding	255

Boxes

4.1 Reflection from First Interview	115
4.2 Methodological Memo	116
4.3 Excerpts of Constant Comparative Method	127
4.4 Comparison of the narratives of the midwives'	134
4.5 Trigger Moments from Watching the Videos to Past Experiences	137

Midwifery Acronyms

ABC	Airways, Breathing, Circulation
ALSO	Advanced Life Support Obstetrics
APH	Antepartum Haemorrhage
BP	Blood Pressure
CS	Caesarean Section
CTG	Cardiotocography
DR	Doctor
EWS	Early Warning Score
FBC	Full Blood Count
FHR	Fetal Heart Rate
FSBC	Free Standing Birthing Centre
GP	General Practitioner
HELLP	Haemolysis, elevated liver enzymes, low platelet count (syndrome)
HELPERR	H (Help) E (Episiotomy) L (Legs) P (Pressure) E (Enter) R (Release) R (Roll)
HVS	High Vaginal Swab
IV	Intravenous
MEOWS	Modified Early Obstetric Warning Score
MW	Midwife
NICU	Neonatal Intensive Care
NIPE	Newborn and Infant Physical Examination
NMC	Nursing Midwifery Council
PP	Placenta Praevia
PV	Per Vaginum
PPH	Postpartum Haemorrhage
Resps	Respirations
PROMPT	PRactical Obstetric Multi-Professional Training
Sats	Saturation

SCBU	Special Care Baby Unit
SOB	Shortness of Breath
Sphyg	Sphygmomanometer
Temp	Temperature
UTI	Urinary Tract Infection
2222	Emergency Call

Glossary of Midwifery Terms

Antepartum haemorrhage	Bleeding from or into the genital tract, occurring from 24+0 weeks of pregnancy and prior to the birth of the baby.
Breech	Fetal buttocks lie lowest in the maternal uterus
Cardiotocography	Technical means for recording the fetal heartbeat and uterine contractions
Extended Postpartum Period	Up to one year following childbirth
Genital Tract Sepsis	Bacteria enters the body through the vagina and uterus
Lochia	Vaginal discharge following childbirth
Multigravida	A woman who has been pregnant before
Oxytocic	A drug that is used to induce labour, strengthen uterine contractions and control bleeding after childbirth
Parity	Number of times that a woman has given birth to a fetus with a gestational age of 24 weeks or more, regardless of whether the child was born alive or was stillborn
Partogram	A graphical record of key labour data
Placenta Praevia	Where the placenta overlies the cervical os
Placental Abruption	Separation of the placental from the uterine wall

Post-partum haemorrhage	loss of more than 500 ml or 1,000 ml of blood within the first 24 hours following childbirth.
Pre-eclampsia	A pregnancy complication characterised by hypertension and signs of damage to another organ (usually the liver and kidneys)
Pre-term Labour	Regular uterine contractions of the uterus resulting in changes in the cervix that start before 37 weeks of pregnancy.
Primigravida	A woman who is pregnant for the first time
Primary Midwife	A Midwife who is caring for the woman/baby
Pyelonephritis	Bacterial kidney infection
Sepsis	A life-threatening condition that arises when the body's response to infection causes injury to its own tissues and organs
Shoulder Dystocia	Occurs when either the anterior or less commonly the posterior, fetal shoulder impacts on the maternal symphysis pubis, or sacral promontory, respectively (RCOG 2012)
Syntocinon	Synthetic oxytocic
Syntometrine	Synthetic combination oxytocic
Uterine Inversion	The uterus is turned inside out
Uterine Rupture	The (muscular) wall of the uterus tears during pregnancy or childbirth

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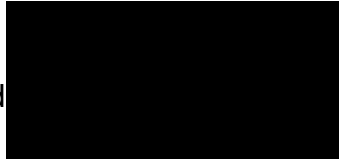
Thank you to my parents who have always told me to 'do the best that you can'.

And finally, الحمد لله

Declaration

I declare that the research contained in this thesis, unless otherwise formally indicated within the text, is the original work of the author. The thesis has not been previously submitted to this or any other university for a degree and does not incorporate any material already submitted for a degree.

Signed



Dated 13th August 2019

Chapter 1 Introduction

1.1 Introduction

The study focused upon experienced midwives' decision-making capability as primary responders in obstetric emergencies in England. This Chapter discusses the researcher interests, concerns and issues motivating this study. Collectively, these comprise the potential 'issues' or problems which are the 'foci' for this study' (Stake 1995:17).

1.2 Researcher Interests

The researcher identifies herself as a midwife, lecturer and novice researcher. This study was conceived from her past experiences as a student and registered midwife; her involvement with a study on midwifery students emergency decision making (Scholes et al 2012); her current role as a midwifery lecturer and her assumptions and expectations around the management of obstetric emergencies. This section will be discussed in the first person.

The literature on researcher reflexivity¹ highlights the importance of discussing the justification for the research at the beginning of the research process (Charmaz 2014; Birks & Mills 2011); affirming any biases (Pope & Mays 1999) and acknowledging previous experiences and assumptions (Attia & Edge 2017; Cutcliffe 2003). Indeed, it has been argued that the latter can influence the data and should therefore become part of the data which can then be explored through constant comparative analysis (Charmaz 2014; Neill 2006). The reflexive process was initiated at the start of this study to mitigate these problems.

¹ Researcher reflexivity and constant comparative analysis will be discussed in detail in Chapter 4.

My nursing and midwifery education were in the style of an apprenticeship with the United Kingdom (UK) National Health Service (NHS) responsible for my education. This also marked the start of a complex lifelong process of being socialised into and adopting the norms, values, attitudes and ideologies necessary for functioning in these environments (Dinmohammadi, Peyrovi, & Mehrdad 2013; O'Connor 2008; Taylor 1999). Learning was active and as a student midwife I started to develop practical knowledge² and skills of managing a range of obstetric emergencies whilst working alongside midwife mentors. When I qualified as a midwife, I further developed my practical knowledge by assisting other midwives and attending yearly mandatory skills drills. More recently, I have been attending up-dates in the local Trust where it involves participating in simulation. There is an expectation by the midwives that because 'I teach it I should know it'. This creates a state of stress and anxiety prior to and during the simulation as I feel under pressure to deliver the perfect performance.

Based on my clinical grading/banding I soon found myself assisting other midwives or taking the lead in the management of a variety of obstetric emergencies. Yet obstetric emergencies are rare (Hinshaw 2016). I was probably involved with one major emergency a year and on reflection I do not believe that I was an expert in their management. This led me to question how midwives can develop expertise in something that occurs so infrequently.

I have always been concerned about reasons for, and prevention of, maternal morbidity and mortality both nationally and internationally and have been attending the launch of the

² Practical Knowledge is 'knowledge gained through directly practicing skills and taking up cultural practices' (Benner 2012: 569)

findings of the Confidential Enquiries into Maternal Deaths since 2001 (CEMD)³. There are two cases that I will never forget that occurred shortly after registration. One involved a shoulder dystocia⁴ where the baby died on the mother's perineum. The other case involved a primary postpartum haemorrhage following the birth of the baby. I can still picture the amount of blood on the floor. The mother survived but was affected by the consequences of morbidities in the extended postpartum period⁵. These events were unexpected and occurred to women with no underlying risk factors. Consequently, I had to make rapid assessments, timely decisions and initiate immediate interventions in complex, stressful and rapidly changing situations until the arrival of the obstetric team. Reflecting on these cases that occurred over twenty-five years ago, I wondered how these decisions were made, and what factors had influenced the decision making.

As a midwifery lecturer I teach and assess obstetric emergencies and decision making of pre-registration midwifery students. Up until recently the teaching aspect of the emergencies largely comprised the theory and clinical management. With the recent development of a dedicated midwifery simulation suite the teaching has also expanded to the students managing scripted scenarios in real time in the simulated setting. The latter has enriched learning for the students by facilitating the development of decision making skills with its use in midwifery supported by the literature (Cioffi 1998; Cioffi et al 2005; Hamilton 2009; Scholes 2012; Norris 2008). My involvement with the study by Scholes et al (2012) involved

³Confidential Enquiries into Maternal Deaths in England and Wales and subsequently the UK and Ireland have been conducted triennially since 1952.

⁴ Shoulder Dystocia occurs when either the anterior or less commonly the posterior, fetal shoulder impacts on the maternal symphysis pubis, or sacral promontory, respectively (RCOG 2012)

⁵ Extended Postpartum Period is up to one year following childbirth

transcribing interviews of video-cued narrative reflections of student midwives' management of obstetric emergencies in a simulated setting. This study and observations of simulations in the University in which I work, identified that student midwives, as novices, adopt a linear process. They select cues that are present in the situation to generate a hypothesis; however, processing of the cues is slow. They respond to single cues with a tendency to correct individual problems as they occur, missing new cues that emerge (Einstein & Bordage 1988). This is different from my knowledge of theories of decision making and assumptions about how experienced midwives respond to emergencies. This involves intuition (Rew and Barrow 2007, Benner 1984) and pattern recognition (Barrows & Feltovich 1987; Mok & Stevens 2005). This will be further explored in Chapter 2.

My experiences and assumptions increased my desire to understand how midwives, but particularly experienced midwives make decisions in obstetric emergencies. Collectively, these are etic⁶ issues or my issues which I brought into this study from the outside. Simons (2009) refers to this concept as foreshadowed issues. This could influence the direction of the study hence the importance of maintaining researcher reflexivity at every stage of the research process.

1.3 Decision Making and Midwifery

Decision-making is a vital function of life with decisions of varying importance being made every day. In midwifery, it is reflected in statutory frameworks both nationally and internationally (Jefford et al 2016) where it is also central to professional autonomy and credibility (NMC 2009). Understanding the process of decision making is important, especially if the ensuing action resulting

⁶ Etic: views coming from outside the study will be further discussed in Chapter 3.

from the decision might be seen to compromise the quality of care and/or safety of the woman/baby. Professional regulation (NMC 2009) and several Government policies (DoH 1998, 1999, 2000, 2001; Officers U.C.N. 2010) mean that midwives have to be accountable for the decisions that they make and the way in which they are made. These documents also emphasise the importance of the best available evidence informing clinical decisions in order to improve the quality of care. Thus, midwives who practice autonomously must be able to take responsibility for their decisions by articulating how they made the decisions and the rationale for making them.

Crucially, most decisions involve some element of risk with adverse outcomes more likely the greater the risk (Orme & Mags 1993). Unfortunately, sometimes the decisions that are made by midwives are inadequate or incorrect and may result in litigation. Hospital Trusts are concerned with reducing risk and with the increase in litigation, the emphasis is on risk management (NHS Litigation Authority 2012). Maternity claims are the third highest across the specialities and for babies with cerebral palsy, the value per claim can exceed £20 million (Magro 2017), thus the importance and timeliness for a study on emergency decision-making by midwives.

It has been suggested that decision-makers that experienced 'near-misses' can make riskier choices in future similar situations (Dillon & Tinsley 2008, Dillon et al 2011). Thus, if a similar risky situation was encountered in the past and was successfully managed by a particular course of action, there might be an expectation of success the second time around with the same course of action. Dillon & Tinsley (2008) further argue that whilst organisations are able to learn from their failures, it is harder for them to learn from 'near-misses' because they are evaluated as successes. In contrast, in the National Health

Service, Trusts are required to comply with the Department of Health Guidance on the collection, analysis and reporting of sudden untoward incidents (including 'near-misses'). This provides an additional method of highlighting areas of clinical practice that could be improved and/or to correct mistakes before they become disasters. It would therefore be worth exploring to what extent midwives consider risk – if at all in their decision-making.

1.4 The Clinical Issue of Concern

Worldwide roughly 140 million women give birth each year (WHO 2018) and the majority of births are usually considered to be safe in high resource countries (WHO 2015; Kings Fund 2008). Childbirth is usually recognised as a normal physiological process internationally (WHO 2018) and nationally (DoH 1993, 2004, 2007, 2010, 2016) The main intention of midwifery care is to provide woman-centred, holistic care that involves women in the decision making process. In the absence of risk, this generally involves the midwife presenting the woman with a number of options from which to choose (DoH 1993, 2004, 2007, 2010, 2016, WHO 2018); however, the transition from a routine to an emergency situation can occur rapidly (even in low risk pregnancies) and without warning.

Midwives are experts in caring for women in normal pregnancy and birth. In this context, decision making is usually based on a relational model (Noseworthy et al 2013); however, they are required to 'recognise the warning signs of abnormality in the mother or infant which necessitate referral to a doctor' and 'to take the necessary emergency measures in the doctor's absence' (Directive 2005/36/EU, 2005). Whilst obstetric emergencies are rare, the outcomes can be serious resulting in

maternal death⁷ and/or perinatal death.⁸ In the United Kingdom, the maternal mortality rate was 8.8 per 100,000 (2013-2015) with thrombosis and thromboembolism being the leading direct⁹ cause followed by haemorrhage. Cardiac disease was the leading cause of indirect¹⁰ deaths (Knight et al 2017). In 2015, the perinatal death rate was 0.28 deaths per 1000 live births (Draper et al 2017). Reasons which are relevant to midwives included errors with cardiotocography (CTG) monitoring, in particular, failing to recognise, escalate and respond to abnormal CTG's before and during labour and significant failings in how resuscitation was conducted (Draper et al 2017).

Substandard factors and key recommendations to improve care and reduce maternal morbidity and mortality in England and Wales (1952-1984) and subsequently the United Kingdom (1985-present) have been reported triennially since 1952 in the Confidential Enquiry Reports into maternal deaths. The Maternal Mortality Reports that covered the years 1994-1997 (DoH 1998) to the current Report (Knight et al 2012) were reviewed to demonstrate the scope and scale of the research problem (Appendix 1). Although all of the Reports are significant, the review commenced with this Report (DoH 1998) because data was linked to a new Office for National Statistics (ONS) computer program. It was therefore possible to identify deaths that would not previously have been captured, thereby improving case

⁷ Maternal Death is 'death of a woman while pregnant or within 42 days of the end of the pregnancy from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes' (WHO 2010).

⁸ Perinatal death is the "number of stillbirths and deaths in the first week of life per 1,000 live births, the perinatal period commences at 22 completed weeks (154 days) of gestation and ends seven completed days after birth" (WHO 2010).

⁹ Direct Death is a death 'resulting from obstetric complications of the pregnant state, from interventions, omissions, incorrect treatment or from a chain of events resulting from any of the above (WHO 2010).

¹⁰ Indirect Death is a death 'resulting from previous existing disease or disease that developed during pregnancy and which was not the result of direct causes, but which was aggravated by the physiological effects of pregnancy' (WHO 2010).

ascertainment. The first ever Report (Ministry of Health (MoH) 1956) was included as a comparison.

The maternal mortality rate fell dramatically from 69 per 100,000 mortalities in 1956 (MOH 1956) to 12.1 per 100,000 mortalities in 1998 (DoH 1998) and since then has remained consistent. The fall in maternal deaths during this period is accredited to the abortion act of 1967, the use of oxytocic injections, ultrasound diagnosis of placenta praevia and improvements in critical care (Weindling 2003). The latter is interesting considering that guidelines, skills drills and MEOWS were consistently reflected as recommendations in the reports of 1998, 2001 and 2004 (DoH 1998, Confidential Enquiries into Maternal Death (CEMD) 2001, Confidential Enquiry into Maternal & Child Health (CEMACH) 2004). Significantly, most deaths that have been reported since 1998 (DoH 1998) to present (Knight et al 2018) occurred in consultant-led units. This compares to the 1950's when one third of births took place at home (Davis 2013) and nearly a quarter of deaths (excluding deaths from abortion¹¹) were attributed to women refusing or neglecting to engage with the maternity services and/or following medical advice (MoH 1956).

The Reports are powerful, and their aim is to guide clinical practice and reduce mortality. A synthesis of the reports (Appendix 1) has organised the contributing factors of

Sub-standard care into the following themes:

- Guidelines
- Skills drills
- MEOWS
- Recognition, management and escalation

¹¹ Abortion was illegal until 1967. Prior to this, women sought illegal abortions which could result in death.

- Taking, documenting and acting on basic observations

Clinical judgement and decision making in obstetric emergencies is facilitated by practitioners' ability to collect and interpret cues. The use of a MEOWS can assist in the early recognition and escalation of a deteriorating woman. Clinical guidelines can aid in the organisation of a response where the problem has been identified. As previously mentioned, obstetric emergencies are rare. Regular skills drills ensure that practitioners gain and maintains skills in the management of obstetric emergencies. Collectively, clinical guidelines, skills drills and MEOWS are decision support systems that midwives can draw on to support their clinical judgement and decision making, improve standards of care and reduce maternal mortality yet the first two have been a recurring recommendation since 1998 (DoH 1998) and the MEOWS since 2007 (Lewis 2007).

The contribution of these decision support systems to a study on emergency decision making will be examined in the following section.

1.5 Decision Support Systems

1.5.1 Clinical Guidelines

The terms clinical guidelines and protocols are used interchangeably. A clinical guideline is described as evidence based recommendations to assist practitioners and patients in their decision making with regards to suitable care under specific circumstances (Royal College of Nursing (RCN) 2018; Flynn & Sinclair 2005). The evidence based guidelines produced by the National Institute for Clinical Excellence (NICE) since 1999 is an example. A protocol is procedural and sets out the steps that should be taken by whom, when and how (Flynn & Sinclair 2005,

RCN 2018). They can therefore be considered a form of authoritative knowledge.

In response to the recommendations from the Maternal Mortality Reports, a number of national clinical guidelines for the management of obstetric emergencies were subsequently developed and are consequentially up-dated (Royal College of Obstetricians and Gynaecologists (RCOG) 2006a, 2006b, 2009, 2011a, 2011b, 2012a, 2012b, 2012c, 2014, 2015, NICE 2014). They are locally translated and implemented and are thus organisationally prescribed.

Procedure based guidelines are reported as effective in improving care, minimising human error and improving patient safety (Haller & Stoelwinder 2013). There is however a paucity of literature that evaluates the effectiveness of the use of clinical guidelines in the care and management of obstetric emergencies or its contribution to reducing maternal morbidity and or mortality. A UK audit in one hospital by Rizvi et al (2004) retrospectively reviewed the case notes of women who had a major postpartum haemorrhage over a six month period. They found that the incidence was 1.7% and that clinical guidelines were not strictly adhered to. They revised the guidelines and used them during skills drills with the staff. They repeated the audit prospectively 3 years later and over the same period of time. They found that the incidence of postpartum haemorrhage was significantly reduced to 0.45% and a 100% adherence to the clinical guidelines which significantly reduced maternal morbidity. It is not clear how they assessed adherence to the guideline. Furthermore, it can be speculated that the procedural skills based drills reinforced adherence to the guideline. The guideline was similar to national guidelines of the time (RCOG 2002) suggesting that the results are generalisable.

1.5.2 Mnemonics

Mnemonics can be used by practitioners to recall information associated with the management of obstetric emergencies. An example is the HELPERR¹² mnemonic which can be used in the management of shoulder dystocia. It has been purported to benefit learners and practitioners who do not encounter emergency situations regularly (Jenkins 2014; Anderson 2007) and can be modified with experience (Huntley & Dickson Smith 2017) as recommended in national guidelines (RCOG 2012). This suggests that a degree of procedural based training must be provided to embed the mnemonic in the procedural memory of the practitioner. A cross sectional study by Jan et al (2014) however, evaluated midwives' and doctors' understanding of eponymous manoeuvres and mnemonics in obstetric emergencies. They found that of the 79% of practitioners (n = 112) of whom 61 were midwives and who claimed to use the HELPERR mnemonic in their practice only 32% could translate it. Furthermore, whilst the percentages of correct manoeuvres used for managing shoulder dystocia, breech delivery¹³, and uterine inversion¹⁴ were 84.6%, 58.3%, and 28.6%, respectively, the eponyms were correctly matched to their manoeuvres in only 33.3%, 14.3%, and 0% of cases, respectively. The researchers concluded that the meanings of the components in the mnemonic could not be correctly identified; there was a poor association between knowledge of manoeuvres and their eponyms, thereby limiting their usefulness. They suggested that teaching should focus on learning and remembering the manoeuvres without relying on mnemonics and eponyms (Jan et al 2014). This is so true. There is no point in learning mnemonics if they cannot be correctly executed in practice.

¹² HELPERR: H (Call for Help) E (Evaluate for Episiotomy) L (Legs in McRoberts) P (Pressure – symphysis pubis) E (Enter manoeuvres) R (Remove posterior arm) R (Roll onto all fours).

¹³ Breech Delivery: A baby is born buttocks first.

¹⁴ Uterine Inversion: The uterus is partially or completely inside out at the introitus.

What is missing from the literature is the extent to which midwives modify guidelines and mnemonics and in which contexts and under what conditions.

1.5.3 Partogram and MEOWS

Midwives use the partogram¹⁵ once labour is established in all women. It monitors the progress of labour as well as the condition of the mother and fetus during labour. Its use is recommended by the National Institute of Clinical Excellence in 2007 (NICE 2007). Maternal physiological parameters of blood pressure, temperature, respiration, heart rate and urine output are assessed and recorded on the partogram at 30 - 60 minute intervals. Studies conducted in developing countries examined the quality of the completion of partograms and found inadequate monitoring and recording of the maternal and fetal parameters (Bosse et al 2002; Nyamtema et al 2008). A survey exploring labour documentation across maternity units in England found that the respiratory rate was not routinely recorded on the partogram (Lavendar et al 2008). This is also a recurrent theme in the maternal mortality reports (Lewis 2007; CMACE 2011a; Knight et al 2014). Whilst the partogram could support the midwife in the detection of maternal physiological deterioration during labour, it is not known if they use it in this way.

The Early Warning Scores (EWS) is a tool that allows for the early recognition of deterioration in childbearing women by 'tracking' their physiological parameters¹⁶ thereby 'triggering'

¹⁵ The idea of a partogram was introduced by Friedman in 1954 (Friedman 1954) to graphically illustrate the dilatation of the cervix. This was developed in 1972 by Philpot and Castle (Philpot and Castle 1972). They added the 'action and alert lines' to the graph so that it could be used to monitor the progress of labour.

¹⁶ Physiological Parameters: respiratory rates, oxygen saturation, heart rate, temperature, blood pressure, neurological status, AVPU (alert, voice, pain, unresponsive), urine output, pain scores are taken and charted

early referral and treatment. Its use is supported by the National Institute for Clinical Excellence (NICE 2007) and it is part of the Clinical Negligence Scheme for Trusts (CNST) standard laid down by the NHS Litigation Authority (2012). The use of EWS was first recommended in the maternal mortality report of 2007 due to delays in escalating clinical concerns, poor communication and inconsistency in response to deterioration (Lewis 2007). Indeed, contained within the report was a modified early obstetric warning score (MEOWS) that could be used in the maternity setting. This was evaluated through a prospective review of 676 consecutive maternity admissions by Singh et al (2012). They found that 30% of women triggered a response but only 13% of these showed morbidities. This led them to conclude that MEOWS was useful for predicting morbidity, but that adjustment of the trigger parameters may improve the true positive rates.

Since the publication of the CEMACH report of 2007 (CEMACH 2007) there have been numerous different scoring systems with a variation in physiological parameters and triggers used across Maternity units in the UK (Martin 2013). They have not been validated for use in the childbearing population. In addition, they may be inappropriate because they do not take account of the physiological changes in childbearing women. There are a limited number of studies with conflicting results that evaluates the usefulness of the MEOWS in reducing morbidity in the UK or other Countries (Lappen et al 2010; Hedriana et al 2015). A retrospective analysis of nine hundred and thirteen women with chorioamnionitis¹⁷ by Lappen et al (2010) concluded that EWS should not be used in an obstetric setting because it does not accurately identify women who are at risk for transfer to the

¹⁷ Chorioamnionitis is an inflammation of the fetal membranes (amnion and chorion) due to a bacterial infection. It typically results from bacteria ascending into the uterus from the vagina and is most often associated with prolonged labour.

intensive care unit, sepsis, or death from intrauterine infection; however, used in conjunction with other strategies it may be useful. In contrast, a retrospective case controlled study with 50 patients in each group concluded that MEOWS seemed to differentiate normal obstetric women from those women who should have been admitted to intensive care, suggesting that its use might reduce maternal morbidity (Hedriana et al 2015).

A survey of lead obstetric anaesthetists in consultant-led obstetric units in 2007 found that only 19% of units used a EWS with variation in 'tracker' and 'trigger' limits (Swanton et al 2009). Since the publication of the CEMACH report of 2007 (CEMACH 2007) there has however been a marked up-take of its use with studies evaluating its implementation and adherence. A National cross sectional survey of heads of midwifery services of uptake, benefits and barriers to use of EWS by midwives by Bick et al (2014) had a 68% response (n = 107). They found that all EWS tracked the physiological parameters as discussed above and 99% were used by midwives antenatally, 76% in labour and 100% postnatally. Barriers to its use were reported as lack of staff, having to wait for a clinical review when referral was triggered and overlap with the partogram in labour.

The cross sectional surveys and case analyses as discussed above are useful for gathering data from a large sample at a given time; however, they do not capture the human behaviour aspects of using the MEOWS. An ethnographic study of observations, semi-structured interviews and documentary evidence addressed this by attempting to understand the effectiveness and influence of contextual factors on the MEOWS in two UK hospitals (Mackintosh et al 2014). They found that the charts facilitated legitimate escalation of women to senior midwives and doctors when observations were out of normal range. There were a couple of findings that were of significance

to a study on emergency decision making. The first finding is that some midwives and doctors believe that one to one care enables midwives to identify changes in the mother's condition, thereby negating the use of a partogram or MEOWS. The second finding was that audited data found a 22% usage of the MEOWS in one of the Units. This was similar in the other unit where all midwives were instructed (via guidelines) to use the MEOWS on all postnatal women, or for women remaining in hospital after 12 hours. Poor monitoring of the respiratory rate was found in the first unit and variable recordings of a full set of observations in the second unit. The decision not to use the MEOWS was based on the fact that postnatal women were healthy and recovering from a normal event. Midwives were found to prioritise supporting low risk women with breastfeeding and getting them ready to go home rather than taking and documenting observations. A limitation which is also acknowledged by the researchers is that data was collected 12-18 months after the MEOWS were introduced in the units. Changing clinical practices and or ways of working can take time.

Barriers to using a MEOWS were also explored in a grounded theory study by Martin (2015). Barriers included duplication of documentation and poor preparation, training and support for the MEOWS from management. This influenced the midwives' motivation to adopt the change. Significantly, the midwives experienced the MEOWS as a threat to their autonomy and undermined their clinical judgement. For example, they were at odds when a high score triggered a requirement to inform a doctor, but they did not believe the woman to be unwell. Contrastingly, they exaggerated a score to elicit an urgent review from a doctor.

The above studies focus on barriers to using the MEOWS. The findings of these studies imply that midwives are not taking

and/or recording a full set of maternal physiological observations and/or using a MEOWS or partogram in labour for the early detection and escalation of deterioration. This study wanted to find out in what contexts and under what conditions do experienced midwives use the MEOWS, if at all.

1.5.4 Skills and Drills Training

In the past skills and drills training was concentrated on individual skills in intra-disciplinary teams. This has evolved over the years into multi-disciplinary training that enables practitioners to gain and maintain clinical skills (technical) and human factor (non-technical) skills (Collins & Draycott 2015) comprising of cognitive skills (situation awareness, decision making); behavioural skills (communication, team working, leadership, assertiveness) and personal resource skills (managing stress and fatigue) (Hinshaw 2016). It is widely acknowledged that human factors play a significant part in obstetric emergencies and can contribute to human error (Hinshaw 2016).

The findings of the 1997 Maternal Mortality Report (DoH 1997), signalled the expansion of a number of nationally approved training courses for health professionals with some being adapted and delivered locally (e.g. Advanced Life Support in Obstetrics (ALSO), the PRactical Obstetric Multi-Professional Training (PROMPT), the Managing Obstetric Emergencies and Trauma (MOET) Course and the Multidisciplinary Obstetric Simulated Emergency Scenarios (MOSES)). Skills and drills training have been consistently advocated in subsequent reports (CEMD 2001, CEMACH 2004, Lewis 2007, CMACE 2011) and are a mandated component of the governance and risk management strategy of NHS Trusts and must meet the requirements of the National Health Service Litigation Authority

(NHSLA 2012) and audit quality standards for maternity services and Health Care Commission Standards for Better Health (CQC 2009). Annual multi-disciplinary team based skills and drills training is advocated by the RCOG and the Royal College of Midwives (RCM) (RCOG 2016). Notably, there is a paucity of literature of simulated emergencies in community settings or midwife-led units (Williamson & Crozier 2015).

Simulation is recommended as a suitable and safe format in which to teach and rehearse the technical and human factors skills (Table 1.1) in managing deterioration in the childbearing woman (Knight et al 2014). This includes the rehearsal and testing of the guidelines that the Organisation has in place to manage obstetric emergencies. A number of obstetric simulators are used with varying levels of fidelity (Table 1.2) and realism (Table 1.3) and the level of realism can impact the experience (McKenna et al 2011). Simulated experiences can be unannounced in situ simulation¹⁸ or offsite simulation.¹⁹

¹⁸ Unannounced in situ simulation refers to scenario based training conducted in real time in the real clinical setting without the prior knowledge of the practitioners involved.

¹⁹ Offsite simulation refers to scenario-based training that is conducted away from the clinical setting such as in an education centre

Table 1.1 Definitions of Non-technical skills (Source Flin, O'Connor & Crichton 2017: 11)	
Situation Awareness	Gathering & interpreting information. Anticipating future states
Decision Making	Defining the problem. Considering options. Selecting and implementing option. Outcome review
Communication	Sending information clearly and concisely Including context and intent during information exchange. Receiving information, especially by listening. Identifying and addressing barriers to communication
Teamwork	Supporting others. Solving conflicts. Exchanging information. Co-ordinating activities
Leadership	Using authority. Maintaining standards. Planning and prioritising. Managing workload and resources
Managing Stress	Identifying symptoms of stress Recognising effects of stress. Implementing coping strategies
Coping with Fatigue	Identifying symptoms of fatigue. Recognising effects of fatigue. Implementing coping strategies

Table 1.2 Levels of Fidelity (Adapted from Howard 2018, Cooper et al 2011)	
Low Fidelity Simulation	Used to build knowledge . Simulations will feel the least real to the practitioner. Examples Include fixed models and two-dimensional displays. Can also be task trainers designed for specific tasks or procedures such as IV arms or CPR manikins.
Medium Fidelity Simulation	Used to build competence . Simulations are more realistic and enable more opportunities for learning. Examples are full body manikins that mimic patients by having breath sounds and heart sounds and allow practitioners to perform procedures such as IV cannulation, Injections, and urinary catheterisation.

Table 1.2 Levels of Fidelity (Continued) (Adapted from Howard 2018, Cooper et al 2011)	
High Fidelity Simulation	Used to build performance and action . These simulations are reported to be the most realistic and maximise interaction of practitioners in an environment that closely resembles reality. Examples are full body computerized manikins that replicate the anatomy and physiology of a real patient. Many of these manikins have the ability to talk which enables learners to develop communication and problem-solving skills. High fidelity manikins are also capable of running pre-programmed scenarios.
Virtual Reality	Computer generated experiences.

Table 1.3 Types of Fidelity (Source: Howard 2018)	
Conceptual Fidelity	Ensures that the scenario makes sense. Is the lab work or medications consistent with the signs and symptoms the patients are exhibiting? Subject matter experts should be used to review scenarios to maximize conceptual fidelity
Physical Fidelity	The degree to which the simulator duplicates the appearance and feel of the real system
Psychological Fidelity	The extent in which a simulation can duplicate or capture the real task and make the practitioner suspend belief feel and interact with it as if it is real

A systematic review of training in acute obstetric emergencies in 2003 (Black & Brocklehurst 2003) found that methods of training needed to be described and evaluated. Since then, there have been a plethora of studies evaluating various aspects of multi-disciplinary obstetric team working in the simulated setting with evidence that such training is effective in reinforcing multi-professional working (Draycott et al 2006; Draycott et al 2008; Siassakos et al 2009a), knowledge (Crofts et al 2007; Birch et al 2007; Freeth et al 2009), performance (Birch et al 2007; Crofts

et al 2006; 2008; Ellis 2008), team roles (Freeth et al 2009; Gum et al 2010; Madden 2011; Bristowe et al 2012) and communication (Crofts et al 2008; Madden 2011; Siassakos et al 2009b; Siassakos et al 2011). A recent comprehensive review (n = 23) of the impact of multi-professional training in emergency obstetric and neonatal emergencies found that such training is associated with a change in practitioner behaviour and improved outcomes (Bergh et al 2015).

Contrastingly, Collins & Draycott (2015) suggest that some practitioners may not be interested in or value simulation training with experienced practitioners believing themselves to be proficient in managing emergencies without the need for regular training. Lastly, evidence from the pre-registration nursing (Ganley & Linnard- Palmer 2012; Cordeau 2010; Elfrink et al 2009; Najjar et al 2015; Megel et al 2011) and midwifery (Scholes et al 2012) suggests that students perceive simulation as stressful. Unannounced in situ multi-professional simulations were also perceived as stressful and unpleasant (Anderson et al 2005; Sorensen 2013).

It can be inferred that stress and anxiety in simulation can therefore affect the decision making process; however, an integrative review of 11 studies to understand the influence of anxiety on undergraduate health professionals' performance in high fidelity emergency settings found that anxiety in simulation can either augment or impair performance. They also concluded that the evidence does not stipulate optimal anxiety levels during simulation that could enhance performance (Al-Ghareeb et al 2017).

Training can be resource intensive and costly depending on the level and type of fidelity of the simulation (Collins & Draycott 2015). The evidence base on simulation continues to develop.

An understanding of how past experiences of skills and drills triggers and supports the decision making of experienced midwives in the areas in which they work can ensure that training is directed towards this.

The overall aims and research questions as reflected below were initially identified by the researcher reflecting on her professional identities; past experiences; assumptions and the clinical issue of concern.

The overall aims of this study were to:

- Understand and explain the decision making process of experienced midwives as the primary responders during obstetric emergencies.
- Develop a substantive explanatory theory of decision making by experienced midwives

The overarching research question that guided this study was:

How do experienced midwives as the primary responders make decisions in obstetric emergencies?

The sub questions arising from the issues guiding the research process were:

- How do midwives develop their practical knowledge?
- What experiences (if any) are the midwives using to recognise and manage obstetric emergencies?
- What factors influence the decision making of experienced midwives during obstetric emergencies?

1.6 Structure of the Thesis

Chapter 2 discusses the operational definitions of decision making terminology and provide justification for its use

throughout this study. Next, the theoretical approaches to understanding decision making is explored and their relevance to this study. Lastly, the literature on emergency decision making is loosely examined²⁰ and provides contextual account of what is known and what is not known with respect to emergency decision making thereby firming-up the research questions.

Chapter 3 details the decision making processes that led to an interpretivist case study approach using the constant comparative method. This will be followed by the methodological decisions with respect to data collection, in particular the decision to use researcher generated video elicitation methods. Next, the applicability of dimensional analysis as the analytical tool will be examined. Finally, the steps taken to ensure trustworthiness throughout the study will be presented.

Chapter 4 details how the study's underlying theoretical perspective (Chapter 3) was operationalised through the methods of data collection and analysis and rendered the substantive theory. The processes comprising iteration between data collection and analysis with constant comparative method; inductive and deductive reasoning with accompanying methodological, reflexive and analytical memos will be explained and illustrated.

Chapter 5 presents the findings of the cases. Drawing on the midwives' quotations, it explains the decision making of the midwives and offers a substantive theoretical explanation that is grounded in the data.

²⁰ Justification for a literature review will be discussed in Chapter 2.

Chapter 6 presents an overview of the proposed substantive theory. The substantive theory is compared to and discussed within existing theoretical frameworks and empirical evidence.

Chapter 7 sets out the original contribution to knowledge and the implications for practice, education and further research that have resulted from this thesis. The processes that were used to develop the substantive theory will be evaluated to identify the limitations & strengths of this study.

1.7 Summary

This Chapter has discussed the researcher's interests and the issues and concerns stimulating this study. It has drawn attention to the importance of studying the decision making process from the perspective of experienced midwives during obstetric emergencies focusing on the actual context, conditions and environments in which they are made (Thompson & Dowding 2009). Emergency decision making is driven by litigation and reducing risk through annual multi-disciplinary skills and drills training that draws on tools (Guidelines and MEOWS) to assist in decision making and the management of obstetric emergencies; however, the extent to which these are used by midwives in different contexts and conditions needs exploring.

The next chapter justifies the use of the term 'decision making' and 'experience' throughout this study. It considers and locates the research approach for studying emergency decision making. The literature on emergency decision making by experienced midwives is loosely examined to identify the scope of knowledge and firm-up the research questions.

Chapter 2 Background

2.1 Introduction

This Chapter will draw on theoretical and empirical literature to:

- Discuss the operational definitions of decision making terminology to provide justification for its use throughout this study.
- Discuss the theoretical research approaches to examining decision making and their relevance to this study.
- Consider the concepts of knowledge, experience and expertise.
- Examine literature that is relevant to experienced midwives' emergency decision making to identify what is known and what needs to be understood.

There is a concern that a detailed literature review can foreclose or force the theory that emerges by imposing pre-determined understanding and/or existing theoretical frameworks on the data. Charmaz (2012) argues that delaying the literature review can help to avoid imposing pre-conceived ideas on your work. It can be argued that the researcher is already somewhat sensitised to the literature as a result of her professional roles and her involvement in a previous study on decision making (Harris 2014). Nevertheless, there are benefits to undertaking a literature review. It expands knowledge of the etic issues, thereby providing a rationale for a study to include justification for a specific research approach. It can confirm that the study has not already been done whilst at the same time high-lighting what the central issues are and significant gaps in existing knowledge so that research questions can be formulated. It can help to situate the study and reveal how the phenomenon has been studied thus far. A loose review of the literature was therefore undertaken to provide a contextual account to locate the need for this study. This included sensitising the researcher to key issues that needed to be considered when designing this

study with respect to operational definitions (sections 2.2 & 2.6); theoretical approaches to studying decision making (section 2.3) and what is known and not known about experienced midwives' decision making in obstetric emergencies (section 2.7).

An advanced search of the literature was undertaken for articles written in English with no limits imposed on the year of publication. The University online data bases that were used were the Cumulative Index of Nursing and Allied Health Literature (CINAHL plus/PsycINFO), Science Direct, PubMed and OneSearch; the University of Brighton aggregated search platform. Boolean descriptors were used with the following search terms: 'decision-making,' 'problem solving,' 'clinical judgement,' 'clinical reasoning,' 'emergency,' 'critical situations,' 'critical incidents,' 'urgent situations,' 'emergency decision making,' 'obstetric emergencies,' 'midwifery emergencies,' 'experience,' 'knowledge,' 'intuition' 'expert.'

2.2 Operational Definitions of Decision Making

The term decision making is contested in the healthcare literature with a variety of terms used to describe the same phenomena. For example, it is also linked to and/or used interchangeably with other concepts such as problem solving, judgment making, critical thinking and clinical reasoning²¹. The literature was scanned to determine the application of these terms to this study. Table 2.1 presents the operational definitions originating from seminal studies by Benner (1982, 1984), Benner and Tanner (1987), Benner et al (1992) and Tanner (2006) and selected studies during the last ten years for comparison. Whilst the definitions apply to the individual study, there are similarities across all of the studies.

²¹ The terms *decision making*, *problem solving*, *judgment making*, *critical thinking* and *clinical reasoning* will be discussed in the next Chapter.

Table 2:1 Contested Definitions of Decision Making	
Terminology	Operational Definitions from Key Empirical Work
Clinical Reasoning	<p>A cognitive process used by healthcare professionals to attend to patient issues (Jones 1988).</p> <p>Set of inductive/inductive cognitive processes used to determine the relevance and scientific knowledge with respect to the patient (Simmons 2009, 2010).</p> <p>Involves synthesis of knowledge, experience and social engagement with the situation (Benner 1984).</p> <p>Application of knowledge and experience to a clinical situation. Involves cognitive and meta-cognitive processes (Banning 2008).</p>
Decision-making	<p>A stressful process involving an appraisal of risk and an assessment of success and time availability to make the decision (Janis & Mann 1977).</p> <p>A complex process involving observation, information processing, critical thinking, evaluating evidence, applying relevant knowledge, problem solving skills, reflection and clinical judgment to select the best course of action which optimizes a patient's health and minimizes any potential harm (Standing 2010).</p> <p>An outcome or result of thinking (Simmons et al 2003).</p> <p>A contextual, continuous, and evolving process, where data are gathered, interpreted, and evaluated in order to select an evidence-based choice of action (Tiffen et al 2014).</p>

Table 2:1 Contested Definitions of Decision Making (Continued)	
Terminology	Operational Definitions from Key Empirical Work
Problem Solving	<p>Described as having multifaceted features, some of which are to listen, to assess, to make quick decisions, to have knowledge and experience, to use intuition, to be able to identify a problem and find a solution (Danerek & Dykes 2001).</p> <p>An outcome or result of thinking (Simmons et al 2003).</p> <p>Requires conceptual reasoning (Benner 1984).</p>
Clinical Judgment	<p>Cognitive, psychomotor and affective process exhibited through actions and behaviours of noticing, interpreting, responding and reflecting (Tanner 2006).</p> <p>Describes the way in which nurses understands problems, issues and concerns of patients (Benner 1984; Benner & Tanner 1987; Benner et al 1992).</p> <p>Focuses on thinking strategies that is used to make a judgement (Kautz et al 2005; Simmons, 2010).</p>
Critical Thinking	<p>Critical thinking is a cognitive process that requires skills in analysis, evaluation, inference, deductive and inductive reasoning, interpretation, explanation and self-regulation (Dowding et al 2012).</p>

A critical analysis of the operational definitions of the terms suggests that they are all inter-related and consist of a cognitive process and an outcome resulting in evidence based practice. It can be argued that they all require a degree of experience on the part of the healthcare practitioner. Whilst the literature describes the process for developing skills in critical thinking (Dowding et al 2012), no studies that describe the cognitive processes of critical thinking in clinical practice could be found. Benner (1984) asserted that decision making, clinical reasoning and problem solving is based on evidence that the healthcare professional has to hand on the subject rather than the situation and that critical thinking is a skill rather than a process.

The operational definitions suggest that there are some similarities between the processes involved in clinical reasoning and problem solving, judgement and decision making. Critical thinking is a skill that is necessary for clinical reasoning, although the process of critical thinking is yet to be described. There appears to be little difference between the operational definitions of problem solving and clinical judgement. The definitions together with decision making indicate an end point in the cognitive and metacognitive processes. The definitions could be argued more extensively within the literature; however, to do so would detract from the application of these terms to this study. The term *decision-making* was used throughout because it is the least restrictive; it is an outcome of a process that encompasses clinical judgement and reasoning. This study was interested in the process of the midwives' decision making.

2.3 Theoretical Approaches to Examining Decision Making

Decision making as a branch of study originated in the early 1950's through the work of Edwards & Hammond and led to the development of a number of research approaches to and models

of decision making with classical decision-making being the original paradigm of decision-making. Theoretical decision making can be examined through descriptive, normative and prescriptive perspectives. These theories originate from the philosophies and professions of psychology and behavioural science (Descriptive), statistical, mathematical and economic philosophies (normative) and operational research and management sciences (Prescriptive) (Table 2.2). This section examines the suitability of these approaches to the aim of this study.

Table 2.2 Research Approaches to Decision Making		
Classical Decision-making: The original paradigm of decision making considers the decision maker as operating in a world of complete certainty (Shaban 2005; Cioffi 2012)		
Theoretical Approaches (Emerged in the 1980's)	Epistemological Features	Models/Theories
Descriptive (Bell et al 1988, Freeling 1984))	Explains the process of how people make decisions in the real world (Thompson & Dowding 2009; Standing 2010)	<ul style="list-style-type: none"> • Heuristics and biases (Kahneman et al 1982) • Intuitive-Humanistic Model (Benner 1984) • Information processing theory (Newell & Simon 1972) • Hypothetico-deductive model (Elstein & Bordage 1989)
Normative (Bell et al 1988, Freeling 1984)	Focuses on logical, evidence based and rational decision making in an ideal world (Thompson & Dowding 2009 & Standing 2010)	<ul style="list-style-type: none"> • Subjective expected utility (Fishburn 1981) • Multiattribute utility analysis (Edwards & Newman 1982) • Bayesian approach (Dowies & Elstein 1988)
Prescriptive (Bell et al 1988, Freeling 1984)	Examines ways to help or improve decision-making through the use of normative models including clinical guidelines, algorithms and frameworks (Thompson & Dowding 2009; Standing 2010)	<ul style="list-style-type: none"> • Decision Analysis (Bell et al 1988) • Guidelines • Algorithms • Frameworks

Table 2.2 Research Approaches to Decision Making (Continued)		
Naturalistic Decision-making: This paradigm arose in the mid 1980's in response to criticism of the classical decision-making paradigm (Patel et al 2002; Klein et al 1993) where the ecological validity of the classical approach in real life situations was questionable.		
Theoretical Approaches (Emerged in the 1980's)	Epistemological Features	Models/Theories
Descriptive (Bond & Cooper 2006)	Examines how skilled people use their experience in real environments such as where there is limited time, dynamically changing conditions, goal conflicts and information of varying reliability (Klein 2008; Orasanu & Martin 1998)	<ul style="list-style-type: none"> • Hammonds cognitive continuum (Hammond et al 1987) • Recognition primed decision (RPD) model (Klein et al 1989)

2.3.1 Normative Approaches

The fundamental principle of normative theories is reducing risk in uncertain situations. The approach uses statistics and probabilities to create a mathematical model to explain how decisions should be made (theoretically speaking) (Thompson & Dowding 2009 & Standing 2010). Subjective Expected Utility Theory (SEUT) for example measures the value or utilities that a decision maker places on the different outcomes of a decision so that the best option through logical interpretation of well-known evidence is reflected as a numerical estimate of highest probability (Simmons 2010). It has been argued however that it is impossible to identify and quantify all aspects of risk especially in healthcare (Shaban 2005). This approach to studying decision making is only concerned with favourable conditions and environments with little importance given to the context of the decision (Bell et al 1988). In emergencies, decisions have to be made in stressful time pressured environments. Positivist in nature, this approach was rejected because the focus of this study was not on discovering how midwives should make decisions in an ideal world (Thompson & Dowding 2009; Standing 2010).

2.3.2 Prescriptive Approaches

A prescriptive approach examines ways in which decisions can be improved (Thompson & Dowding 2009 & Standing 2010). Decision analysis is used prescriptively to aid decision makers with their choices. It is based on the normative statistical decision theory with probability theory such as Bayes theorem being a common approach. Here, the decision-maker creates a model of the problem with the available options and ensuing consequences of each option that are to be evaluated. The decision-maker assigns a probability (likelihood that the outcome will occur) to each option; however, the probability is subjective,

is based on the decision makers understanding of the facts, their knowledge, experience, analysis and judgement and reflects their estimates of possible outcome. Each possible outcome is in turn assigned a value and which reflects the most appropriate outcome. The probability of each outcome is combined with the assigned value in order to obtain the 'expected value' of each option. The option with the highest 'expected value' is the appropriate option of choice. The analysis is usually represented by a 'decision tree' (Doubilet & McNeil 1988, Harbison 1991, Mok & Stevens 2005).

The process is underpinned by the assumption that humans are rational and logical in their decision making (Thompson & Dowding 2009). Whilst probability theory allows the decision-maker to assess the probability of outcomes based on a rational and logical interpretation of the situation, the complexity of decision trees can result in problems with their use. For example, the structure of the tree may be inaccurate and incorrect probabilities could be attached to the decision points (Buckingham & Adams 2000). It can be argued that this model is not suitable for use in the emergency setting because it requires time to evaluate all of the options; however, it may work well in complex, but non-life threatening situations where outcomes reflect values and beliefs and where there can be shared decision-making between the client and the clinician. This approach was rejected because this study was not interested in producing a model to improve decision making.

A more common prescriptive model for supporting decision makers and managing risk is the use of clinical guidelines, algorithms, mnemonic systems and frameworks. Increasingly used in emergency medicine (Ghafouri et al 2011), they are usually developed from research and support the notion of evidence based practice aimed at improving the quality of patient

care by standardising care (Woolfe et al 1999; RCN 2018; Flynn & Sinclair 2005); however, decisions may be compromised because guidelines may not be up-to-date or contain the best available evidence.

Whilst rule based decisions are increasingly used in emergency medicine (Ghafouri et al 2011), the decision-maker has to assimilate the relevant cues and generate the correct hypothesis to ensure that the correct guidelines, algorithms and mnemonics are being used with respect to the situation (Cioffi 1997). Flin et al (2007) stated that rule-based decision making is used extensively by novices who learn standard procedures for frequent or high-risk situations and that with practice, it becomes automatic such that the rule can be retrieved from memory with little conscious effort.

The rationalist perspective of decision making assumes an analysis of the situation followed by rational and logical actions (Harbison 1991) for deciding the best alternative from those available based upon rationality (Jefford et al 2011). The concept of rationality in terms of how the decision-maker might resolve any conflict between doing what the rules state to what they think is logical in the circumstances needs exploring. Since prescriptive measures are advocated, the context and conditions in which rule-based decision-making is used by experienced midwives in an obstetric emergency requires exploration.

2.3.3 Descriptive Approaches

The focus of descriptive approaches is to find out how people make decisions in real life situations by understanding how their learning and cognitive capabilities informs their decision making (Thompson & Dowding 2009; Standing 2010). Context, conditions, processes and consequences are crucial to the

interpretation and study of descriptive decision making theory (Shaban 2005). This approach complements the philosophy underlying this study.

2.3.4 Naturalistic Approaches

The naturalistic decision-making paradigm arose in the mid 1980's as a field of decision-making research in response to criticism of the classical decision-making paradigm being limited in critical situations (Patel et al 2002; Klein et al et 1993). Experience is central to naturalistic decision-making and decision-making research within this approach finds out how people use their experience in real environments such as where there is a limited time, dynamically changing conditions, goal conflicts and information of varying reliability (Klein 2008; Orasanu & Martin 1998). This study took a naturalistic descriptive approach because it is interested in the *processes* of *how* experienced midwives actually think and process information in dynamic changing, time pressured situations and the factors that influence their decisions such as complexity, stress, limited and/or ambiguous information and macro (Organisational) and meso (working with others) influences; furthermore, this study is not concerned with the quality or the outcome of the decision rather it is interested in how the midwives arrived at their decisions.

2.4 Approaches used in Decision Making

Decision making has been represented within the nursing literature as consisting of analytical and intuitive processes and a combination of the two.

2.4.1 Analytical Processes

Analytical processes originate from the information processing theory (Newell & Simon 1972). It assumes that the decision-maker stores data which are grouped into patterns and stored in the long-term and short-term memory in the brain. The decision-maker will recognise patterns and retrieve this information when confronted with a similar situation. A notable analytical approach is the hypothetico-deductive model. It originated from medicine (Elstein and Bordage 1988) and was later applied to nursing (Buckingham & Adams 2000a). This model comprises of inductive and deductive reasoning processes. The clinician chooses cues from a presenting situation such as signs and symptoms and/or the patient's history to generate a few hypotheses of potential diagnoses (induction). Further cues are selectively searched to confirm or refute the hypotheses (deduction). During this process false hypotheses are discarded and replaced with new ones. The final hypothesis is arrived at from comparisons of the significance of the cues (Elstein & Bordage 1988, Harbison 1991). The decision maker can then link the presenting situation to the appropriate management protocol (Johansen 2015).

A good decision and ensuing appropriate action within this approach are dependent on the decision-makers ability to 'assimilate, interpret and analyse information and learn from past experience or the learning provided by others' (Jefford et al 2011: 248). There are however a number of difficulties with this approach. Accurate, clinical knowledge and experience are crucial for the recognition and examination of all of the cues from the situation. Consequently, clinicians can become fixated with an incorrect hypothesis resulting in inappropriate decisions (Cooper et al 2010; Scholes et al 2012) Obstetric emergencies are rare with training occurring yearly. Consequently, limited

and/or inaccurate knowledge and inexperience can result in the decision maker either missing or ignoring cues.

2.4.2 Intuitive Approaches

In comparison to analytical approaches is the Intuitive humanistic approach. The focus is on intuition and the connection with knowledge gained from past experiences which is used unconsciously in inductive reasoning (Higgs & Jones 2008). It is said to develop as the nurse progresses from novice to expert (Benner 1982, 1984; Effken 2001). Indeed, a correlational web-based study of 175 nurses and student nurses found that the use of intuition increased with experience (Pretz & Folse, 2011). A limitation of this study was that the measures for use of intuition were self-reported and does not absolutely reflect the use of this strategy in decision making.

It has been described as 'understanding without rationale' (Benner and Tanner 1987: 23), a 'gut feeling' (Harbison 1991) and a 'hunch' (Cioffi 1997b), suggesting that it is based on perception. Benner (Benner 1984, Benner et al 2009 & Benner et al 2011)) found that experienced nurses used intuition characterised by pattern and similarity recognition (recognising relationships between bits and pieces of crucial information and identifying the problem based on similar/dissimilar experiences), common-sense understanding (ability to see the abstruse in a situation), skilled know-how (decision making based on embodied knowledge), sense of salience/concern (knowing which aspects/observations of the event are important) and deliberate rationality (taking on a new perspective of the situation) (Mok & Stevens 2005; Stinson 2017). Collectively, this is described by Benner et al (2011) as having 'experienced based wisdom'. In situations of uncertainty, experienced clinicians engage in what Benner et al (2011) refers to as clinical

forethought. This involves the ability to read and prepare for possible clinical eventualities and involves the intuitive decision making described above.

The point about Benner's work however is that the nurses were recounting stories of which they knew the end. Consequently, intuition as described by Benner (1984) is a cognitive process that produces both an understanding of the experience and a preferred ending (Eraut 2000; Higgs & Jones 2008). On the other hand, her portfolio of research extends over nineteen years and involved 444 participant observations and narrative interviews. Furthermore, her work continues to be widely acknowledged in a range of disciplines.

Pattern and similarity recognition, a sense of salience and deliberate rationality are types of heuristic devices that are used by clinicians in the process of their decision making. Initially described by Kahneman et al (1982) as a coping strategy in situations of uncertainty, it enables clinicians to process large amounts of information quickly by using a number of mental shortcuts. It can facilitate speedy decision making but may lead to incorrect conclusions due to compendious views (Cioffi 1997, Buckingham 2000). There is some disagreement between Cioffi & Markham (1997) and Buckingham & Adams (2000b) over the definition of heuristics within the healthcare setting. This also creates problems with its positioning and whether it sits within the descriptive paradigm or the prescriptive paradigm. Cioffi & Markham (1997) state that heuristics are based on estimated probabilities to simplify the decision-making. In contrast, Buckingham & Adams (2000b) state that heuristics are 'shortcuts' for estimating probabilities rather than being based on them' (p995). Kahneman et al (1982) make clear that short cuts or 'rules of thumb' are used so that rather than estimating the many probabilities connecting cues with outcomes, only certain

cues are identified, usually from previous personal experience. This suggests that heuristics are a descriptive strategy. Unlike 'true' probability theory, the process of reasoning is unstructured, with no identifiable method of analysing the information or of undertaking any calculations to obtain the 'expected value.'

Pattern recognition or *representativeness* is decision making that is based on the recognition of similarities, relationships and differences from a few pieces of crucial information derived from past experiences. Linked to pattern recognition is the sense of salience or *availability* of how quickly a past experience of women presenting with similar cues can be recalled (Cioffi 2001). This suggests that recent memories of incidents can influence decision making. Deliberate rationale or *anchoring* involves starting off from the original hypothesis or 'anchor point,' but making some adjustments as new information becomes available (Cioffi 2001). In obstetric emergencies, heuristic strategies can shorten the decision making process. The issue, however, is that the midwife would have to have a well organised mental repertoire of stored experiences that can be easily retrieved. Obstetric emergencies are rare. Consequently, experienced midwives may not have such a knowledge store of recent experiences to draw on.

Although heuristics are helpful in situations of uncertainty, the evidence around its potential weakness is growing (Thompson & Dowding 2009). Their use can lead to systematic errors. For example, intuition may have been based on a poor recollection of a past experience. This is especially so if experiences are infrequent as in obstetric emergencies. Something that worked in the past may not necessarily work in a new situation, thus reliance on an existing heuristic may lead to fixation bias. These decision errors can have far reaching consequences on the decisions made. This study sought to find out the extent to which

experienced midwives use knowledge from past experiences in their decision making.

2.4.3 Naturalistic Models

By the 1990's, several models from the naturalistic approach had been developed (Lipshitz 1993). One of these models was Hammond's Cognitive Continuum (Hammond et al 1987), later adapted by Hamm (1988) to explain another way that nurses make decisions. This model proposes that decisions are made by two modes of cognitive processes or systems. System 1 involves intuitive decisions including heuristics which involves rapid and unconscious reasoning. In contrast, system 2 involves analysis of the cues using a conscious, structured reasoning approach such as the hypothetico-deductive or the Bayesian. The nature of the situation, amount of information and time that is available will determine where decisions will lie on the continuum and whether there is a reliance on intuitive or analytical processes.

The Recognition-Primed Decision (RPD) Model also originated from research using the naturalistic decision-making approach and further expands understanding of rapid decision-making. Developed by Klein et al (1993, 2010) following their research of expert fire ground commanders, this model describes how the decision 'is primed by the way the situation is recognised' (Klein 1993, p140). This model underscores the contextual factors such as changing, time-limited, high-pressure environments during decision making. The environment usually comprises of a team which influences the decision making (Klein 2010). Alongside this Klein et al (1993, 2010) described the use of mental simulation by the decision maker to imagine how the chosen action would play out in their current situation. The action could be implemented if it was considered that it would work.

Alternatively, the action could be adapted if it would almost work, or else, other actions would be considered until one is found that meets the goal. Thus, an important feature of this model is that option generation is serial rather than simultaneous. The RPD Model therefore combines intuition with analysis, with pattern matching being the intuitive component and the mental simulation of cues being the analytical component. Both are vital because pattern matching based only on intuition may result in faulty options and analytical reasoning in isolation would be too slow in time pressured situations (Klein 2008).

The potential for decision errors within naturalistic settings has been discussed in the literature (Orasanu & Martin 1998; Klein et al 1993). Orasanu & Martin (1998) highlight two major ways in which error may occur. The first relates to a situation assessment error. Here, the decision-maker may incorrectly interpret the problem, which leads to a wrong decision because they are solving the wrong problem. It results from situation cues being misinterpreted or ignored. The consequences of this are that risk levels may be incorrectly assessed or misjudged. Klein et al (1993) stated that lack of experience can contribute to situation errors if the decision-maker does not have the knowledge to build-up the picture. The second decision error relates to an error in choosing a course of action. Here, the decision-maker identifies the situation correctly, but chooses the wrong course of action. Errors in choosing a type of action can occur for a number of reasons. If the decision is protocol or mnemonic driven, the appropriate response may not be recovered from memory and applied as it was not known. Similarly, various options may not be recovered from memory or only one option is recovered when there are in fact many options. Klein et al (1993) says that experience can impact availability of response options. Finally, the decision-maker may fail to evaluate the

potential consequences of each considered option and may result in poor choices (Klein et al 1993).

The above approaches to decision making therefore differentiate between the novice and expert practitioner. Furthermore, people who are constrained by cognitive limitations such as in situations of complexity and uncertainty where there are large amounts of information and a limited amount of time (bounded rationality) use heuristic devices in their clinical judgement to choose an option that is good enough to meet their goal ('satisfier's') but which could be optimised ('maximisers') (Simon 1956). Other reported strategies for coping with uncertainty include thwarting anticipated events by being 'one step ahead' (Hedberg & Larsson 2003) or through collegial verification (Cioffi 2000, Hedberg & Larsson 2003; Rycroft-Malone et al 2009; Cappelletti et al 2014). These concepts are relevant to this study with respect to finding out what strategy's midwives use to reduce risk and the influence of the team on decision making.

Intuitive and naturalistic approaches are characterised by a strong organised practical and theoretical knowledge base derived from past experiences. This enables practitioners to make rapid decisions based on similar situations and decide what to do based on intuition from previous experiences. The next section will consider the concepts of experience and expertise with respect to a study of decision making in obstetric emergencies.

2.5 Experience, Expertise and Knowledge

Experience and expertise are related but different concepts. Benner's (1984) seminal intuitive humanistic decision making model underscored Dreyfus model of skill acquisition through experience. Her model (Table 2.3) comprises of 5 stages that

nurses move through over a period of time reflecting changes in their performance and decision making as a result of their past experiences.

Table 2.3 Benner's Novice to Expert Model	
Novice	<ul style="list-style-type: none"> • Requires continuous prompts in practice situations. • Protocol directed decision making (< 6 months).
Advanced Beginner	<ul style="list-style-type: none"> • Skilled in some parts of practice but requiring occasional prompts • Mentor directed decision making (6-12 months).
Competent	<ul style="list-style-type: none"> • Efficient, co-ordinated and confident in actions • Past experiences direct decision making (1-3 years).
Proficient	<ul style="list-style-type: none"> • Holistic understanding of the situation results in faster decision making (3-5 years).
Expert	<ul style="list-style-type: none"> • Performance is fluid and flexible • Decision making without conscious thought (> 5 years).

A systematic review of 15 studies found that the number of years in clinical practice was not associated with effective clinical decision-making (Cappelletti et al 2014). Certainly, Benner (2000) stated that experience is not necessarily about the length of time in a role. It is an active process of knowing through frequent exposure to situations that gives rise to critical self-reflection. This enables preconceived ideas and expectations to be refined and/or changed when faced with actual situations. This suggests that just being exposed to situations over a number of years is not sufficient in the development of expertise, rather it has to be combined with critical self-reflection thereby signifying the importance of reflective learning from past experiences. Ericsson's seminal research on skill acquisition disagrees positing that deliberate practice, experience and time is required to reach high levels of performance and develop

expert practice (Ericsson & Charness 1994; Ericsson 2005). Bobay et al (2009) also found a correlation between clinical nursing experience and expertise suggesting that more ‘on the job’ experience is needed for the development of clinical expertise.

Decision making requires knowledge. There are various classifications of knowledge (Kolb 1984; Carper 1978; Reason and Heron 1986). The classification by Higgs and Titchen (2008) (Table 2.4) reflects the two main differences of knowledge renowned in western society; that is, ‘knowing that’ (propositional knowledge) and ‘knowing how’ (non-propositional knowledge).

Table 2.4 Knowledge Classification (Higgs and Titchen 2008)	
Propositional Knowledge	<ul style="list-style-type: none"> • Derived formally through research and scholarship. • Includes knowledge from the sciences, philosophy and the arts.
Non-propositional Knowledge	<ul style="list-style-type: none"> • Professional craft knowledge derived from practice experience (experiential knowledge) acquired by doing. • Can be tacit. • Knowledge that can be used (procedural) so it can be applied to a problem. • Personal knowledge from personal experiences and shared knowledge held by the community in which the individual inhabits.

Non – propositional has also been linked to the concept of wisdom (Matney et al 2016). Benner (2000) posited that

(nursing) wisdom is grounded in clinical judgement and thinking in action that embodies intuition, emotions and the senses. She further described wise nurses as being equally proficient and expert. Matney et al (2011) explained wisdom as implementing experience, intelligence, knowledge and creativity to achieve a goal. Wisdom is therefore connected to performance which is tied to actions that uses knowledge and skills (Matney 2016).

Knowledge and experience are used in harmony (Johansen & O'Brien 2016). Benner and Tanner (1987) found that a strong knowledge base coupled with experience resulted in comprehensive data collection and diagnostic accuracy. Thompson (2003) reiterated this finding asserting that experiential knowledge; that is knowledge from experience is necessary but that on its own, it is not enough for decision making. Education is therefore necessary to integrate a theoretical and practical knowledge base. Dreyfus & Dreyfus (1996) stated that experience is about knowing how to do things (procedural knowledge) as opposed to knowing what (propositional knowledge/facts) and that expert knowledge is rooted in the actions of the expert rather than from their propositional knowledge. This suggests that learning a protocol or mnemonic for example will not result in expert practice, but that this, coupled with frequent hands on clinical experience can result in a fluidity and flexibility of actions. In comparison, Considine et al (2007) review of 8 studies discovered that in the emergency department propositional knowledge was more important than years of experience in the accuracy of triage decisions. The strength of this review was that they attempted to minimise selection bias by selecting papers that examined relationships between triage decisions, education and years of experience.

It can be surmised that experience and expertise are unrelated. Expert decision making is grounded in experience. Whilst experience is crucial to the development of expert decision making. Frequent exposure to situations and critical reflection facilitate the development of embodied knowledge and skills that are the hallmark of expert decision making and practice. Due to the rarity of obstetric emergencies and mandatory up-dates limited to once a year, this study was interested in finding out how experienced midwives develop their practical knowledge that enable them to make decisions in obstetric emergencies. It was considered that midwives could not be expert decision makers in obstetric emergencies. Consequently, the term *experienced midwife* was used in this study. The way in which it was operationalised will be discussed in chapter 4.

2.6 Experienced Decision making in (Obstetric) Emergencies

There is a paucity of literature on decision making by midwives in obstetric emergencies. Owing to the limited number of midwifery studies (2), the search was extended to include a collection of seminal studies from other high dynamic disciplines (nursing, firegrounds, flight decks and high hazardous industries). A summary of the findings, strengths and limitations of these studies can be found in Appendix 1.

The midwifery (Cioffi & Markham 1997 & Danerek & Dykes 2001) and nursing (Tippins 2005, Leprophon & Patel 1995 & Cioffi 2000) studies found that experienced midwives and nurses used heuristic strategies in situations of urgency. Notably, the studies from the fireground (Kliein 1988), oil industry (Flin et al 1996) and flight deck (Orasanu & Fischer 1993) environments found that although experience from such emergencies was rare, the decision makers had developed a body of knowledge through

their work experience, emergency training and their intimate knowledge of their emergency procedures on which to base recognition decisions. In Klein's (1988) model the decision is 'primed by the way the situation is recognised (pattern recognition); however, an aviation model developed from an analysis of aviation incident reports (Orasanu and Fischer 1993) suggests that the first decision strategy is to use checklist procedures (rules) to correctly identify the problem.

The above studies were not conducted in their natural environment but relied on critical incident interviews (Klein 1988; Flin et al 1996; Danerek & Dykes 2001; Cioffi 2000; Leprophon & Patel 1995; Tippins 2005), retrospective analysis of incident reports (Orasanu & Fischer 1993) and simulation with thinking out loud technique (Cioffi & Markham 1997). Consequently, the effect of the environment on decision making in real time is not known. Simulation can never fully replicate real life emergencies and section 1.5.4 provided evidence for simulation provoking anxiety. Furthermore, fidelity issues may interfere with clinical assessments. It can be argued that thinking out loud during a simulated emergency is unnatural and may further exacerbate anxiety. Critical incident interviews rely on memory of past events and may be subject to some modifications when re-told. The possible reasons why emergency decision making has not been studied in its natural environment will be discussed in the next chapter; however, it is clear that researchers need to further develop innovative methods for studying this important phenomenon.

2.7 Summary

This Chapter has provided justification for using the terms 'decision making' and 'experience'. It has considered a number of theoretical approaches to studying decision making.

Components of decision making that are important in experienced decision making include experience, intuition, and context of the decision, knowing the patient, interpretation and critical reflection. Studies on emergency decision making in midwifery is sparse; however, studies from outside healthcare provided some valuable insights into how experienced professionals make decisions. Following a review of the literature, the overall aims and research questions were not amended and are re-stated below.

The overall aims of this study were to:

- Understand and explain the decision making process of experienced midwives as the primary responders during obstetric emergencies.
- Develop a substantive explanatory theory of decision making by experienced midwives

The overarching research question that guided this study was:

How do experienced midwives as the primary responders make decisions in obstetric emergencies?

The sub questions arising from the issues guiding the research process were:

- How do midwives develop their practical knowledge?
- What experiences (if any) are the midwives using to recognise and manage obstetric emergencies?
- What factors influence the decision making of experienced midwives during obstetric emergencies?

The next Chapter offers Interpretivist Case Study design influenced with symbolic interactionism and analytical strategies that draw from dimensional analysis for understanding this phenomenon.

Chapter 3 Methodology

3.1 Introduction

This Chapter will present a detailed description and rationale for the methodological approach used to address the research questions and aim of the study. First it will discuss how the research design responded to the research question, resulting in an interpretive – constructivist approach with the theoretical perspective of Symbolic Interactionism influencing the methodology and methods of data collection and data analysis. It will clearly detail the decision making processes that led to the final chosen approach, the justification for this approach, the role of the researcher and the steps taken to ensure trustworthiness throughout the study.

As discussed in Chapter 2, descriptive decision making theory seeks to understand the process of how people make real decisions in the real world, focusing on the actual context, conditions and environments in which they are made (Thompson & Dowding 2009). In this study, the philosophy underlying the research questions is interested in the nature of human behaviour with respect to how the learning and knowing abilities of the midwives informs their decision making, the nature of the complexity and uncertainty of the situation and how the two interrelate. Perspectives of context, conditions, social processes (interactions) and consequences (Schatzman 1991) are therefore crucial to the interpretation and study of descriptive decision making theory.

3.2 Philosophical Assumptions

An objective of the study was to seek out the multiple perspectives and meanings of midwives' decision making in order to gather collectively agreed meanings. The multiple perspectives were critical because on a micro level, midwives

had different routes²² to becoming a midwife and in developing experience; for example, they had different career histories, working in different units with different philosophies and models of care;²³ they each had different levels of prior experience in managing obstetric emergencies. On a macro level, the working culture of the Units that the midwives worked in varied thereby influencing group behaviours. For example, there was variation in the way in which professional mandatory up-dates in the management of obstetric up-dates are facilitated; the midwives drew on locally defined guidelines to support them in their actions of managing obstetric emergencies; however, consistent with findings from this study, these guidelines differed to some extent across maternity units (Winter et al 2007). A relativist²⁴ ontological position therefore informed this study. The assumption is that reality is locally and specifically constructed through the midwife's action and interaction with others and self (Denzin & Lincoln 2005).

A constructivist epistemological position (Denzin & Lincoln 2000) was adopted because this research is interested in the reality or meanings which midwives have given to their experiences of managing obstetric emergencies. Co-construction alongside the midwives was crucial to gaining a comprehensive understanding of the difference in perspectives, career histories, experiences and understandings that inform their clinical practice. Within the context of this study, truth and meaning are created by the

²² Routes to Registration as a Midwife with the Nursing Midwifery Council (NMC) are 1. Completion of a minimum three years full-time pre-registration midwifery education programme if not registered as a nurse level 1 (adult). 2. Completion of no less than 18 months full time pre-registration midwifery education programme if already registered with the NMC as a nurse level 1 (adult) (NMC 2009).

²³ Midwives may have worked in Consultant Led Units or Midwifery Led Units or Free Standing Birthing Centres or Co-located Birthing Centres.

²⁴ Relativist ontology assumes multiple realities. This is in contrast to a realist Ontology which assumes a single reality driven by natural laws. Realists wish to discover the true nature of a reality and find out how it works (Guba 1990).

midwives' interactions in the world of obstetric emergencies. Subjective meanings of their experiences are developed, and these meanings are varied and plentiful. These subjective meanings are further developed and transmitted through interaction with others and through cultural and historical norms that operate in their lives (Denzin and Lincoln 2000; Crotty 1998, Schwandt 2000, Neuman 2005). Thus, contexts such as the environment (Birth centre, Consultant-led unit, simulation) in which the emergencies took place and the uncertainty of the environment was important in understanding these norms.

The overarching question for this study was deliberately broad in order to capture the multiple realities of the participants (Creswell 2007) and the aim of this study was not about testing existing theories²⁵ (since non exist) but to develop a substantive explanatory theory of emergency decision making by experienced midwives.

The terms 'constructionism' and 'constructivism' are used interchangeably (Creswell 2007; Charmaz 2012; Crotty 1998; Denzin & Lincoln 2000) whilst also appearing to share the same philosophical assumptions. In this study, theory building started with understanding individual meanings of decision making (constructivism) to create shared meanings (social constructionism). This is in accordance with Schwandt (1994) and Blaikie (2007) who contend that these approaches share the same aim, which is to understand the complex world from the vantage point of those who live in that world; however, they say that constructivism refers to the cognitive processes that are

²⁵ The constructivist epistemology is at complete opposites of an objectivist epistemology where the researcher is detached from the participants as he/she tries to discover a single truth within certain limits of probability and present a strong case of what the truth is by controlling variables and disregarding possible alternatives (Guba & Lincoln 1994).

involved in the meaning making activity of the individual mind and contrast it with social constructionism which they say focuses on the collective generation of meaning as well as the organisational forces that engineer such meanings. This is in contrast to the constructivism described by Denzin & Lincoln (2005) and embraced by Charmaz (2014) which stresses interaction, the sharing of viewpoints, interpretive subjective understandings and knowing and learning as entrenched in social life. It would appear that the form of constructivism as described by Denzin & Lincoln (2000) is consistent with the social constructionism described by Schwandt (2000).

In the present study, participants interacted with researcher generated validated films of obstetric emergencies to trigger and create individual meanings of their decision making; however, the 'knowing and learning' is significant because it is related to how social construction takes place; that is through a process of socialisation. As discussed in chapter 1, midwives may use local guidelines in their management of obstetric emergencies. Whilst they may have been socialised in to 'reproducing' the organisational rules that govern their behaviour and actions; they may also modify its use (Giddens cited by Schwandt 2000). Although this study is looking at individual behaviour and actions to create shared meanings, midwives as a collective group are required through their contract of employment to follow the policies (Griffith et al 2010). There is therefore a dichotomy between building theory upwards (from the individual midwives) when behaviour and actions are prescribed down from their organisation. Thus, it can be argued that whilst constructivism is concerned with individual actions and behaviour, constructionism is concerned with the organisational impact on behaviour.

3.3 Theoretical Perspective

This section will discuss and justify the theoretical perspective. This will enable the assumption that lie within the methodology of this study to be understood and provides a logical framework for guiding the research process (Crotty 1998). Coming from a constructivist epistemology and taking into consideration the nature of the research and the questions posed, it was appropriate to adopt an interpretivist approach, influenced with symbolic Interactionism²⁶.

3.3.1 An Interpretivist Approach

Given the purpose of this study and the philosophy underlying the research questions, the research design had to be such that it would guide the midwife participants to reflect on and discuss their decision making processes in obstetric emergencies. An Interpretivist approach²⁷ was taken because this approach is considered holistic (Willis 2007) and assumes that knowledge of reality is only achieved through social constructions such as language, shared meanings, consciousness, documents and other artefacts (Andrade 2009; Creswell 2007). As previously discussed, obstetric emergencies are rare and as such a pragmatic decision had to be taken to address this by placing these in the foreground through videos to stimulate reflection on the midwives' own experiences.

²⁶ There are two Schools of thought with respect to symbolic Interactionism. The Chicago School of Interactionism was conceptualised by Mead and brought together by Blumer (1969). Blumer (1969) stressed the interpretive process in the construction of meaning; however, he proposed that this process is not restricted to any specific techniques. The Iowa School developed under the direction of Manford Kuhn. Influenced by positivism, he promoted a more structured approach to symbolic Interactionism (Meltzer et al 1975).

²⁷ The terms 'Interpretivist approach' and 'qualitative approach' are sometimes used interchangeably. They do however have different meanings. A 'qualitative approach' refers to the process of investigating human social phenomena

An Interpretivist approach demands both an *understanding* and *interpretation* of the meanings in human behaviour. This is in contrast to a positivist approach which aims to generalise and predict causes and effects (Blaikie 2007). The approach is accredited to Max Webber and his idea of understanding ('*verstehen*') the *meanings*, *motives* and *reasons* behind actions such as behaviour and interactions with others in the organisation and the culture within the context (Crotty 1998, Blaikie 2007). This study focuses on understanding the complex processes of emergency decision making from the perspectives of experienced midwives. This is an *emic* perspective²⁸ emphasising that the reality experienced by the midwives and the specific meanings that they give to a situation represents the socially constructed view of reality of each midwife as they interpret the meaning of their actions in their everyday life and of other midwives with whom they interact (Schwandt 2000). The only way of understanding meaning is through interpretation of action(s) within context. In other words, understanding what has happened, is as important as understanding how it happened. An Interpretivist approach is thus congruent with relativist ontology and a constructivist epistemology; reality is relative and multiple and meaning, and knowledge is acquired through a socially co-constructed process.

3.3.2 Pragmatism

Pragmatism as a philosophy underpins the perspective of symbolic Interactionism. It originated in America from the writings of Dewey, Pierce and Mead. It focuses on the reality of experience and consists of four ideas that are central to the perspective. These ideas will be discussed within the context of

²⁸ *Emic* is a term that is used to describe the insiders' (Study participants) perspectives as opposed to *Etic* which is used to describe the outsiders' (mainly researchers) perspectives (Parahoo 2014)

this study. Firstly, pragmatists believe that midwives would interpret their environment rather than respond to it (Charon 2011). Obstetric emergencies can occur without warning and as such midwives have to actively interact with it, understand it and decide how to manage it. This is achieved through a problem solving process and will vary between midwives. This means that reality is 'fluid' and 'indeterminate' and that truth is 'provisional' (Charmaz 2014: 232). This idea fits with the ontological position adopted in this study whereby there are many realities of emergency decision making that can be understood.

Secondly pragmatists would argue that midwives acquire and remember knowledge of how to recognise and manage obstetric emergencies through learning (a combination of facts, experiences, evidence, ideas etc); however, what they have learned is only *believed* if they can apply their knowledge to other obstetric emergencies that they encounter. If they are able to achieve their goals during the emergency, they will remember it and use it again in other emergencies (Strubing 2007; Charon 2011; Charmaz 2014). This idea resonates with studies on decision making that were discussed in Chapter 2 and the subsequent development of the second research question of this study whereby experienced practitioners in particular might recognise a situation, recall an experience (simulated and real) that worked and use it again in a new situation (Kliein 1993).

Thirdly and following on from the above, pragmatists would believe that midwives are *selective* in what they notice in each obstetric emergency that they are situated in. Thus, what they notice and define as useful in achieving their goals is dependent on the circumstances at the time (Charon 2011). This resonates with one of the research questions which seek to explore the factors that influence the midwives' decision making.

Lastly, the pragmatist perspective seeks an understanding of action in the context of an event, what precedes it and the consequences of it (Charon 2011; Charmaz 2014). This resonates with the philosophy underlying the research questions which is interested in the nature of human behaviour with respect to how the learning and cognitive abilities of the midwives informs their decision making within the complexity and uncertainty of obstetric emergencies and how the two interrelate.

The pragmatist position on theories can be extended to methods (Bryant & Charmaz 2007). From a methodological perspective, pragmatists focus on the research problem and the question that is being asked in relation to the problem and choose the methods that are most likely to address the research problem and question (Cherryholmes 1992; Bryant & Charmaz 2007). This is reflected in the methodological approach adopted in this study. Owing to the ethical and practical challenges of locating the researcher in the field or using auto generated videos (e.g. waiting for an emergency that might not happen because of its rarity and issues of obtaining consent), validated researcher generated video elicitation interviews were used as a substitute²⁹. Whilst researcher generated images aims to present a representation of the social world of the participants, it may or may not reflect real life experiences. Thus, priori constructions of an event might foreclose on knowledge that could be derived from the midwives. It was for this reason that a grounded theory study was not utilised. Thus, whilst this study does not claim to be a full grounded theory study, it draws upon the analytical methods of constant comparative method with dimensional analysis as the analytical tool to build theory. The methodological approach will be discussed in detail in section 3.4.

²⁹ This will be discussed in detail in Section 3.5.2.

3.3.3 Symbolic Interactionism

Symbolic Interactionism is derived from the Chicago School of Interactionism. Conceptualised by Mead and brought together by Blumer (1969), it explores how individual and collective understandings of the social world are formed through social interaction with others and self (Charmaz 2012). Reality in this perspective is therefore socially constructed and is congruent with the constructivist epistemology and interpretive approach of this study. Adopting a symbolic interactionist perspective guided data analysis by giving priority to exploring and understanding the meaning of the midwives' role in obstetric emergencies and in different contexts as perceived by the midwives who experience them as well as the subsequent actions, reasons for their actions and the practical consequences that ensue as a result of their actions. It is also consistent with the type of knowledge that this study wished to generate as is reflected in the sub questions of this study and directly guided data collection.

The three core principals guiding symbolic Interactionism are meaning, language and thought. Using the work of Charon (2009), they are discussed below within the context of this study.

1. *'...human beings act towards things³⁰ on the basis of the meanings that the things have for them'* (Blumer 1969: 2).

Midwives create their social world of obstetric emergencies through meanings they attach to language, drills and guidelines for example. They construct meanings from past experiences

³⁰ 'Things' within the context of symbolic Interactionism refers to 'social objects. Social objects are 'things' that people notice in their world such as physical objects, other human beings, institutions, guiding principles, activities of others and situations that individuals encounter on a day to day basis. These social objects are singled out, interpreted and given meaning through social interaction. Thus, objects for humans are really social objects. We name them and define them according to their use for people in a given situation (Charon 2011).

and social interaction with their environment. They do not then just mechanically respond to obstetric emergencies. They define it, attach meaning and act in a way that they believe is the correct way to act in that situation. One of the research questions of this study was concerned with what factors influence the decision making of experienced midwives. This therefore includes how midwives act in different contexts *with varying complexity*. Contexts include simulated and clinical environments. Clinical environments include consultant-led Units; standalone Birthing Centres and community settings. These contexts might affect the way the midwives respond. Thus, collecting data of how midwives respond to obstetric emergencies of varying complexity in different contexts provided a clearer picture of their actions. To gain an understanding of what informed their actions data analysis took into consideration how they reacted in changing contexts.

2. *'...the meaning of such things is derived from, or arises out of, the social interaction that one has with one's fellows'* (Blumer 1969: 2).

This premise is concerned with the source of meaning. Midwives define and negotiate subjective meanings through their ongoing interaction with others using symbols³¹ such as gestures, but especially spoken and unspoken shared language which is the central concept of symbolic Interactionism (Blumer 1969: 8). The latter is significant because of the way in which the data was collected in this study. The midwives were interacting socially with the researcher and may have adjusted their behaviour in response to the way in which the data was collected and/or the

³¹ Symbols are social objects. They are defined through social interaction. They are made, discussed and their meaning is agreed. They are used with purpose to communicate and characterise something (Charon 2009).

behaviour of the researcher. They were actively constructing their social world; professional self and hence their social reality of and being in obstetric emergencies.

Things are named and defined, and midwives can act during obstetric emergencies because they have agreed on the meanings attached to things. In this study, it was important to understand the meanings that midwives create during their encounters with obstetric emergencies whilst also taking account of their knowledge and past experiences – real and simulated as these can affect the way they respond to obstetric emergencies. Similarly, changes in the management of obstetric emergencies resulting from local and/or national guidelines and/or policies may trigger changes in their behaviour. The collection of data therefore included such policies and the extent to which they influence the midwives' behaviour, if at all.

3. *'...these meanings are handled in, and modified through, an interpretative process used by the person in dealing with the things he encounters'* (Blumer 1969: 2).

This premise signifies the importance of symbolic Interactionism by acknowledging the interpretive (problem solving) process by the midwife and their mental reflective processes (Blumer 1969). Since social interaction is ongoing, meanings towards things are forever being created, changed and/or are modified. Meaning therefore emerges through a continuous interpretive process and new meanings and responses are negotiated during social interaction between midwives. In order to understand the midwives' behaviour, it was therefore important to understand how the process of defining and interpreting different obstetric emergencies can transmit and/or change behaviour. Mead (1934) contends that this is done by sitting beside another and

seeing their world through their eyes and understanding their role. If a midwife puts herself in the position of the other midwife that she is interacting with, she can interpret the actions of that midwife and respond accordingly. It was also important to understand in what way the meanings affect the midwives' actions.

Lastly, aside from the symbols, Mead also emphasised that humans have a 'self' which enables the individual to recognise the object 'me' and the subject 'I'. This can be explained as an inner dialogue between 'I' the midwife (subject) thinking and acting during obstetric emergencies; however, 'me' the midwife (object) is reflecting on myself through the eyes of (generalised) 'others'. The 'self' arises from interaction in a social context with significant and generalised others (Blumer 1969). In this study, the significant 'other' were other midwives. It is important to understand how midwives perceive and make sense of their professional role and conduct during obstetric emergencies and the influence of 'others' upon this. The generalised 'other' of the midwife refers to all the significant others which have now become a whole and whose rules and perspectives have now become that of the midwife's and is controlling her/his behaviour. Using Mead's example of baseball to explain (Mead 1925: 269), in obstetric emergencies there are procedures and rules that can be enacted. The midwife must not only take on the role of the 'other', but she must assume the various roles of all the other healthcare professionals in the emergency and direct her actions accordingly.

In summary, Symbolic Interactionism is derived from the pragmatist tradition and interpretivism is an essential ingredient of the theoretical framework (Agar 2011). Whereas Interpretivism is about understanding and interpreting meanings in human behaviour, pragmatism is about interpreting

relationships in human behaviour such as (in the context of this study) the relationship between knowledge/experiences and action. Interpretation of these relationships is required in pragmatism and central to the underlying philosophy of this study whereby the emphasis is on constructivist knowledge. Symbolic Interactionism explores how the understandings are formed through social interaction with ‘others’ and ‘self’ that result in behaviour in certain situations.

3.4 Research Approach – Interpretive Case Study

The previous sections have set out the philosophical assumptions and discussed how a constructivist-interpretive approach influenced by Symbolic Interactionism as the theoretical perspective underpinning this study, deepened understanding of how experienced midwives make decisions in obstetric emergencies. This section builds on the research design which is summarised thus far (Table 3.1).

Table 3.1 Research Design	
Ontology	Epistemology
Relativist	Constructivist
Theoretical Perspective	
Interpretivist	
Symbolic Interactionism	

Stakes (1995) instrumental case study approach was used to organise the collection of comprehensive data about midwives’ decision making. The contested position of case study as method, methodology, and approach or study design is explored. Drawing primarily upon constant comparative method and the teaching of Schatzman’s (1991) dimensional analysis to develop a substantive explanatory theory of emergency decision making by experienced midwives is argued.

Case study is one of several used methodological approaches that are situated within the Interpretivist theoretical perspective;³² however, it should be noted that not all case studies are interpretive because they can also utilise a positivist epistemology and ontology. Developing from educational research, it has also expanded into other practice based professions (Simons 2009). The main contributors to case study research are Stake (1995, 2000); Merriam (1998, 2002); Simons (2009) and Yin (2005, 2009).

A critical appraisal of the perspectives and methodological descriptions of the main contributors to case study (Table 3.2) indicates that it has a number of strengths that would facilitate an in-depth exploration of midwives' decision-making. In summary, it is a highly flexible approach which can incorporate a range of study designs and methods to suit the research question and the phenomena under study; It can examine a 'contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident' (Yin 2009: 18). It is therefore appropriate for describing the context specific decision making of experienced midwives during obstetric emergencies; it enables a holistic understanding of a complex phenomenon, from multiple perspectives and from a variety of sources including contextually gathered information. This fits with the relativist ontology of this study; it asks 'what' and 'how' questions, emphasising processes in relation to what the midwives actually do, which is consistent with the pragmatist perspective and the research questions of this study. Epistemologically, it recognises the co-construction of meaning through the researcher - participant relationship and the reflexive role³³ of the researcher in understanding the case

³² Other common methodological approaches include grounded theory, phenomenology, ethnography, narrative.

³³ The reflexive role of the researcher will be discussed in Section 3.9.1

and themselves. Given the constructivist-Interpretivist position adopted in this study and the type of research question posed, case study therefore seemed the most suitable approach to organise the collection of data.

In the published literature, case studies are invariably referred to as a method, a methodology, a study design or an approach (Simons 2009; Hyett et al 2014). This ongoing debate can be considered a weakness. It was therefore important to state and justify the chosen definition rather than providing a 'convenient label' for this study for want of thinking of 'anything better in an attempt to give it some added respectability' (Tight 2010: 337).

Table 3.2 Perspectives of Case Study (Adapted from Stake 1995; Yin 2009; Merriam 1998; Simons 2009)				
Contributors	Definition	Types of Case Study	Philosophical Assumptions	Research Methods
Stake	'is the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances' (Stake 1995: xi).	<p>Intrinsic (intrinsic interest in the case).</p> <p>Instrumental (Case chosen to gain understanding of something else).</p> <p>Collective (Several cases are studied to provide a collective understanding).</p>	Interpretive-constructivist.	<p>Inductive.</p> <p>'Interpreter and ever reflective' (Stake 1995: p450) role of the researcher.</p> <p>A priori conceptual framework.</p>
Merriam	'Intensive, holistic description and analysis of a single entity, phenomenon or social unit' (Merriam 1998: 16).	<p>Particularistic (Focuses on practical, real life problems).</p> <p>Descriptive (Detailed 'thick description' (Merriam 1998: 29) of the complexities of the situation from multiple sources and different ways).</p>	Interpretive-constructivist.	<p>Inductive.</p> <p>Process issues & context rather than outcome.</p> <p>Conceptual framework to define the research problem.</p>

Table 3.2 Perspectives of Case Study (continued) (Adapted from Stake 1995; Yin 2009; Merriam 1998; Simons 2009)				
Contributor	Definition	Types of Case Study	Philosophical Assumptions	Research Methods
		Heuristic - new interpretations, meanings and perspectives. Explains the context of a situation, what happened and why).		Caution with using observation as highly subjective.
Simons	'In-depth exploration from multiple perspectives of the complexity and uniqueness of a particular ... system in a 'real life' context' (Simons 2009: 21).	Multiple (Similar to Stakes collective case study).	Interpretive-constructivist.	Inductive. A priori conceptual framework.

Table 3.2 Perspectives of Case Study (continued)

(Adapted from Stake 1995; Yin 2009; Merriam 1998; Simons 2009)

Contributor	Definition	Types of Case Study	Philosophical Assumptions	Research Methods
Yin	'Investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident' (2009: 18).	Explanatory (Asks 'how' and 'why' questions to describe and explain causal relationships and develop theory. Exploratory (Asks 'what' questions. Used to develop hypotheses for further inquiry). Descriptive (Similar to Merriam's but extends to interventions).	Positivist	Reductionist orientated to cause and effect. A priori conceptual framework to generate propositions (hypotheses) which direct data collection and analysis.

A critical appraisal of the methodological descriptions shows disagreement by the main contributors to case study. The case studies of Merriam (1998) and Yin (2007) appear to be methodologically driven and prescriptive which is at odds with the pragmatist philosophy underlying this study. Merriam (1998) defines case study as an 'Intensive, holistic description and analysis of a single entity, phenomenon or social unit' (p 16) suggesting that it is a method. Furthermore, in her work, she goes as far as suggesting methods for conducting the study such as using a theoretical framework and being cautious with using observation. In his most recent work Yin (2009) refers to case study as a research method. The term 'method' was discarded as 'method' refers to specific procedures and techniques for gathering and analysing data (Corbin and Strauss 2015; Simons 2009). Study design was also discarded because as discussed in previous sections this term was used to describe the overall strategy that was chosen to integrate the different elements of the study and acts as a blueprint for the methodology.

In contrast, Stake (2000, 1995) states that 'case study is not a methodological choice but a choice of what is to be studied' (p435), perhaps separating it from methodology. He goes on to say that 'case study is defined by interest in individual cases, not by the methods of inquiry used' (p435) suggesting that it is neither a method. If there is agreement that 'methodology' is a conceptual term that prescribes a theory for the way in which the research should be carried out with respect to methods of data collection and analysis (as in grounded theory and phenomenology), then Stake does not subscribe to any. Instead he suggests that different methods will be used depending on the type of case study employed. This flexibility is acceptable standards for case study research.

Within the context of this study, case study is referred to as an 'approach' that has an overarching *research intent* and *methodological purpose* which affects what methods are chosen to gather data' (Simons 2009: 3). This definition concurs with that of Corbin and Strauss (2015) of methodology is a 'way of thinking about and studying social reality' (p3). In this study, the 'research intent' was to understand emergency decision making by midwives, all of whom have different experiences and professional routes to acquire expertise. The symbolic interactionist perspective that informs this study contends that an experience and the ensuing action will form the context for the next action in a series of actions (Corbin & Strauss 2015) and that this will contribute to the process through which meanings are created and mediated (Charmaz 2014) and in which the next and subsequent actions will be understood. The 'methodological purpose' was therefore to understand the dynamics of the relationships between actions, interactions and consequences.

Stake's (1995) instrumental case study facilitated the research intent of this study. One of the main contributions to case study is defining the unit of analysis that is to be studied and binding the case (Yin 2009; Merriam 1998; Simons 2009; Stake 1995). The case or unit of analysis is defined by what is being studied or a phenomenon (Stake 1995; Yin 2009), and 'looking for the detail of interaction within its contexts' (Stake 1995: xi). This approach enabled access to the phenomena (the decision making process) via a case (midwives), rather than studying the case itself. In other words, whether the midwife was typical of other midwives was of secondary interest to this study; however, she/he played a supporting role of facilitating understanding of the process of decision making in obstetrics emergencies (Stake 1995). Placing boundaries on the case ensures that the study did not deviate from its original scope and become too broad.

Recommendations on how to bind a case include by time, social group, organisation, geographical area, type of evidence to be collected (Yin 2009); time and activity (Stake 1995); a class, institution, project or programme (Simons 2009). In this study the case was bounded to experienced midwives' co-ordinators (social group)³⁴ from three NHS Trusts in the South East Coast in England (geographical) and was thus considered to be a holistic single case study with embedded units (individual experienced midwives). Binding the case in this way makes clear what will be and what will not be studied.

The next sections will discuss the decisions that were made with respect to methods of data collection and analysis. Given the subjective nature of this study, methods of data collection and analysis had to capture the emic and etic perspectives in order to understand the behaviour of the midwives. These perspectives have their origins in linguistics and anthropology (Pike 1967). Over the years there was confusion over their definitions and how these differences were applied. They were also seen as being at odds rather than complimentary (Olive 2014, Morris et al 1999) suggesting that you can only use one approach. Using Pike's (1967) analogy to two approaches to language³⁵, an emic or insider perspective captured the individual meanings of the midwives' management of obstetric emergencies (Yin 2010) and looked at it through their eyes (Willis 2007); whilst an etic or outsider perspective allowed for researcher comparisons between the midwives to provide collective meanings. The latter can be problematic, and it is recognised that the researcher of this study has brought in 'issues' (their own perspectives) into the study from the outside

³⁴ In this study, an experienced midwife is defined as a midwife who co-ordinates the management of a clinical area in a Maternity setting.

³⁵ Emic: Phonemic analysis of the units of meaning which shows the unique structure of the language used. Etic: Phonetic analysis of the units of sound which allows for comparisons among the language used (Pike 1967).

(discussed in Chapter 1). Furthermore, the researcher shares the same identity and professional language as the participants. Consequently, during the stages of data collection and analysis their own perspectives can render reality. To this end, the techniques that were used to balance the emic and etic perspectives and "inadvertently imposing the researcher's own (etic) interpretation onto a participant's (emic) interpretation" (Yin 2010:12) are discussed in section 3.9.

3.5 Methods Approach

Data generation methods within the Interpretivist approach in which this study is situated had to be able to capture the multiple meanings of emergency decision making and the effect of context in order to make sense of the perceived reality of the midwives. It therefore demanded a particular set of methods for data collection and had to uncover the meanings behind the actions of the midwives. As discussed in the previous section, case study approach is highly flexible and as such is not confined to using any particular methods of data collection or data analysis. It allows for the use of multiple methods of data collection for understanding the phenomena. A careful consideration was given to how the study design as described in the previous Chapter could inform the methods of data collection and analysis.

The methods of data collection that were used in this study were:

- Biographical questionnaire.
- Researcher generated video-cued narrative reflection with informal observation by the researcher as a companion method.
- Document review of local and national guidelines with respect to the management of obstetric emergencies.
- Follow-up Interviews.

3.5.1 Biographical Questionnaire

A biographical questionnaire was developed by the researcher. The aim of the questionnaire was to understand the participant's professional training and experience in managing obstetric emergencies. It was assessed for its usability, comprehensiveness and time taken to complete by the simulation midwives and actress mother that appeared in the researcher generated videos. The simulation midwives were recently appointed midwifery lecturers with recent experience in clinical practice. The actress mother was a midwifery lecturer. No changes and/or modifications were needed. The content of the questionnaire related to the research question. Closed questions were used to collect information about the participants attributes (age, professional qualifications, years of service as a midwife, current clinical area of work; year last attended a skills' and drills up-date and/or Obstetric Life Support Course and the last time they managed an obstetric emergency). The footnote on the questionnaire explains how the questions were developed (Appendix 3).

3.5.2 Visual Elicitation Methods

Visual elicitation also referred to as graphical elicitation has been increasingly used in social sciences research (Harper 2002; Banks 2008). Physical specimens, maps, drawings, photographs and *video clips* can be used to act as a visual stimulus during research interviews (Crilly et al 2006). The visual stimulus can be auto-driven (taken by the participant in the absence/presence of the researcher or are selected by the participants from their personal photo albums. Visual stimulus can also be produced by the researcher. In this study, using a researcher generated visual stimulus was a pragmatic decision because of the ethical challenges and limitations of other methods of data collection (Table 3.3).

Table 3.3 Limitations and Challenges of other Methods of Data Collection	
Methods of Data Collection	Reason for Rejection
Focus Groups	<ol style="list-style-type: none"> 1. Concern with recruiting enough experienced midwives to participate outside of their working hours. 2. There may be dominant midwives hijacking the interview and preventing individual expression. All of the midwives may want to have their say, and it may not necessarily be in relation to the research topic. 3. Transcribing group interviews can be difficult and credibility in terms of checking attribution can be problematic. 4. Issue of exposing incompetence of 'experienced' midwives. <p>(Fontana & Frey 2000; Simons 2009; Creswell 2009)</p>
Simulation	<ol style="list-style-type: none"> 1. Is time consuming and involves much work and planning. This is not a problem if participants can be recruited to attend the pre-planned days. 2. It can be challenging to recruit to a study that involves simulation despite reassuring potential participants that their performance is not being assessed. 3. With simulation + Video cued narrative reflection participants might speak ahead of the action in the video because reflective insight helps them to pre-empt what should happen (Scholes et al 2012). 4. Thinking aloud strategies (Cioffi & Markham 1997) is not natural. Participants may not be able to articulate their decisions whilst simultaneously managing the incident.

Table 3.3 Limitations and Challenges of other Methods of Data Collection (Continued)	
Methods of Data Collection	Reason for Rejection
Observation	<p><u>Practical Limitations</u> The cost with respect to the hours needed for observation. As previously discussed, obstetric emergencies are rare, thus the researcher would either have to be on stand-by or wait for an emergency to unfold whilst being rostered on the labour ward. In any case, they are unpredictable and could result in the researcher either missing the emergency or attending mid-way.</p> <p><u>Ethical Limitations</u> These are around invasion of privacy and obtaining consent to observing the emergency from the woman and from the multiple health care personnel involved in the management of the emergency.</p>

The following subsections will discuss the rationale for using researcher generated video elicitation over other visual methods and how it provided a pragmatic solution for gaining an understanding of the decision making processes of the midwives.

3.5.3 Photo Elicitation

As a method for collecting data, photo elicitation was first used by Collier & Collier in 1967 (Collier & Collier 1986) in a study examining mental health as a means of establishing rapport with the participants. The literature suggests that Magilvy et al (1992) were the first to use photo elicitation interviews since then, there have been numerous Interpretivist nursing studies that have used this method with most of the photo's being auto driven. Studies involving children as participants tend to use photographs created by the researcher. Its use in midwifery is limited to two Interpretivist studies (Regan & Liaschenko 2007; Copeland et al 2013). In both these studies, a photograph generated by the researcher was used to prompt, remind and add depth to the responses in the interview process. The first study used a photograph of a labouring woman as the stimulus for interviews with midwives to explore midwives' views about the meaning of childbirth and their possible relationship to caesarean section. The second study used a photograph of a labouring woman sitting on a ball with an intravenous syntocinon infusion³⁶ to explore midwives' interpretation of childbirth; in particular, their beliefs about normality and risk. Ethical issues in relation to invasion of privacy precluded the use of auto driven photographs of obstetric emergencies. Researcher generated simulated photographs of obstetric emergencies were rejected because it was felt that snap shots of obstetric emergencies

³⁶ Syntocinon is an oxytocic drug that is used to stimulate the muscles of the uterus to produce rhythmic contractions

would not be as powerful as a video depicting an unfolding obstetric emergency for eliciting and understanding midwives' experiences of managing obstetric emergencies. Furthermore, the nature of the study precluded auto driven images.

3.5.4 Video Elicitation

Video elicitation has only recently been used and its use in midwifery studies is limited (Lomax and Casey 1998; Scholes et al 2012). Like photo elicitation, video elicitation can be used alongside interviews to prompt discussion, stimulate recall or provide a platform for reflection. This approach was chosen because of a belief that a film of an unfolding obstetric emergency would be more powerful than a single or series of pictures in bringing about an exploration and association of understandings and meanings.

Diegetic representations of two obstetric emergency scenarios were researcher generated and validated³⁷ for filming. Drawing on the work of Floridi's (2005), technology mediated telepresence, diegetic representations are the sound/narratives of the simulation midwives that is coming from within the video. This compares to non-diegetic sound which is sound/narrative that is added in³⁸. Floridi (2005) argues for a relational position of the viewer (of the video) that is external to and as seen from the inside the video and the evocation that arises out of that relationship. In other words, watching the videos may feel like presence or the unmediated feeling of being there (Floridi 2005). This may be significant with respect to findings, in particular

³⁷ To be discussed in Section 3.6.3.

³⁸ In the film 'Love Story' diegetic sound is the interactive dialogue (script) that is experienced by the actors. The non-diegetic sound is the very sad music that has been edited on to the scene afterwards to enhance the effect of the scenes that are being played out by the actors. The music is not experienced by the actors in the scene. It is experienced by those that are watching the film. Thus, the non-diegetic sound (music) is a mood enhancer for those that are watching the film.

finding out about any possible displacement of the midwives when they were watching the videos compared to the midwives who were in the simulation.

Whilst researcher generated images aims to present a representation of the social world of the participants, it may or may not reflect their experiences. For this reason, no claim is made that this is a grounded theory study. Indeed, a mini review of the literature indicated that only auto generated visual methods are used in grounded theory studies. The videos stimulated recall by prodding latent memory (Collier 1957), established a starting point from where conversation could be developed and expanded and encouraged the nature of knowledge that might otherwise have been difficult to achieve through interview alone (Kuehne 2013). Indeed, they provided access to participants tacit knowledge (Harper 2002), thereby generating explanations of the characteristics of 'invisible' phenomena of decision making that were 'invisibly buried' in the routine of managing an obstetric emergency (Schubert 2006).

The films were watched by the participants with the aim of invoking or prompting their recollection of the processes they engage in to make decisions. A significant aspect of this was how the participants responded to the images, ascribing social and personal meanings (Henry and Fetters 2012). The values, beliefs, assumptions and experiences that the participant and researcher brought with them influenced the way in which the images were seen and interpreted (Liebenberg 2009; Dicks et al 2006). Indeed, Harper (2002) asserts that 'when two people discuss the meaning of photographs, they try to figure out something together' (p24). The subjective nature of the meaning of the images emphasized the researcher participant relationship in the research process, with the researcher and participant collaborating in the construction of meanings of the

social world thereby amplifying personal and theoretical understandings of the social reality (Harper 2003).

Researcher observation as a companion method to the researcher generated video elicitation interviews was used to observe body language and reactions of the participants to the unfolding emergencies as depicted in the videos.

The above paragraphs have examined the contribution of video elicitation as a method of data collection from an epistemological and methodological perspective. It is compatible with the theoretical framework of this study and is a pragmatic and novel method for providing data to answer the research questions.

3.6 Developing and Validating the Scenarios for Filming

The following subsections will critically outline the processes involved to generate the videos and the validation of the original scenarios that were later used as the 'script' for filming. Two unrehearsed midwives who volunteered to be filmed engaging with an actress mother (midwifery lecturer) added to the ecological validity of the film. The effectiveness of video elicitation as a method to aid data collection is dependent on whether the films are interpreted in a way that agrees with the aims of the study (Kuehne 2013). Schindler (2009) argues that film reduces 'social processes to an audio visual, two dimensional reproduction.' It does not record a social situation', rather it 'records the visual impression of a situation' (p136). The films had to be authentic and generate multiple meanings rather than misinterpretations. Scenarios were prepared that could be filmed; however, it required for there to be greater attention to detail and thus assessment of content validity as the films were to be reviewed by many. The important issue was for there to be sufficient complexity to challenge the experienced simulation

midwives and audience, but at the same time not to depict perfection as the films were supposed to be a proxy for engaging in the scenario itself. The following subsections will critically outline the processes involved to generate these videos and the validation of the original scenarios that were later used as the 'script' for filming.

3.6.1 Selecting the Scenarios

Obstetric emergencies are rare (Table 3.4) and identification of and development of obstetric emergencies for simulation was guided by a number of sources. Initially, the literature was searched for the most frequently occurring obstetric emergencies in the UK along with their associated mortality rates (Table 3.4)³⁹. Whilst pre-eclampsia⁴⁰ and eclampsia⁴¹ is the most frequently occurring obstetric emergency, sepsis is the leading cause of maternal mortality (CMACE 2011). Since the simulations will be used to explore the decision making of experienced midwives, obstetric emergencies where the diagnosis and deterioration is not overtly obvious was required. It was considered that all midwives, irrespective of experience would immediately recognise a postpartum haemorrhage and an eclamptic fit and therefore less obvious scenarios were selected including a concealed placental abruption and deterioration from a severe (Bone et al 1992) genital tract sepsis. A concealed

³⁹ It is acknowledged that The Eighth Report on Confidential Enquiries into Maternal Deaths in the United Kingdom 2006 - 2008 (CMACE 2011) was superseded by the Saving Lives, Improving Mothers' Care – Lessons learned to inform future maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2009 - 2012 (Knight et al 2014) shortly after the scenarios were developed. In the latter Report, the mortality rate from genital tract sepsis had more than halved between 2006-2008 and 2010-2012.

⁴⁰ Pre-eclampsia is a disorder of pregnancy in which there is high blood pressure and either large amounts of protein in the urine or other organ dysfunction.

⁴¹ Eclampsia is where convulsions occur in a pregnant woman suffering from high blood pressure,

placental abruption⁴² was chosen because of the potential for the process of weighing the probability of a concealed abruption versus that of other obstetric conditions as accounting for the mother's condition. A severe sepsis was chosen because the simulation could be constructed to take account of the contributing factors of maternal death which included difficulties in recognising and in responding to sepsis (CMACE 2011).

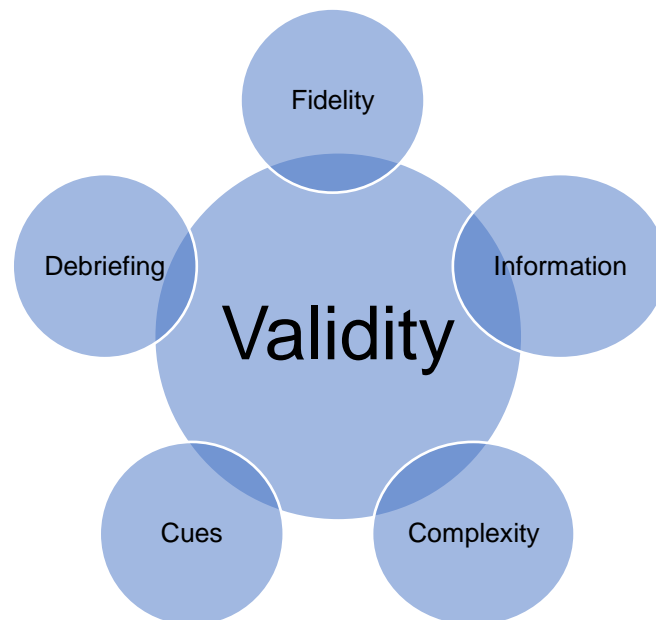
Table 3.4 Maternal Obstetric Emergencies		
Common Obstetric Emergencies	Incidence	Mortality Rate Per 100,000 Maternities CMACE 2011
Haemorrhage Antepartum Postpartum	3-5% (RCOG 2011) 1-5% (Weisbrod et al 2009)	0.39
Sepsis	Inconclusive data	1.13
Pre-eclampsia and eclampsia	1.5 – 7.7% (NICE 2010)	0.83
Thromboembolism	0.13% (RCOG 2009)	0.79
Amniotic fluid embolism	2 per 100,000 deliveries (Knight et al 2010)	0.57
Anaphylaxis	No published information in the UK (NPEU 2013)	

3.6.2: Developing the Simulations

The development of the two simulations was based on an adapted version of the five design features by Jeffries (2005) and

⁴² Concealed placental abruption is when the placenta detaches from the uterine wall. Blood becomes trapped between the wall of the uterus and the placenta.

Cioffi's (2001) recommendations that clinical simulations should mimic clinical reality, be process based and demonstrate validity (Figure 3.1).



**Figure 3.1 Design Features for Simulations
(Adapted from Jeffries 2005; Cioffi 2001)**

A careful consideration was given to incorporating as many realistic environmental factors as possible into the simulations so that they mimic clinical reality. Firstly, this involved conceptualising clinical models of a woman deteriorating from a concealed placental abruption and severe septic shock that could be simulated and filmed to explore decision making. An example of the model for placental abruption is shown in Figure 3.2.

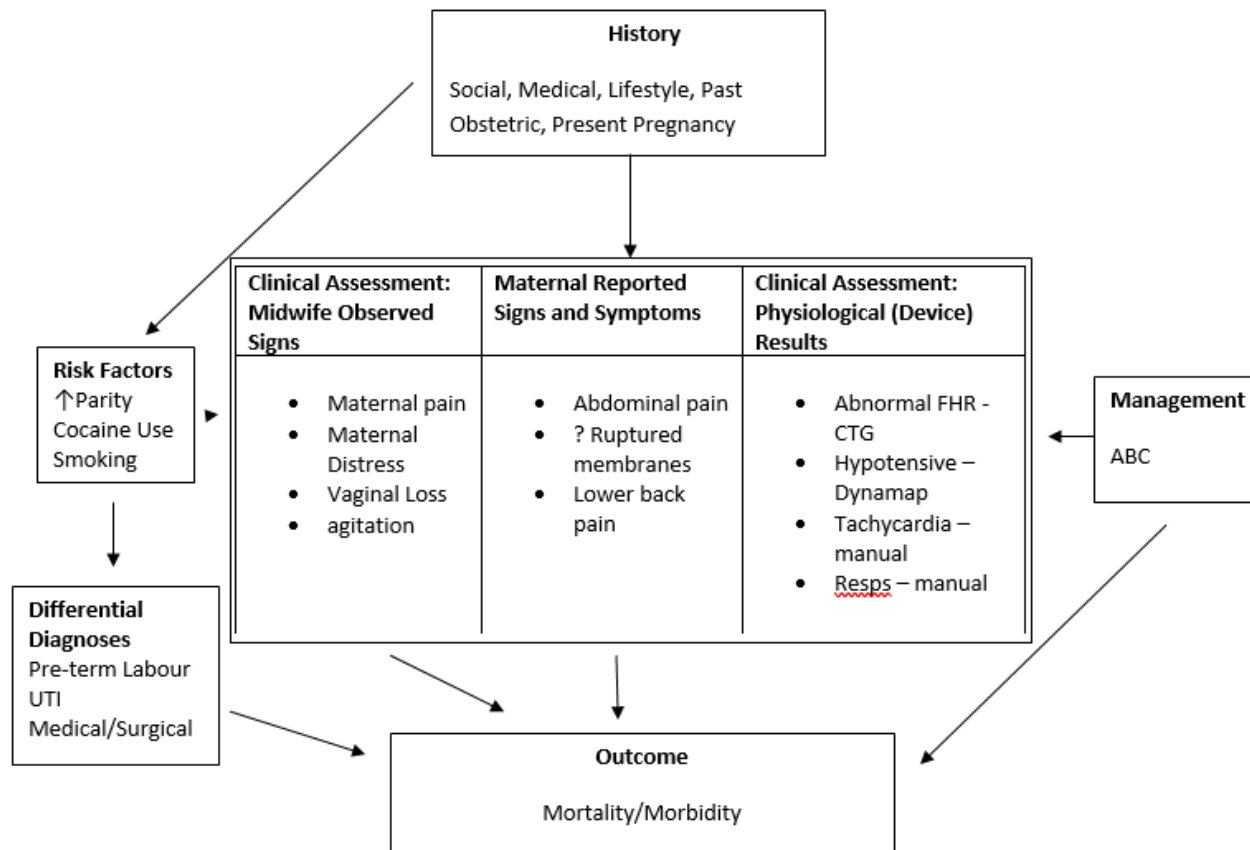


Figure 3.2 Model of Concealed Placental Abruption

The models were based on standard midwifery textbook theory (Macdonald & Magill-Cuerden 2012; Fraser & Cooper 2014). The scenarios were then developed from real cases and further informed by national (RCOG 2011, 2012); local NHS Trust guidelines and the competencies and essential skills clusters that are within the scope of practice of a registered midwife (NMC 2009). The presenting information in the scenarios was deliberately kept to a minimum; for example, for the scenario based around concealed abruption:

'Josie is pregnant and un-booked in this Unit but says that she is booked in with the Midwives at St Saviour's in Fordshire. She has presented herself to the labour ward unaccompanied with abdominal pain. She says that she is 39 weeks pregnant'

Following on from this, a consideration was given to how often and what information and verbal responses should be provided either independently or in response to questions from the simulation midwives during the simulation. Since the aim of the research study for which the films are to be used is to explore decision making and not diagnostic accuracy, it was important that the simulations represent clinical reality in real time rather than the 'perfect' management of the emergency. Thus, the approach by the simulation midwives to the scenario had to be unique and not standardised⁴³. A process based approach to presenting the information as recommended by Cioffi (2001) was therefore adopted. According to Barrow (1996), this approach mimics the conditions of decision making. By providing very little information initially, the simulation midwives were able to proceed freely through the scenario, collecting and interpreting further information, by asking the actress mother questions and carrying out physical examinations, in any order and as required,

⁴³ The simulation midwives did not have a standardised response to work to.

making their own decisions about the actress's diagnosis and management. The simulations were therefore not rehearsed, and the simulation midwives did not know the nature of the scenarios prior to the simulations. The information with respect to the scenario was presented on the day, enabling the clinical thinking of the simulation midwives to be natural. To script representations of decision making into the simulation might have been persuasive so as to define rather than reflect thinking. Clinical findings and the responses of the actress mother was therefore scripted to achieve an acute situation that requires diagnosis and treatment in an 8 minute period. Other simulated obstetric emergencies have also been constructed to be completed in 8 minutes (Scholes et al 2012; Cooper et al 2011). Lastly, the obstetric emergencies were realistically simulated with the available resources. This included filming in the simulation suite with the appropriate clinical equipment and using an actress mother. This was to enhance the psychological fidelity (Howard 2018).

Problem solving features need to be embedded into a scenario for simulation. The level of complexity and chunks of data that are required to inform decision making can correspond to the level of expertise for those engaged in the simulation (Ericsson 2007). In this instance it was experienced midwives, therefore the following issues were embedded into the scenario. The amount and accuracy of information is a key factor in decision making (Thompson and Dowding 2009); however, due to the uncertain relationships between the maternal information and the clinical condition, decisions are often based on probabilities (Thompson & Bland 2009). Seminal work by Cosier and Dalton (1986, 1988) refer to this as environmental certainty/uncertainty. They describe a decision under certainty as one where the decision maker can identify the characteristics of possible alternative decisions and predict the outcome. In contrast, a

decision under uncertainty is where there are many unknowns and possibilities such that the decision maker cannot assign subjective probabilities to the likely outcomes of the alternatives. Cosier and Dalton (1986, 1988) combined the amount of relevant available information and the degree of environmental uncertainty and identified four types of decision environments ranging from simple to complex (high information/low uncertainty, high information/high certainty, low information/ low uncertainty and low information/high uncertainty).

Since the simulations were being developed for a study exploring experienced decision making in a complex environment, it was considered that the level of uncertainty should be high and that the level of relevant information should be low, but that this level should vary between the scenarios. This creates an environment where the lack of information and the predictability of outcomes based on the relationships between maternal information and other input such as the clinical condition are not overtly obvious. The presenting maternal history, clinical findings and the responses of the actress mother was therefore modelled to achieve this. For example, the presenting maternal history in the two simulations was scripted to provide varying levels of information and some irrelevant information. In the Antepartum haemorrhage scenario, the mother is a heavy smoker. This is a risk factor for placental abruption (Mukerjee & Bhide 2008) but was omitted from the available maternal history; nonetheless, this information was available and could have been sought out and processed by the volunteer midwives during the simulation. Similarly, in the sepsis scenario, there is minimal and irrelevant information such as the mother being tearful and having problems with breastfeeding.

Cues were provided during the simulation to help the simulation midwives to progress through the simulations (Jeffries 2005).

Information that was considered as ‘potentially likely’ to be requested from the actresses was scripted in and was available from the actress mother. Similarly, information in relation to clinical findings was provided at the point of completion by the actresses. For example, the blood pressure reading was verbally presented at the point that the actress deflated the cuff. Likewise, a fetal heart rate (FHR) reading was provided when the actress auscultated the FHR and asked what the FHR is. The above information was grouped together under appropriate sections and constructed as a question and answers sheet. An example is provided in Table 3.5.

Table 3.5 Example of Questions and Answers from the section on Presenting Condition of the Placental Abruption Simulation	
Potential Question	Answer
When did the pain start?	A few hours ago,
Where is the pain?	Here, pointing to all over her abdomen
Is the pain constant, or does it come and go	Not sure

The simulation midwives working through the simulation and the actress mother volunteered and consented to being filmed. They were provided with clear objectives and instructions on their roles, the role of the person co-ordinating the simulation (researcher) and the timeframe for the simulations. It was anticipated that no harm would come to the simulation midwives during the simulation; however, a study that used simulation showed that the participants were acutely affected by the experience especially if they did not sufficiently manage the scenario (Scholes et al 2012). Debriefing is an important feature of simulation and as such the simulation midwives and the actress mother debriefed, reviewed their performance and consented to their performance being shown to others.

3.6.3 Content Validity

The fidelity of the case simulations was evaluated for validity. It is acknowledged that this goes against the theoretical framework underpinning this study; however, it was necessary to assess the degree to which the videos represented the social world of obstetric emergencies. This was because it was going to be filmed and shown to others to prompt them to discuss their decision making processes.

Content validity addressed the degree to which a sample of items represents a sufficient operational definition of a construct. It is usually associated with the development of questionnaires or in the development of assessment tools/scales and involves a mathematical computation that is based on items of relevance as rated by a panel of experts (Polit et al 2007). The process for measuring content validity is often documented in such studies and has been comprehensively described in relation to the development of a screening scale for postpartum depression (Beck & Gable 2001), In contrast, authors of studies that involve case simulations often mention that content validity was assessed by a panel of experts but provide no evidence of the process. Conclusions regarding the extent to which the simulations were a valid reflection of how they would present in the real world of clinical practice can therefore not be drawn.

Assessing content validity was an important feature in the development of the case simulations especially because it was going to be filmed and shown to others to prompt them to discuss their decision making processes. It addressed the degree to which the items in the simulations were representative of the content domain. Since the literature does not provide an illustration of the process for a simulation, the process that was used by Beck & Gable (2001) in the development of a

postpartum depression screening scale was adapted and applied to the simulations that were to be used in the research study. The process for measuring content validity is mostly judgmental in nature. The process adopted included a priori approach whereby the simulations' content domain was identified and a posteriori procedure that involved a panel of experts assessing the validity of the items within the domains through a content validity rating survey. The latter helped to identify items which should be withdrawn, revised or added to the simulations (Lynn 1986; Beck & Gable 2001; Polit et al 2007).

The a priori approach addressed the content domain, conceptual and operational definitions and item generation. A domain is the content area that is associated with the variable being measured. Crucial to the assessment of the validity of this variable is the identification of specific information during the simulation that the simulation midwives can collect and interpret with respect to this variable in order to make their own decisions about the actress mother's diagnosis and management. The clinical model (Figure 2) informed the development of the scenarios and the questions and answers sheets. These were then used to define the content domain (conceptual definitions). As previously discussed, qualitative data from real case scenarios and personal experience, informed by national and (RCOG 2011, 2012), local Trust guidelines and the competencies and essential skills clusters that are within the scope of practice of a registered midwife (NMC 2009) were used to generate the items (operational definitions) within the domains. Thus, the items animated the domains by defining them in terms of the activities that measure it.

A panel of six midwifery experts were identified, asked and briefed regarding their role as part of a panel of experts. Essentially, this was to review the scenarios to maximise

conceptual fidelity; for example, are the physiological observations consistent with the signs and symptoms that the woman is displaying (Howard 2018). Experts 1-3 were midwives from clinical practice with a mean of twelve years of experience (range 21–7 years). They were considered experts because they were in roles as clinical skills facilitators and had completed the Advanced Life Support in Obstetrics (ALSO) Course. Experts 4-6 were midwifery lecturers with a mean of thirty years of experience (range 33–26 years). They had also completed the ALSO Course and teach and assess obstetric emergencies on the pre-registration midwifery curriculum.

Two survey forms (Appendix 4), one for each case simulation were developed and divided into four sections. Section one consisted of the presenting maternal condition (scenario). Section two consisted of the data that the actresses could collect during the simulation. Section three comprised the content validity rating survey. This form required the experts to rate each item for relevance, clarity and replication on a 4 point ordinal scale. A 4 point scale was used to force a response and avoid the neutral/undecided midpoint (Parahoo 2014). The labels that were used for the four points on the item rating scale are attributed to Davis (1992) and consisted of 1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = highly relevant. Section four comprised a survey form to evaluate the predictability of relationships between key decision variables. This form required the experts to assess the items of each simulation for relevance of information of the obstetric emergency and deterioration in relation to the degree of predictability of relationships between decision variables. For example, if given the admission history (information), does a predictability of concealed placental abruption follow (predictability)? The forms also contained comments boxes for feedback.

Shortly after the briefing, at the beginning of October 2014, the experts were sent the survey forms with an accompanying letter that explained what was required of them. They were asked to return complete forms by the 1st December 2014. Individual visits were arranged with five out of the six experts who required further support with completing the forms. The panel of experts returned the completed form through the internal mail. Forms were finally received in mid-January 2015 with a full response rate.

3.6.4 Methods for Assessing Content Validity

There is no accepted standard in the literature for conducting the posteriori approach. Many different methods have been advocated for assessing the content validity at the item level and the scale level. The main ones identified from the literature for assessing content validity at the item level include the average congruency percentage (ACP) and the content validity index (CVI). The ACP is accredited to Popham (1978) and in this method, experts assess whether each item is congruent (relevant) to the construct. The number of items that each expert rate as relevant is calculated and converted into a percentage. The mean percentage for all of the experts is then calculated to establish the average congruence (relevance) percentage (Popham 1978). For example, if expert 1 rated 100% of items as being congruent (relevant) to the construct and expert 2 rated 80% of items as being congruent, the ACP would be 90%. An ACP of 90% or higher is the considered standard (Waltz et al 2010). Cioffi (2001) reported using this method when developing and validating case simulations in midwifery and triage assessments; unfortunately, the description of the process was not explicit.

In contrast to the ACP is the CVI. Popular amongst nurse researchers (Polit & Beck 2006; Polit et al 2007) it derives its

methodological origins from the seminal work by Lynn (1981) and later work by Grant and Davis (1997) and Waltz et al (2005). Using a 4 point scale to avoid a neutral response, the content validity of the individual items (I-CVI) can be calculated by a minimum of 3 experts, but no more than 10 (Lynn 1986; Polit & Beck 2006; Polit et al 2007). The I-CVI is computed as the number of experts giving a rating of either 3 or 4 divided by the number of experts. With 3-5 experts the I-CVI should be 1.00; that is all experts should give a rating of 3 or 4 (Lynn 1986; Polit & Beck 2006; Polit et al 2007). With 6 experts, the simulation would have to consist of items that each has a minimum I-CVI of .78 to have excellent content validity (Lynn 1986; Polit & Beck 2006; Polit et al 2007). The I-CVI was the chosen method to measure the content validity of the individual items from each of the simulations.

There are also different methods for calculating content validity of the overall scale (S-CVI). One method involves a universal agreement (expressed as S-CVI/UA) by all experts on the proportion of items in the simulation that achieved a rating of 3 or 4. The problem with this method is that it disregards I-CVI values for which there is no universal agreement. Furthermore, the greater the number of experts makes it difficult to achieve acceptable values for S-CVI/UA. This could be due to one expert not understanding the task or having a biased viewpoint (Polit et al 2007). For example, if 6 experts rated 9 items on a 10 item scale as relevant, but the item that was not relevant was different between the experts, the S-CVI/UA would be .40. In other words, only 4 (same items) out of the 10 items received relevance ratings of 3 or 4. In contrast, content validity of the overall scale can be calculated by computing the I-CVI for each item on the scale and then calculating the average I-CVI (referred to as S-CVI/Ave) across the items. This method was chosen over the

latter because it represents each item through the averaging process.

There is disagreement over what constitutes an acceptable standard for the S-CVI. Davis (1992) recommends a minimum S-CVI of .80. In contrast, Polit & Beck (2006) argue that while this may be reasonable for the CVI/UA (universal agreement), an acceptable value using the S-CVI/Av (averaging approach) should be 0.90 or higher to be judged as having excellent content validity (Polit et al 2007). In other words, with a value of .90 for the S-CVI/Ave the scale would consist of some items where there was complete agreement (I-CVI = 1.0) and a few items where there was some disagreement (I-CVI's of at least .78). The significance of the latter is discussed below.

3.6.5 Findings from the Panel of Experts

Content Validity

The antepartum haemorrhage simulation consisted of 17 out of 19 items with I-CVI's of greater than .78 and an S-CVI/Ave of .93 (Appendix 5). The panel of experts considered 17 out of 19 items relevant. There were divergent opinions with respect to two items (I-CVI = .67). The panel of experts were also asked to rate and comment on the items in terms of replication and clarity.

The suggested changes to the items in relation to their clarity were made following the qualitative feedback. Based on the recommendations by Polit et al (2007), items with an I-CVI lower than .78 should be considered for revision and those with very low values should be deleted. It was considered that the 2 items with I-CVI's of <.78 required only minor revisions and a second round of expert review was therefore not conducted.

The septic shock simulation consisted of 10 out of 16 items with I-CVI's of greater than .78 and an S-CVI/Ave of .82 (Appendix 6). The panel of experts considered 10 out of 16 items relevant. There were divergent opinions with respect to 6 items (I-CVI = .5-.67). The panel of experts were also asked to rate and comment on the items in terms of replication and clarity. The suggested changes to improve the clarity of 3 of the items were made following the qualitative feedback. The 6 items with an I-CVI of <.78 were not revised or deleted and the reason for this will be discussed in section 3.6.6 below

3.6.6 Predictability of Relationships between Key Decision Variables

As previously discussed, the case simulations were constructed to consider the complex and uncertain situations in which midwives have to make clinical assessments. Varying levels of uncertainty were built into the case simulations and the panel of experts judged the predictability of relationships in relation to the level of relevance of the information. It can be seen that within Cosier & Daltons (1986, 1988) framework of decision environments, the septic shock simulation is the most uncertain (S-CVI/Ave .57) (Appendix 7) and the concealed abortion simulation the most certain (S-CVI/Ave .72) (Appendix 8). In order to maintain the varying levels of uncertain content between the two case simulations, the items from the septic shock case simulation with an I-CVI of <.78 were therefore not revised or deleted.

Scenarios were prepared that could be filmed; however, it required for there to be greater attention to detail and thus content validity as the films were to be reviewed. The important issue was for there to be sufficient complexity to challenge the experienced audience, but at the same time not to depict

perfection as the films were supposed to be a proxy for engaging in the scenario itself.

3.7 Document Review

National and local guidelines for the management of obstetric emergencies contributed to the analysis of the issues. This case study was bounded to experienced midwives from 3 NHS Trusts on the South East Coast. It was considered that local guidelines may differ across Trusts with possible variations in the management of obstetric emergencies. The next Chapter provides a discussion of how these guidelines were used in this study.

3.8 Data Analysis

The aim of this study was to develop a substantive explanatory theory grounded in the data of emergency decision making by experienced midwives and is therefore a theory generating study (Simons 2009). Methods of data collection had to uncover the meanings behind the actions of the midwives. Section 3.4 highlighted one of the strengths of case study is the vast amount of data that can be collected; however, this can also be considered as a weakness with respect to data management and analysis. Indeed, Yin (2009) contends that analysis is difficult because the techniques have not been well defined. Merriam (1998) however suggests that it can employ any number of analysis methods. Grounded theory approaches to data analysis were considered because as demonstrated in Chapter 2, there is little research on this area of decision making. It also has the ability to generate theory (Schatzman 1991, Charmaz 2014, Corbin and Strauss 2015) and fits with the aim of this study. Like case study, the philosophical underpinnings of grounded theory also extend both the post-positivist classical grounded theory of Glaser and Strauss (1967) and the

constructivist grounded theory of Charmaz (2014). The latter has its roots in symbolic Interactionism where the emphasis is on process, actions, interactions and interpretation of co-constructed (researcher and participant) subjective meanings and fits with the interpretive-constructivist philosophy underlying this study.

The main strength of constructivist grounded theory analysis is the use of the constant comparative analysis method. As previously discussed, whilst this study does not claim to be a grounded theory study, it took advantage of the constant comparative method. This is a systematic iterative,⁴⁴ process. In this study this involved comparing the data from each case (midwife) within the same case; comparing cases (midwives) with different cases and comparing a case from the same person (midwife) with themselves over different points in time (Charmaz 2014). It also involved comparing all data sources that were used in this study such as memos and national and local guidelines in the management of obstetric emergencies. This method in conjunction with reflexive memoing (section 3.9.1) distanced the researcher from the data. Furthermore, it maintained the emic perspective of the study; assured that all data was systematically compared to all other data (O'Connor 2008) and enhanced the rigour of this study.

Grounded theory methods have undergone much iteration since its inception by Glaser and Strauss in 1967. This has resulted in multiple coding techniques such as open, axial, selective (Kools et al 1996). Schatzman (1991) noted that the absence of a definitive structure was challenging when applying these techniques. He subsequently adapted dimensional analysis

⁴⁴ Iterative process requires researchers to move back and forth among the data right from the coding stage for abstract concepts through to categories and theory development.

which was originally a theory of thinking or natural analysis⁴⁵ for use as an analytical tool for textual data (Kools et al 1996, Jacobson 2001). He described this as an 'alternative approach to grounded theory (Schatzman 1991). Whilst this study took advantage of the constant comparative analysis method from grounded theory, it utilised dimensional analysis as the analytical tool. Philosophically and theoretically rooted in symbolic Interactionism it provided a systematic framework for the researcher to interpret and understand the complex experiences of experienced midwives during obstetric emergencies through a process of interaction and reflection with the data (Schatzman 1991, Kools et al 1996, Robrecht 1995). This is compatible with the theoretical underpinnings of this study. In addition, the systematic process suited the way in which the researcher processes information. It is a process consisting of four distinct but connected stages:

- 1. Dimensionalising** - In contrast to the coding techniques used in grounded theory (Glaser & Strauss 1967; Charmaz 2014), the data is deconstructed, and large chunks are labelled as *properties* and organised into *dimensions* to show a relationship between aspects of those data (Bowers & Schatzman 2009). The labelling of the data together with constant comparative method allows the researcher to remain close to the data thereby focusing on the perspectives of the participants (Schatzman 1991, Bowers & Schatzman 2009).
- 2. Differentiation** – This involves exploring the relationship between the different dimensions and may involve conflating and expanding properties to provide analytical insight (Kools et al 1996). The literature is used as a conceptual lever to support this

⁴⁵ Natural Analysis is an individual's ability to use processes to interpret and understand the complexity of a phenomenon (Kools et al 1996). Humans do this in their everyday life.

stage of the process. Important dimensions referred to as the *perspective* are auditioned. This (central) perspective is then used to logically organise other important dimensions along an explanatory matrix of context (situation or environment), conditions (main dimensions influencing interactions, processes (intentional/unintentional responses caused by specific conditions) and consequences (outcomes of actions or processes). The overarching central perspective is chosen on the basis that it provides the most prevailing explanation for the relationships among the other dimensions (Schatzman 1991, Robrecht 1995; Kools et al 1996).

3. Explanatory Matrix – During the process of differentiation, further focused data collection may hone the explanatory matrix as can re-examining previous data according to newfound theoretical insights.

4. Integration – In this final stage, theoretical sampling is undertaken to test the connections in and to verify the developing theory (Schatzman 1991).

Data collection and analysis were undertaken concurrently. In this way, initial dimensions could be compared with new data. The analysis began by broadly asking ‘what all is involved here’ of the data (Schatzman 1991: 310). This question originates from symbolic Interactionism and signals the researcher’s interaction with the data. In this study, the ‘what all’ included the attributes of the midwives’ decision making, the way in which it varied and under what conditions this variation occurred. Thinking shifted from inductive to deductive and back again. Hypothetical memos were derived from the data and verified by returning to the data or to the participants. Analytical, reflective,

reflexive and theoretical memos were written throughout the study to control for inaccuracies and or falsifications. They were also an important part of the generated data and were amalgamated into the final theory. Memos are discussed in section 3.9.1. The application of the above processes with examples from the data will be detailed in the next chapter.

3.9 Strategies for Enhancing Methodological Rigour

The trustworthiness of this study's findings and hence its quality are based on the criteria that was first described by Guba (1981). It includes the extent to which the findings are an accurate representation of what was said by the midwives in relation to their decision making (**credibility**); the ability of the study to explain any changes that occurred in the research setting and the effect of these changes on the research approach (**dependability**); the extent to which the findings can be confirmed as genuine through an audit trail that details the process of data collection and how conclusions were reached (**confirmability**) and the possibility that the findings could have meaning in other similar contexts (**transferability**). The strategies that were employed to meet the above criteria are discussed in the ensuing sections.

3.9.1 Credibility

Credibility was operationalised through prolonged engagement in the field, participant verification and researcher reflexivity.

Prolonged engagement in the field involved spending sufficient time with the midwives during interviews to develop trust. This was particularly important given the nature of the research and a possible perception on the part of the midwives that by participating in a study which seeks to understand experienced decision making might somehow expose them and compromise

their reputation. Building a rapport was less of an issue since the midwives were already known to the researcher either as work colleagues or through her links to the Trusts. Data was collected over 29 months with the midwives being interviewed on three occasions. This provided the opportunity to establish the accuracy of and clarify previous information. In addition, engagement with the interview data during analysis identified issues that required expansion through further questions. In addition to the three interviews the substantive theory was taken back to the midwives.

Participant Verification. The researcher was constantly aware that there was potential for her discipline specific knowledge to contaminate her research perspective. Applying a sociological lens (as opposed to her midwife/midwifery lecturer lens) to taken for granted behaviours and interactions in the world of obstetric emergencies to 'making the familiar strange' (Mills 1959) and negating the influence of pre-existing understandings from discipline specific knowledge was challenging. Participants were therefore often asked for clarification on what they meant during the interview:

'So, in the first instance when you are asked to take over care with that history – what would have been your initial actions?' (Researcher).

*'I would have carried out the **normal physical obs (observations)**, clinical tasks & tried to get more information about why she's only just booked now' (Ellie).*

'You mentioned that you would do the normal physical obs what would that involve for you?' (Researcher).

'Full set of obs BP (blood pressure), temp (temperature), pulse, resps (respirations) – If you're lucky enough to have pulse oximeter, so your sats (saturation)' (Ellie – 1st Interview).

Understanding of what the midwives were saying was also clarified shortly after an interview and/or during subsequent interviews.

In up-holding the ethical principle of veracity, the model of the substantive theory was shared with the midwives (with one midwife reading the complete thesis) so that they could judge it in terms of its usefulness as opposed to an abstract rule of veracity. This concept is associated with the pragmatist view of Dewey (as discussed in section 3.3.2). Referred to as 'grab,' it is demonstrated by how it captured the imagination of the midwife participants; how they reacted to and understood it when it was explained (Bryant 2014).

Researcher reflexivity and Position involved examining the influence of the researcher's own subjective perspectives on the collection and interpretation of the data (Charmaz 2014; Birks & Mills 2011). In this study, the researcher had multiple identities including that of professional colleague (Midwife and lecturer), friend and researcher. The latter could be considered as an outsider position. Sharing some of these identities with the participants was both an advantage and a disadvantage. The advantages were that the same 'insider' language was spoken, and 'insider' knowledge understood, but recognition that experiences are different. The disadvantages were that having an 'insider' position could influence the way in which the midwives interacted and that being familiar with the experiences of the midwives could be a challenge in relation to remaining objective. For example, during data collection and analysis there was potential for prior beliefs to interfere with these processes; behaviours to be overlooked (because they are colleagues/friends); to make assumptions about meanings and not ask for clarification and being too close to the data and not seeing 'all there is'. In keeping with the interpretive world view

entailed not being fixed with an objective reality but recognising new knowledge and insights and not being afraid to take this forward.

It is suggested that the insider and outsider positions of the researcher was fluid. To control for the issues discussed above, researcher reflexivity was integrated throughout the research process (from the beginning of and throughout the study) to mitigate the issues. Strategies for these included discussions with supervisors, peers and colleagues and memoing. Memoing documents ideas about the relationship in the data, which is used to build theory, thereby becoming part of the theory (Charmaz 2014; Birks & Mills 2011). First and foremost, the 'issues' that the researcher brought into the study were acknowledged (Chapter 1) thereby starting the process of reflexive memoing. As the study progressed, *pre-existing knowledge* (propositional and experiential), *thoughts, feelings, methodological decisions, understanding of the meaning of the labels, why they were altered, and theory development* were disclosed through memo writing throughout the study thus providing an audit trail of the researcher's decision making during engagement with the midwives and with the data. As described and used by Birks et al (2008), the memos that were used in this study included Reflective (looking back to become more conscious about researcher activities); Operational (e.g. rationale for decisions made and actions taken); Analytical (detailed the process involved in labelling the data and why it was altered); Theoretical (facilitated the analysis of data at a higher level of abstraction to explore hypotheses, relationships and explanations in the data. These strategies maintained the etic perspective and strengthened the credibility of the study. As the study progressed, the style of the memos changed from being literal for example, of what the midwives were saying to be more analytical signalling the increasing theoretical sensitivity of

the researcher. Examples of these different type of memos can be found in the next Chapter.

Theoretical Sensitivity is the ability to have insight and being tuned in so that all relevant elements to the developing theory can be extracted from the data (Corbin & Strauss 2008; Birks & Mills 2011). With increasing levels of theoretical sensitivity, the researcher is able to understand the phenomena in abstract terms; make links between labels and properties; distinguish abstract relationships within and between dimensions (Charmaz 2014). In the first instance, the process of Dimensionalising was focused on analysing actions/processes so that connections could be made. Thus, using gerunds during Dimensionalising and memo writing helped to cultivate theoretical sensitivity (Charmaz 2014). Theoretical sensitivity was also derived from the researcher's professional experience and from the literature. As analysis progressed this 'a priori' knowledge acted as both a barrier to 'see' what was really happening as well as a lens through which the researcher could ask new questions to interrogate the data thereby highlighting new analytical understanding (Schatzman 1991). For example, following collection and analysis of data from round one an established decision-making model was imposed on the data. This (as supervision pointed out) was literal of the data and only partly explained what was going on. This perspective was derived from personal experience of how experienced midwives make decisions and from the literature. In contrast, experience from Objective Structured Clinical Examination (OSCE) type simulations involving midwifery students and involvement in a previous research study involving simulations (Scholes et al 2012) attributed student anxiety to a lack of realism. It sensitised the researcher to interpret the phenomenon of anxiety in this study; however, through constant comparative method and concepts from the literature, it was viewed through a different

conceptual lens resulting in an alternative explanation with respect to experienced midwives. Bryant (2014) asserts that it is presumptive of the researcher to claim theoretical sensitivity. He says that the extent to which it has been achieved can be demonstrated by presenting the findings to the participants and assessing their response. This links to the concept of 'grab' which was previously described.

3.9.2 Dependability and Confirmability

The researcher has provided an audit trail of the processes within the methods so that the reader can understand the effectiveness of these processes and be able to repeat this study (but not necessarily to gain identical findings). The following Chapter includes detailed descriptions of the research design and how it was executed, the operational process of data collection and analysis (interview agenda's, coding the data, Dimensionalising, and diagrams); decisions that were made within these processes (memos) and a reflective evaluation of these processes.

3.9.3 Transferability

This was a small case study that examined decision making through midwives watching self in a simulation, watching others in a simulation and recounting stories of obstetric emergencies, thus the extent to which the findings and conclusions are relevant to the position of others in their settings could be considered unrealistic. It can be argued however that the thick description of the narrative interactions of the midwives as presented in the Findings Chapter might resonate with the experiences, behaviour and understandings of others in similar situations.

In summary the quality of this study was strengthened and maintained through the following measures:

- Methodological 'fit' demonstrated through consistency between the aim of the study, the philosophical underpinnings and the methodological approach taken to achieve the aim. Thus, demonstrating that the theoretical understandings of this study were congruent with the substantive context, rather than the biases of the researcher (Bryant 2014)
- Novel and varied methods of data collection
- Prolonged time with the midwives. Returning to the midwives to clarify meaning and taking the theory back (grab) in a researcher capacity
- Concurrent data collection and analysis to maintain the emic perspective
- Constant comparative method together with inductive deductive reasoning
- Transparent audit trail
- Reflexivity to maintain the etic perspective

3.9.4 Summary

This Chapter has discussed the philosophical assumptions of this study and why a case study approach was combined with the constant comparative method and analytical strategies that draw from dimensional analysis. This is summarised in Table 3.6. The strengths and limitations of these approaches have been discussed within the context of the philosophical underpinnings of this study. The next chapter details how the methodological decisions presented in this chapter were operationalised through the methods of data collection and analysis. The strategies for enhancing methodological rigour are illuminated through the detailed audit trail of the processes used throughout data collection and analysis.

Table 3.6 Summary of the Research Design	
Ontology	Epistemology
Relativist	Constructivist
Theoretical Perspective	
Interpretivist <ul style="list-style-type: none"> • Symbolic Interactionism 	
Methodology	
Interpretivist Case Study Approach informed by Constant Comparative Method	
Methods	
Data Collection <ul style="list-style-type: none"> • Biographical Questionnaire • Researcher generated Video Elicitation Interviews with observation as an accompanying method • Document Review 	Data Analysis Dimensional Analysis

Chapter 4 Methods

4.1 Introduction

This Chapter discusses how the study's underlying theoretical perspective was harnessed through the methods that were used for data collection and analysis. It will start with a discussion of the ethical principles that were followed. It then describes the selection of the sample and presents an audit trail of the processes used to collect the data and the procedures that were used for data analysis. This will enable the reader to judge the trustworthiness of this study. The process through which the substantive theory was crafted is made explicit. It comprised iteration between data collection and analysis consistent with the constant comparative method (Charmaz 2014) accompanied by methodological, reflexive and analytical memos. Dimensional analysis involved many cycles of building an idea (inductive reasoning) followed by lining up the evidence to confirm or refute (deductive reasoning). Table 4.1 illustrates the practical application of these processes.

Table 4.1 Overview of the Application of the Methods	
Date	
Sept 2014 – Jan 2015	Ethical Approval (Section 4.2)
Feb 2015	Recruitment: posters; letters of introduction (Section 4.3)
March 2015	Filming of the two obstetric simulations (Section 3.6)

Simultaneous Data Collection and Analysis Memoing	Dates	Data Collection	Data Analysis	Constant Comparative Method Memoing Developing Theoretical Sensitivity
	March 2015 – March 2016	Round one <ul style="list-style-type: none"> • Biographical questionnaire • Video-cued reflective interviews 	<ul style="list-style-type: none"> • Identifying dimensions and properties. • Reading around reporting up of physiological deterioration and clinical mindlines (Gabbay & Le May 2004, 2010) • Theoretical Sampling 	
	March 2016 – Dec 2016	Round two <ul style="list-style-type: none"> • Interviews 	<ul style="list-style-type: none"> • Further and modified dimensions and properties • Inductive deductive cycles • More focused questions 	
	Jan 2017 – Dec 2017	Follow-up <ul style="list-style-type: none"> • Interviews 	<ul style="list-style-type: none"> • Reading around and Auditioning Goffman’s Front Stage/backstage performance • Theoretical Sampling 	
	Apr 2017 – Dec 2017	Trust Guidelines	<ul style="list-style-type: none"> • Reading around and auditioning theoretical diegesis, narration, positioning theory and identity theory 	
	Jan 2018 – Mar 2018		<ul style="list-style-type: none"> • Writing -up the story of the case • Draft Thesis 	
	May 2018 – March 2019		<ul style="list-style-type: none"> • Firming-up Substantive Theory • Theory Verification • Engaging the substantive theory with grand theory and other empirical literature 	

4.2 Ethical Considerations

Ethical approval was granted by the Health and Social Science, Science and Engineering Research Ethics and Governance Committee at the University of Brighton (Appendix 9). Research and Design approval was granted from three NHS Trusts on the South East Coast (Appendices 10, 11, 12).

The ethical considerations that were addressed in this study were around participant autonomy, anonymity and confidentiality. These are discussed in the following sections.

4.2.2 Participant Autonomy and Consent Procedures

Up-holding the autonomy of the midwives was paramount throughout this study. To this end, it was important for the researcher to recognise and address the power relations across the different stages of the research process.

Obtaining informed consent from human participants taking part in a research study has been an integral part of research ethics since the Nuremberg Code (Greaney et al 2012) Participation in this study was governed by the principle of autonomy. The participants were fully informed of the details of the study via a participant information sheet (Appendix 13). Informed consent was sought via a consent form (Appendix 14). They were also asked if they would be prepared to participate in follow-up interviews to clarify previous discussions and/or to gather further data. Informed consent was sought at each follow-up interview (Birks & Mills 2011). The researcher was solely responsible for obtaining consent. The participants were all experienced midwives and were therefore considered competent to be able to understand what was required of them and to decide whether to participate in the study. Nonetheless, the researcher checked that the participants fully understood all of the information in the

participant information sheet prior to signing the consent form by asking them to tell her in their own words what she is asking them to do and if there are any consequences to what they are being asked to do. Prior to signing the consent form, participants were given an opportunity to have all questions answered, thus ensuring that they fully understood all of the information in the participation information sheet. In signing the consent form, participants indicated that they fully understood the research in which they will be engaged. The researcher emailed the midwives to seek their consent for follow-up interviews. Potential dates were identified although they were asked to identify dates and times if these were not suitable.

4.2.3 Anonymity and Confidentiality

The requirement to protect the privacy of the participants was up-held throughout the study. The Biographical Questionnaire (Appendix 3) requested that the participants record their previous training around obstetric emergencies. If any of the participant midwives were outside of their annual mandatory updates, the researcher would have had a moral responsibility to inform the Trust. This limit to confidentiality is reflected (but did not occur) in the participant information sheet (Appendix 13) and the consent form (Appendix 14).

Confidentiality was discussed during the process for obtaining informed consent and was ensured through the following procedures; the audio tapes were transcribed by the researcher and stored on the hard drive of the researcher's password protected personal computer at home. Data held on the audio tape was erased once it was transferred onto the researcher's computer. The risk of data loss was managed by using online back-up services (Drop Box). The data will be destroyed after data analysis, the thesis is submitted, and the mark is received. Anonymity was ensured by assigning a pseudonym to each

participant so that they could not be matched to their data in this thesis or in any other methods of dissemination arising from this study such as conferences or publications.

4.3 Gaining Access and Case Recruitment

As previously discussed, this case study was bounded to experienced midwives from 3 NHS Trusts on the South East Coast of England and was considered to be a holistic single case study with embedded units (individual experienced midwives). In this study an experienced midwife was defined as one who co-ordinates the management of a clinical area within the Maternity Unit. If they are not already caring for the woman when the emergency occurs, the senior midwife will be summoned to the emergency on the premise of her experience in managing such situations, where she is normally expected to lead and co-ordinate the management of the emergency until the arrival of the Obstetric team. There were no restrictions on age, gender or ethnicity. Student midwives, newly qualified midwives and midwives that had never co-ordinated the management of the Maternity Unit were excluded from the study. The aim was to recruit a wide range of experienced midwives across different environments and across years of experience thus initial sampling was purposive in that the participants could provide data that is relevant to this study (Birks and Mills; Parahoo 2014; Simons 2009; Creswell 2007). Access to the midwives was obtained following Research and Design (R & D) approval from the three National Health Service (NHS) Trusts, a targeted recruitment strategy which included a letter of invitation (Appendix 15) to all Co-ordinators to participate in the study and posters in the clinical areas (Appendix 16) was distributed in early February 2015. During the initial stages of recruitment, the researcher can inadvertently control the quality of information that is given to participants. As a midwifery lecturer the researcher was known to the midwives through her links to the

Trusts. Providing detailed written information in a letter and administering it through a third party addressed issues of coercion and power relations by ensuring that participants had greater power and information. Consequently, this ensured that participants truly felt that it was their choice to participate. The letter informed the co-ordinators of the purpose and background of the study, the requirements of participation, the benefits from the research and limits to confidentiality. Permission was sought from the Heads of Midwifery of the NHS Trusts to advertise the study on notice boards in the clinical areas; and for the letter to be administered by the maternity administrator of each Trust. Identifying participants in this way did not invade their privacy or breach the data protection act since the maternity administrators have access and permission to use the Trusts data base. Prospective participants contacted the project email account and/or the project mobile number.

Payments and incentives in research studies to boost recruitment is a contentious issue. It was considered that payment could undermine the voluntary nature in relation to taking part and withdrawing. Since this was non-funded research, comprising of procedures of minimum inconvenience, participants did not receive an honorarium or compensation for participating in the study; however, refreshments were provided by the researcher as it was acknowledged that participants were attending voluntarily and in their own time.

From Feb – April 2015, nine midwives expressed an interest in the study. All but one was contactable. The remaining eight participants met the inclusion criteria and agreed to take part in the study. One participant was withdrawn because the researcher was supervising them during their master's dissertation. The other two participants changed their mind. The simulation midwives agreed and consented to be included in the

study for comparison. The videos were part of the 'research scene' and therefore a source of 'data surrounding what is being told' and are in line with Glazer's notion that 'all is data' (Glazer 2001: 145). The number of participants in this case study consisted of 7 experienced midwives. The characteristics of the sample are reflected in table 4.2.

Table 4.2 Characteristics of the Cases					
Case	Current Position	Time in Current Post	Qualifications	Years as a Practising Midwife	Courses
Anna	Senior Lecturer – Midwifery Supervisor of Midwives (SOM) ⁴⁶	2 years	RGN 2003 RM 2005	10 years	ALSO ⁴⁷ 2013 PRompt ⁴⁸ 2014
Becky	PT Lecturer in Midwifery Private Midwife	9 months 8 years	RM 1999	16 years	ALSO 2003 ALSO, Instructor 2006
Cassie	Senior Lecturer Midwifery Bank Midwife SOM	9 months	RGN 1987 RM 1988	26 years	ALSO 2005 NALS ⁴⁹ 2013
Daisy	Band 7 Midwife Day Assessment Unit PT Lecturer in Midwifery SOM	11 months 6 months	RGN 1999 RM 2001	14 years	ALSO 2013 PRompt 2015 NALS 2013
Ellie	FT Band 7 Midwife Delivery Suite SOM	13 years	RGN 1993 RM 1995	20 years	ALSO 2002
Fran	FT Band 7 Midwife Standalone Birthing Centre SOM	18 months	RN 1995 RM 1998	18 years	ALSO 2005 PRompt 2015
Gina	FT Band 7 Midwife Delivery Suite	8 years	RM 2002	14 years	NALS 2013 ⁵⁰ SLAM 2012 (and Instructor)

⁴⁶Supervisor of Midwives are experienced midwives who have undertaken additional education and training to support, guide and supervise midwives in clinical practice. The role of the Supervisor of Midwives was framed in statute (NMC 2012). Following a Department of Health Consultation in 2016 supervision was removed from regulatory legislation in 2017.

⁴⁷ ALSO – Advanced Life Support in Obstetrics

⁴⁸ Prompt – Practical Obstetric Multi-Professional Training

⁴⁹ Neonatal Advanced Life Support

⁵⁰ SLAM: Sussex Leading and Managing Maternal Emergencies

4.4 Data Generation and Collection

Control and ownership of the data belonged to the midwives. Data collection was therefore reliant on the midwives' willingness to share their knowledge and experiences of the phenomena. As previously discussed, the researcher was known to the midwives. This has implications during data collection with respect to ensuring that the midwives were not manipulated or exploited to obtain their data. The researcher considers that she conducted the interviews as researcher and not friend or colleague. She balanced fostering rapport with developing a mutually trusting relationship in order to gain access to their experiences.

Data collection started in March 2015 and was completed in December 2017. Data sources comprised of:

- Biographical Questionnaire
- Video cued narrative reflection of watching self and others in two scenarios
- Observation of the simulation midwives performing in two scenarios
- Informal observation of the midwives watching the videos
- Follow-up interviews
- Extant national and local guidelines⁵¹ for the management of obstetric emergencies
- Field notes (during and after the simulations) and memos

⁵¹ The researcher had no influence on the guidelines as these are pre-determined by experts based upon the best evidence.

Table 4.3 Sources of the Data				
Cases	Interviews	Total Duration Hrs/mins	Theory Verification (Interview 4)	Researcher Observation
Anna	x 3	2 50/60	17 mins	4 hours
Becky	x 3	2 40/60	34 mins	4 hours
Cassie	x 3	2 20/60	22 mins	20 mins
Daisy	x 3	2 25/60	20 mins	20 mins
Ellie	x 3	2 25/60	18 mins	20 mins
Fran	x 2	1 30/60	28 mins	20 mins
Gina	x 3	2 25/60	15 mins	20 mins

The Biographical Questionnaire (Appendix 3) as discussed in section 3.5.1 was administered in the interview setting following consent procedures. The midwives were required to recall attributable information from memory to complete the questionnaire. There were no memory gaps with all of midwives easily completing the questionnaire.

The purpose of the interviews was to understand the experiences, attitudes, beliefs and motivations of the midwives with respect to obstetric emergencies. The interview process has been compared to a conversation (Simmons 2009; Schatzman 1991) that establishes a mutual relationship between the researcher and the participant thereby creating the right set of circumstances for active interaction and co-construction of meaning (Simmons 2012). Whilst the researcher has skills in interviewing prospective students and in taking histories from childbearing women, she has no previous experience of conducting a research interview. Box 4.1 presents a reflection on the mistakes and lessons learnt during the first interview.

Box 4.1 Reflection from First Interview

I know that I'm supposed to be actively listening, but at times I found myself agreeing with what Anna was saying – a little nod here and a 'yes I know' there. I'm not sure what the form is for acknowledging that you share the same perspective, so I'll try to remain neutral in future interviews. Listening back to the audio recording, I felt silly interrupting her flow of conversation by asking her why she asked the mother about the mode of delivery of her previous children. She knows that I know why she asked this (to exclude uterine rupture) but I had to assume that her meaning might be different to my meaning. On the other hand, and owing to my insider knowledge, I did assume that I knew what she meant and voiced this during the interview – 'My mind had gone to the sepsis hour' (Anna) 'Oh, the RCOG Sepsis Care bundle' (Researcher). I also noted that I asked a yes/no question – 'Do you use guidelines in the management of obstetric emergencies?' I now have to go back to her and ask, 'How do you use guidelines.' Lastly, I think that at times I was so focused getting through my interview agenda that I missed opportunities of being theoretically sensitised to the meanings of what she was saying. As a result, in that moment I did not develop the discussion. I only picked this up during data analysis, when I wished at the time that I had probed further. I need to be more attuned and this will enable me to respond in a more flexible manner to the voices of the midwives. The research interview is so much deeper than a 'conversation', You have to tend to so many aspects of the communication that is taken for granted in normal 'conversation'. Reflecting on this first interview has enabled me to identify my mistakes and the impact of this on the data. This issue of not probing further did persist across interviews somewhat. Consequently, I had to follow-up what I should have further probed at subsequent interviews (2/4/2015)

In the first round of data collection, the simulation midwives watched themselves in each of the scenarios and engaged in video-cued narrative reflection of their performance. The other midwives watched each of the videos of the simulation midwives managing two obstetric emergencies via a laptop. After watching each scenario, they were invited to engage in video-cued narrative reflection of events in the scenarios. The videos were stopped to show the midwives hard copies of any information that the simulation had access to such as the cardio-toco-graph tracing from the antepartum haemorrhage scenario and the labour summary and postnatal notes from the sepsis scenario.

The first midwife that watched the videos was shown the first video in its entirety and then interviewed. She was then shown it again and informed that she could stop it if she wished to discuss any aspects of the management. The video was also at times stopped by the researcher. The researcher felt uncomfortable with this format as it pre-disposed the midwife to an expectation that the video footage that was paused was significant. Consequently, the second video was shown only once followed by the reflective review. The latter seemed more appropriate. An operational memo was made to discuss this at supervision (Box 4.2)

Box 4.2 Methodological Memo
At supervision today we discussed how I should use the videos with the midwives. I was concerned that by stopping the video I was implying (to those watching) that this is an important scene that was managed/not managed appropriately thereby enforcing my perspective. We decided that I would show each video in its entirety followed by the reflective review (15 th May 2015)

An interview agenda that was adapted from 'questions and probes' that were used in a critical care study by Benner et al (1999) was used to guide the interview process during the first round of data collection (Appendix 17). The questions were open-ended and broad, with the aim of exploring and not interrogating the midwives' decision making (Charmaz 2014), thus, the researcher strived to keep the interview informal and conversational (Charmaz 2014; Schatzman and Strauss 1973). At the end of the interviews the midwives were asked if there was anything else that they think that the researcher should know about how experienced midwives make decisions in obstetric emergencies. For some midwives, this prompted further discussion with rich data collected. In addition, they were asked if there was anything that they wanted to ask the researcher.

The interview agenda in round one was operationalised in two parts. The first part invited them to reflect on each of the videos and discuss their understanding of the scenarios along with their decisions and subsequent actions. The second part of the interview wanted to understand the influences on their clinical judgement and decision making. As the subsequent interviews and analysis progressed and in response to what the midwives were communicating during these interviews, questions changed, were modified or became more focused. For example, during round one of data collection, the midwives were asked:

'In what way is this video/being in the scenario different to your clinical practice?' (Researcher)

This question did not yield rich data; for example:

'I think it was nearly identical to a concealed abruption that I'd seen in clinical practice and it's really hard to assess because it's all quite general, you know distressed mother,

assessing a uterus when the mother is distressed' (Becky 1st interview)

'Taking time to undertake the clinical skill was very realistic. Finding the equipment for the cannulation very realistic.... On the whole, I thought it was very realistic' (Ellie 1st Interview)

The fact that this question was asked towards the end of the interview (after they had watched and discussed two videos) along with the compare/contrast nature of the wording may have accounted for the responses. In round two of data collection, the question was rephrased:

'Tell me, how was being in the scenarios/watching the videos different to a memorable experience?' (Researcher)

This question encouraged the midwives to reflect on a particular experience simulated or real rather than the general aspects of clinical practice that was asked in the first round of interviews. This question facilitated a more natural flow of conversation; for example:

'I clearly remember the postnatal one than the other (APH) one' (Ellie 2nd Interview)

'Why do you remember that one in particular?' (Researcher)

'Because it's not something I have to deal with day in day out. Because I witness the other one on a daily basis' (Ellie)

'You mean the abruption?' (Researcher)

'Yes – we recently had one' (Ellie)

'Can you tell me about that' (Researcher)

As a novice researcher and to increase confidence, drawing on the work of Charmaz (2014), the researcher developed another

interview guide of ready probes that she anticipated might arise out of responses to the question. The probes were around differences between simulated and real life emergencies in identifying the situation, team working, how roles were decided, escalation, factors impacting on their decision making (Appendix 18). This round of interviews and round three also asked the midwives for clarification of and supplementary data from previous interviews.

Data was collected outside of the midwives working hours and clinical environment at a date and time that was convenient to them. The reasons for this were twofold. Firstly, it was crucial that the study did not interfere with the activities of the Units. There is usually only one experienced midwife in the clinical area. Taking her away could be detrimental to the care of women and their babies. Secondly, the midwives could be distracted during the interview or time pressured to return to their work. Venues for data collection included a quiet room away from the clinical areas in one of the Trusts, the Hospital canteen and the University. The researcher was also invited into the home of one of the midwives to conduct the first interview. This was at her request because she was on a day off and did not want to travel to her Trust or the University. The researcher had never previously been to her house.

Whilst the researcher has a preference towards face to face interviews, round three, follow-up interviews of four midwives was conducted by telephone. This was for clarification on certain aspects and to further probe issues from the previous interview. The advantage of the telephone interview was that the midwives could fit the interview in around their schedule without having to travel to a venue on their day off. Telephone interviews are widely accepted and used in quantitative research (Holt 2010); however, there are concerns that in qualitative research subtle

non-verbal cues can be missed (Holt 2010). Whilst the loss of visual cues cannot be questioned, this was compensated by being tuned in to the hesitations and sighs of the interviewee. Once on the telephone, verbal consent to participate in and record the interview was taken.

The videos and the nature of the videos are not sensitive; however, it was acknowledged that they might provoke memories of a past experience which might bring about an emotional response. One of the participants did become emotionally up-set and tearful when she was narrating her experience of managing an out of hospital neonatal resuscitation where the baby subsequently died. The interview was stopped, and she was offered immediate support by the researcher. She chose to continue, and the interview was resumed.

With the midwives' consent, the interviews were digitally recorded on a personally owned digital recorder and transcribed verbatim by the researcher. The transcribed interviews were emailed to the midwives within ten working days of the interview. They were asked to check it for accuracy; add and/or delete any text or contact the researcher if they had any queries. After each interview a reflective summary was completed highlighting hunches, interpretations (on the gathered data), methodological decisions, issues to follow up and observations on participant reactions and body language.

4.4.1 Theoretical sampling

The aim of this study was to develop a substantive theory of decision making by experienced midwives in obstetric emergencies. Initial data collection was purposive. The constant comparative method was borrowed from grounded theory to generate concepts from round one of data collection and analysis. This subsequently served as a theoretical guide for

further data collection. This process is called theoretical sampling (Charmaz 2014). Theoretical sampling is a fundamental method of data collection that has not changed in all iterations of grounded theory. It is a process in which the researcher 'decides what data to collect next and where to find them' (Glaser & Strauss 1967: 45) to develop the emerging theory. This can be in the form of people, events and information to elaborate and/or refine categories (Charmaz 2014; Birks & Mills 2011). Theoretical sampling was employed as the researcher became increasingly theoretically sensitive and reflexive to the data during concurrent collection and analysis. The data sources that were used included another birthing centre midwife, extant documents and the use of focused questions. The first trigger for theoretical sampling arose during round one of data collection. Comparing Cassie's interview (Birthing Centre midwife) with that of the simulation midwives and Daisy's (Hospital midwife). It was found that Cassie's capacity for watchful waiting was limited. Consequently, another midwife that works in a standalone Birthing centre was able to offer further understanding in this area. In Round two of data collection *Following the Rules* and *Modifying the Rules* were significant; thus, local and national guidelines pertaining to the management of shoulder dystocia were accessed to provide clarity. Lastly, it became apparent that midwives from a particular Trust were expected to perform out of their professional role during simulation. This was a property of the 'Performance Contradictions' dimension. Midwives from the other two Trusts were sampled to provide further insight. In adjusting and controlling data collection according to theoretical criteria, the researcher was able to safeguard the data's relevance to the emerging theory (Holton 2008).

4.4.2 Theoretical Saturation/Sufficiency

In qualitative research saturation is used as a criterion for discontinuing data collection and/or analysis (Saunders et al 2018). Theoretical saturation is rooted in and a crucial element of grounded theory (Table 4.3)

Table 4.4 Grounded Theory Definitions of Theoretical Saturation
'The criterion for judging when to stop sampling the different groups pertinent to a category is the category's theoretical saturation. Saturation means that no additional data are being found whereby the sociologist can develop properties of the category. As he sees similar instances over and over again, the researcher becomes empirically confident that a category is saturated' (Glaser & Strauss: 61).
'The point in coding when you find that no new codes occur in the data. There are mounting instances of the same codes, but no new ones' (Urquhart 2013: 194).
'Saturation occurs when further data collection fails to add properties or dimensions to an established category (Birks & Mills 2011: 115).
'categories are saturated when gathering fresh data no longer sparks new theoretical insights, nor reveals new properties of these core theoretical categories (Charmaz 2014: 213).
'Consistent level of repetition between concepts and their relationships' (Kools et al 1996: 319)

The above definitions suggest that the decision that theoretical saturation has been reached is related to the non-emergence of codes and categories as opposed to the degree of development of existing ones. There appears however, no method for demonstrating this other than simply stating that saturation has been reached in line with one of the above definitions. Indeed, Dey (1999) contends that saturation is inaccurate because it relies on the researcher's opinion that the properties of a category are saturated as opposed to constructing categories saturated by data. He argues for the term theoretical sufficiency. This study uses the term theoretical sufficiency. It can be determined by how well the data was able to create a sufficient

'depth of understanding' for the researcher to build the theory and provide a theoretical account (Dey 1999: 257).

It was considered that theoretical sufficiency was achieved with the sample because the concepts within the dimensions that make-up the substantive theory is represented by the data. In other words, there is sufficient data in the dimensions, particularly the central and major dimensions that illustrates the theory. Furthermore, the theory was taken back to the participants and was positively received.

4.5 Data Analysis

Analysis centred on observation of the simulations in the field; from the videos; the interview transcripts from the simulation midwives watching 'selves' and the other midwives watching the simulation midwives. The analysis aimed to identify common perspectives across the midwives. Data analysis is presented in consonance with the three stages of dimensional analysis:

- Dimensionalising
- Differentiation
- Explanatory matrix
- Integration

In accordance with dimensional analysis, the analytical process includes some findings.

4.5.1 Dimensionalising

This preliminary stage of analysis involved labelling chunks of data. These were then grouped into dimensions. This process started after the collection of data from the first three midwives and continued until there was a sufficient number of dimensions with their related properties that represented the emerging themes. Initial analysis of the simulation videos; Interview transcripts from the simulation midwives and from Daisy (the third participant) involved an intense period of watching and listening to the interviews to familiarise and attend to all the data. The focus was on addressing the complexity of the decision making by addressing the following:

- The context of their decision making
- The clinical cues that the midwives were using to diagnose the obstetric emergency
- How they interpreted the cues
- The meaning that they attributed to the cues
- The actions that they took in response to the cues
- The conditions that either blocked or facilitated their assessments; interpretations and actions.
- The nature of their practical knowledge

First, the videos of the simulations were watched. They were frequently paused, rewind and re-viewed to see 'what all is involved here' (Schatzman 1991). The main actions of the simulation midwives in response to the unfolding emergencies were extracted from the videos and labelled. For example, the activity of taking a blood pressure from the actress mother was labelled as a blood pressure. Further physiological observations were labelled (e.g. temperature, pulse, respiration). The dimension of 'Physiological Observations' described what the midwives were doing. 'Temperature', 'pulse', 'blood pressure' and 'respirations' describes the attributes or properties that

make-up this dimension. This process is defined as 'conjuring or calling-up dimensions' (Bowers & Schatzman 2009: 93).

This process continued until all the component parts of the reactions to cues that triggered a response (actions) were extracted. Notes were also made of the timing of their reactions and the actions as the scenario unfolded. This process is presented as data extraction grids in appendices 19 and 20 and represents the researcher's perspective. Alongside this, the midwives auto cued video reflection enabled the researcher to align aspects from the videos with the midwives meaning of what was going on. This was the perspective of the simulation midwives. The data from the midwives watching the videos was also labelled and aligned with that of the simulation midwives for comparison. This was the perspective of the midwives watching the videos.

Large chunks of the interview transcripts were labelled. Gerunds (verbs ending in 'ing') were used to emphasise actions or processes (Charmaz 2014; Glaser 1992). The meaning of these processes was clarified and then organised under dimensions. This was the researcher's first attempt at 'Dimensionalising' thus most of the labels were literal (for example the dimension of physiological observations as previously discussed) rather than conceptual. The literature was also utilised to assist in the naming of the properties and dimensions. The labelling was done without giving importance or significance to any of the properties thereby allowing analysis to progress in several directions. These were then recorded on tables in word™ and allowed for comparison when printed off and examined on the floor. Thus, dimensions were constructed across columns, individual participants across rows and properties within the boxes (Scholes 2012) thereby allowing for the constant comparative method. As further data was collected, labelled and

analysed, dimensions became properties and properties became dimensions.

Analytical memos about emerging concepts were written and accompanied with data extracts about these different perspectives. These were used to question the data and mitigated against the researcher's perspective, thereby facilitating understanding from the midwives' perspective and opening theory construction. Events in data sets were compared and contrasted across and within data sets and across time for similarities and differences. Excerpts illustrating the above with team working as an example is presented in Box 4.4. Thus, the constant comparative method as discussed in the previous Chapter started from the beginning of data collection and analysis. This is contrary to Schatzman's belief that engaging with early comparison could result in premature closure. He advises that a much richer understanding of the phenomenon can be had if comparative analysis is deferred until a more extensive number of dimensions have been identified in the data (Bowers and Schatzman 2009). It is argued that engaging in comparative analysis from the beginning of this study was necessary because of the triadic nature of the data sources.

Box 4.3 Excerpts of Constant Comparative Method and Analytical Memo

Researcher's Perspective:

The simulation midwives must act as though these are real life obstetric emergencies. In this way, the audience of midwives watching the videos will be able to relate to them.

Anna (Primary midwife) was very consistent in her approach. She was automatic and seamless in her actions and was able to attend to many different things at the same time. For example, history taking; taking physiological observations and clinical examinations all whilst trying to keep things calm for the mother. When she recognised that the mother was deteriorating and asked for medical assistance she did not stand back. She initiated and directed Becky to work through the protocol for the 2 emergencies (with her) whilst waiting for medical assistance. This is different from the videos of student midwives managing simulated emergencies in the Australian study (Scholes et al 2012) where they tended to call for medical assistance when there was nothing more that they could do. Anna palpated the uterus but did not ask me how it felt. I should have immediately said 'hard and woody' when she touched it. This may have prompted her to call for medical assistance earlier. In real-life and with clinical experience, a 'hard, woody' uterus is usually diagnostic of a placental abruption.

Emergent Concepts

History Taking, Physiological Assessments, Clinical Assessments – Gathering Information
Feature of Experienced Practice - Agency
Genuine Touch - Fidelity
Team Working

Perspectives of Team Working

Researcher's Perspective – Anna took the lead and directed the team working

Anna's Perspective – *'I suppose a lot of my experience is working with people who would have come in and looked at where we were and gone right, I need to cannulate, I need to catheterise'* (1st Interview) This suggests that Becky (the other simulation midwife) was not on the same page as Anna and required direction

Becky's Perspective – *'Like I feel I should have said that just before you said it'* (1st Interview – Video-cued narrative reflection)
Becky (watching self in a video) suggests that she was thinking about these tasks (therefore on the same page) prior to Anna verbalising that they needed to be done, but video footage shows that Anna initiated the above actions. Becky possibly **reflectively reconstructed** this to say that she was thinking about it prior to Anna verbalising it.

Daisy's Perspective (Watching the video) – *'This is probably just because it's a scenario, but she was delegating too much. You've got to give the person time to do the first thing, but in simulation your speed-up and do this, this and this which isn't true life'* (1st Interview) Daisy suggests that the leader should be cognisant of the environment and monitor their performance and not over-load them. Although she suggests that this is a feature of simulation

Anna's Perspective (2nd Interview): *'You can be ingrained in your jobs particularly if there are a lot of people in a hospital environment and not have an overview. So, I remember a PPH where **we*** thought we were going really well, managing it really well, we cannulated, got bloods, catheterised, rubbing-up a contraction and then we said let's put the synto-up and we all looked at each other – no one had gone to make the synto'*. This high-lights the need for a team leader, having an over-view, directing the management, allocating the tasks.

Analytical Memo: How does team working compare in real life emergencies

Who Takes the lead in simulation/real life

Are the roles prescribed? /how? /by Whom. How does it compare in sim/real life

* Later analysis of this narrative also involved reviewing subject pronouns – The use of the pronoun 'we' - Anna suggesting a shared responsibility in forgetting to prepare the syntocinon.

Following round one of data collection and analysis, the process of Dimensionalising created a large number of dimensions and properties (Table 4.5).

Table 4.5 Dimensions and Properties from Round One of Data Collection	
Dimension	Properties
Gathering Information	History, Physiological Observations, Physical Assessments
Fidelity Issues	Genuine Touch
Assessing	Risk assessing, ruling in/Ruling Out
Team Working	Roles & Responsibilities, Delegating, Communication, Knowing Strengths & Limitations of others, prompting the script
Escalating	Trigger Cues, Verifying the decision to escalate with others, Watchful Waiting
Expectations	Childbirth is Normal, Childbirth is Risky, simulation
Planning ahead	Cannulating, fluids, Preparing for theatre,
Emotional Response	Watching Others, Keeping things Calm,
Sensing to Make Sense	Further Assessments, Using technology
Normalising	Maternal features, presenting condition, Physiological observations
Covering Your Back	Checking actions with Others
Performing Knowledge and Experience	Following the Rules, Modifying the Rules
Documenting	Advice to women
Attributes of an experienced midwife	
Knowing	Past Experiences Limited Experiences Intuition Knowledge
Developing Knowing	Watching others Taking Roles Experience Storytelling
Limits to Developing Knowing	Lack of Training

Returning to the dimension of physiological observations, this was initially literal becoming more conceptual as further data was collected and analysed. All the different types of information that the midwives collected were conflated into the dimension of 'Gathering Information'. Questions were asked about this dimension. Subsequent to this, there were other dimensions and properties that linked to this dimension ('Assessing', 'Escalating', 'Sensing to Make Sense', 'Developing Knowing'). By comparing these with their data sets against each other the property Ruling in/Ruling out (a property of the dimension 'Assessing') was elevated to become the final dimension. The transition to this final analytical positioning is illustrated in Table 4.6. The constant comparative method and construction of analytical memos regarding working hypothesis was situated in the iterative inductive deductive cycles of abductive (theorising) thinking. Thus, the properties and dimensions provided the scaffold, whilst the memo's provided the discussion and explanation. The process ensured that all data especially when new data was added was analysed, thereby preventing premature closure of concepts (Bowers & Schatzman 2009).

Table 4.6 Nature of Information collected by the Midwives: Transition to Final Analytical Positioning					
1. Initial		2. Intermediary		3. Final	
Dimension	Properties	Dimension	Properties	Dimension	Properties
Physiological Observations	Blood Pressure Pulse Temperature Respirations	Gathering Information	Maternal History Physiological Assessments Clinical Assessments	Ruling in/Ruling Out	Gathering Information Anchoring Making Sense Clustering Information
Analysis of the Gathering Dimension					
<p>Analytical Memo: Why do midwives gather information, how do they gather the information, what influences the gathering of information, what do they do with the gathered information. Relates to Assessing', 'Escalating', 'Sensing to Make Sense', 'Developing knowing' Dimensions.</p>					
Property Participant	Gathering Information	Anchoring	Making Sense	Clustering Information	
Cassie		<i>What were your concerns for the woman? (Researcher) 'Initially that she was very sad and that she had a bit of postnatal depression, but when the observations started coming out, I was thinking she's tachycardic, she's hypothermic, there were too many pointers saying that she probably has an infection'</i>	<i>'I would want to get the CTG on as soon as possible. I would want to know more information about the decel. Where it was in comparison to the pain'</i>	<i>'It was when she was saying it's constant pain. She was tachycardic and especially when she got off the bed. I was thinking that this is probably an abruption'</i>	

<p>Ellie</p>	<p><i>....'Full set of obs. If you're lucky enough to have a pulse oximeter. Abdominally just feel. Ask questions about PV loss. When she last passed urine. Any pain, any frequency so that you can rule out a UTI. Whether she's had her bowels opened as this can sometimes cause a nasty abdominal pain'</i></p>			
<p>Becky</p>	<p><i>'... You link back to your own experiences, somebody who's just fed-up distressed, you're expecting her to calm down so it's easier to get a feel for what's going on. You know that you're going to have to work a bit harder and do a better assessment- get more information from her'</i></p>			

4.5.2 Differentiation

This stage involved explaining through a story the relationship of the dimensions according to a central organising perspective (COP). Following the second round of data collection there was a sense that the midwives were performing their knowledge and experience to two incongruent scripts. 'Performing Knowledge and Experience' was auditioned as the central organising perspective. Goffman's (1959) front stage (real life obstetric emergencies)/backstage (simulated emergencies)/ offstage (watching videos of obstetric emergencies) were used as a theoretical framework to scaffold the findings thereby, highlighting the differences in performance between simulated and real life obstetric emergencies. This proved unsuccessful as the story of the case became muddled in the various settings; furthermore, aside from the simulation midwives, the other midwives were not actually involved in a 'performance' as such. The data from these midwives were theoretical narratives, thus performance was through discourse. Following supervisory feedback on fit and grab of the data, it was recommended that the researcher view the data through different conceptual lens. This included drawing on the methods that were used to collect the data (midwives watching self and watching others in a video and the evocation of this); looking at the narratives and language of the midwives that were watching self in the videos compared to the midwives that were watching the videos; compared to when they were recounting past memorable experiences and lastly to look for evidence of healing (Frank 1991, 1995) in narrating a story. In this way, both supervision and the literature were used as conceptual levers (Schatzman & Strauss 1973) further developing theoretical sensitivity whilst remaining reflexive. The data was re-visited to look for evidence of these perspectives. They were considered simultaneously, but for the purposes of clarity are discussed separately. Box 4.4 compares

the narratives of the midwives watching 'self' in a video to the midwives watching 'others' in a video

Box 4.4 Comparison of the narratives of the midwives' watching 'self' to midwives watching 'others'

After watching their performance in the sepsis scenario, the simulation midwives were asked:

'From looking back at the video, would you have done anything differently?' (Researcher)

'No – had I – I know we didn't complete the MEOWS earlier, the obs were in my mind – If I'd written them down, I would still, I think from the first set of obs still only had 2 reds, because the temp & resps would have been red. The pulse & the BP wouldn't have been in the red' (Anna)

'What was the initial resp rate?' (Becky)

The researcher reminds them that an initial rate was not taken.

'Not at the very beginning - you gave it to me a bit later it was 30 – 28. BP 90/60 not in red & P 90 – not in Red & there is that – I'm always telling people to start the MEOWS early, but I was aware that we'd got reds and Dr called & the 2 reds is only a review by a Dr within half an hour' (Anna)

'I think that you wouldn't have taken a second set of obs and not recorded the chart. You're clocking the first one and then thinking about the second one knowing that you've got to start recording them because you'll definitely remember the first one, but it's what happens after' (Becky 1st Interview)

Anna Interrupts: 'Yes, they were there in my mind & I knew that 2 of those obs were well out of range & it was doing the repetitive set of obs that was the trigger that you were already there, writing the MEOWS sheet & you recognised that there was something that you needed to do because I'd done a second set of obs. Would I have done anything differently? – (Thinking).... probably not in that we made the assessment. We'd picked up the pieces of the jigsaw. I didn't ask for the resp rate initially with the first set of obs. If I had I

might have got to that jigsaw slightly faster. I don't think it delayed it massively, the second that I did get it, I was recognising that they were outside of the limits' (Anna 1st Interview)

In the above, Anna reconstructed her clinical reasoning during reflective review because in the scenario, the temperature was recorded as 35° at 3 minutes and 29 seconds and the respiratory rate was recorded as 30 at 5 minutes and 44 seconds; however, at 5 minutes and 27 seconds (before the respiratory rate was taken) Becky (2nd simulation midwife) 'requests' permission from Anna to get the woman reviewed:

'Shall I get a Reg review' (Becky 1st Interview)

In the above narratives Anna through her use of 'we' expresses a collective error in failing to complete the MEOWS. It is questionable however, whether in the throes of an obstetric emergency that completion of this would be a priority. **Reflective reconstruction** helped her to **repair** the error in her performance Throughout the discourse, both she and Becky were **protective** of each other's actions, whilst Anna defends her actions. Becky is also asking Anna permission for calling the registrar – a type of collegial verification.

In comparison Daisy watching the sepsis video said:

*'And again, because **my** background is in risk assessing in the antenatal day assessment, I would have been doing a full set of obs, so her respirations, temperature, pulse because in the scenario I noticed that she did a blood pressure which was alright as compared to her blood pressure on day 1. She did her temperature which was abnormal but she didn't do her respirations for quite a while and they were abnormal so that would have been the second cue that you need earlier help from the doctor. I think the importance of these scenarios are quite interesting because of the importance of doing a full set of obs straight away because if you're spacing them out, you're not getting a full picture'*

In the above narrative, Daisy narrates from the position of **experienced professional self-working** in a high-risk area. She provides a commentary on the performance of the simulation midwife, comparing herself to that of the simulation midwife. She is critical of the actions of the midwife and suggests that if she had collected a complete set of physiological observations that she would have had the quantifiable evidence of deterioration to warrant an earlier review by a doctor. It is posited that by being critical and

comparing herself to that of 'others' she is **Up-holding** her reputation as an experienced midwife.

Points from reading:

Supervision recommended that I read further around the concepts of diegesis and non-diegesis.

- Neumeyer, D. 2010 Diegetic/Nondiegetic: A theoretical model. *Music and the Moving Image*. 2:1, pp15-28.
- De Freitas, S & Oliver, M 2005 How can exploratory learning with games and simulations within the curriculum be most effectively evaluated? *Computers and Education*, 46: 249-264.
- Floridi, L. 2005. The Philosophy of Presence: From Epistemic Failure to Successful Observation ***Presence: Teleoperators and Virtual Environments***. 14:6, PP 656-667.

Theoretical Memo: The midwives were in an outside space and were interacting with the videos in combination with observing self and others in the videos. They had a forward and backward presence in and between the simulated world and the space within the real world from which they were watching self and others in the videos. Diegetic representations of two obstetric emergencies were generated and validated by the researcher. Diegesis refers to the internal representational world of the simulation videos. Hence the dialogue and actions of the simulation midwives originated from inside the simulations as they told the story of the script as it unfolded in real time. The above narratives took place outside of the space of the simulation and are non-diegetic narratives. In the outside space, Anna and Becky adopted an external position relative to their position of being inside the simulation. In this external position they were observer to self and became a narrator inserting additional information (non-diegetic information) into the diegesis of the script thereby giving an account that enhances their performance. Similarly, Daisy was also in the outside space; comparing herself to Anna and Becky she also offered a non-diegetic narrative. It is surmised that by **reflectively re-constructing** the diegesis of the simulation script Anna, Becky and Daisy were **Repairing** (Anna & Becky) and **Upholding** (Daisy) their **experienced professional self's**

Analytical Memo: Interrogate dimensions for further evidence for the phenomenon of reflective reconstruction. If the midwives are 'up-holding' and 'repairing' their reputation through narratives is there any evidence of them protecting, defending, guarding their image

The Emotional Response dimension was interrogated. It was evident that for some of the midwives watching self and watching others in the simulation videos triggered the emotional response resulting in reflections on real life experiences. Box 4.5 illustrates the trigger moments with an example from the data.

Box 4.5: Triger Moments from Watching the Videos to Past Experiences

Trigger Moments	
Participant	Trigger Moment
Becky	Anticipating/Expectation of an Emergency (Being in the APH scenario triggered recall to a baby in fetal distress)
Daisy	Anxious Feeling of watching the APH triggered recall to a neonatal resuscitation
Ellie	Unfamiliar triggering the Familiar (see below)
Gina	Feeling that something isn't right (watching APH triggered to recall an appendicitis)

*'I clearly remember the postnatal one than the other one because it's not something that **I deal with** day in day out because that's not the environment that **I work in**; that's perhaps why It's remained in my memory more than the other scenario because **I witness** that on a regular basis'* (Ellie)

'You mean the abruption' (Researcher)

*'Yes, **we** recently had an abruption, unfortunately it was a poor outcome'* (Ellie)

Oh – I'm sorry to hear that. Are you happy to talk about it? (Researcher)

*'Yes, so the woman was transferred in having seen the community midwife. Basically, she'd had reduced fetal movements and she'd got quite a lot of pain. She was triaged and sent to labour ward. In triage the CTG (cardio-tocograph) was pathological. She transferred up to **us** and this bradycardia happened. **They** ran an ultrasound over her, and **you** could see that there was a bradycardic fetal heart. She went to theatre for a crash section.*

Analytical Memo: The postnatal video stood out for Ellie with the unfamiliar triggering the familiar. Her use of language is telling in that she refers to the sepsis scenario as something that she does not routinely 'deal with.' This contrasts to the common placental abruption as something that she 'witnesses' on a regular basis, rather than something that she would 'experience' as an experienced midwife. Furthermore, in this narrative (with a poor outcome), she starts off by narrating in the first person plural ('we' and 'us') indicating a shared management of this emergency with significant others but then omits any association to the action by using third party pronouns ('they' and 'you') thereby positioning herself as an observer to the event rather than an active participant.

As can be seen from the above, the researcher was sensitised to look at how the midwives were using subject pronouns to position themselves in their narratives. The various pronouns that were used throughout the interviews of each midwife was counted. It was apparent that there was a variation in pronoun use across midwives and across interviews (Table 4.7).

Table 4.7 Pronoun use by the midwives

	Anna	Becky	Cassie	Daisy	Ellie	Fran	Gina
I	386	246	376	246	145	231	359
You	301	167	154	247	248	143	361
We	128	61	65	38	40	49	177
She	122	43	138	95	95	99	187
He	0	3	2	0	3	5	9
They	99	80	45	67	79	68	117

Analytical Memo: The midwives that were watching others in a simulation tended to use the first-person pronoun 'I' (first interview). In contrast, this was used less frequently by the simulation midwives watching self (first interview) compared to their second and follow-up interviews in which they were narrators to their own experiences of obstetric emergencies.

Points from Reading: Bamberg (2013) and Garcia & Hardy (2007) Narratives are an interpretive lens to understand social processes. They discuss how individuals position 'self' to 'others' in their stories.

Theoretical Memo: The midwives used a variety of pronouns which positioned them and others within their narratives. The pronoun 'I' and 'We' suggests that they were active participants in their narratives with 'I' - suggesting self-agency and 'we' as an agent within a collective. Their use of 'you' and 'they' socially distanced them from what was going on.

Working Hypothesis: Midwives are constructing 'self' as experienced and different from 'others'. Return to data to check for evidence (Table 4.8).

Table 4.8 Hypotheses Testing of Midwives' Constructions of Self							
	Anna	Becky	Cassie	Daisy	Ellie	Fran	Gina
Leader	✓					✓	
Teacher/Mentor	✓				✓		
Experienced				✓	✓		
Autonomous Practitioner							✓
Senior Midwife	✓	✓	✓		✓	✓	

Analytical Comment: The midwives described themselves as having multiple roles. Being a leader involves taking control, leading and managing obstetric emergencies and supporting staff to lead the emergency. Teaching involved teaching students; peers; doctors and disseminating knowledge. Ellie described 'experience' to being a midwife for 'several years'. In contrast Daisy stated, 'five years.' Becky identified herself as 'senior' by positioning herself against a 'very junior midwife.' Cassie also identified herself as senior (Band 7 midwife) by positioning herself against Band 6 midwives and midwifery support workers. The way in which they describe themselves corresponds to the literature on the attributes of experience which was derived from studies on clinical judgement (Chapter 2)

Theoretical Memo: In their narratives **ALL** of the midwives used the subject pronoun 'I' when describing themselves in role and purpose. By using the subject pronoun 'I' it is posited that they have positioned themselves as having self-agency and the type of midwives that they believe themselves to be. This is conceptualised as their '**Experienced Professional Self**'

Analytical Memo: How do the midwives think others see them? Is the way in which others see them congruent with their perspectives of self? How do the midwives describe the attributes of an experienced midwife? Is this congruent with how they see themselves/how others see them? Return to data

How did the midwives think others see them?							
	Anna	Becky	Cassie	Daisy	Ellie	Fran	Gina
Leader	✓				✓	✓	
Teacher/mentor							
Knowledgeable				✓			
Expert				✓			
Perfect				✓			
Supporter		✓					
What did the midwives think were the attributes of an experienced midwife?							
	Anna	Becky	Cassie	Daisy	Ellie	Fran	Gina
Leadership skills	✓	✓	✓	✓	✓		✓
Educator		✓					
Experienced		✓					✓
Calm under pressure		✓	✓				
Up-to-date		✓		✓	✓		
Accountable for the practice of others	✓						
Clinical skills		✓			✓	✓	
Communication skills							
Knowing when to call for help						✓	
Confident in their practice				✓			
<p>Theoretical Memo: The way, in which the midwives think that others see them, has been conceptualised as the ‘Expected Professional Self’</p> <p>The midwives’ perceptions of the attributes of an experienced midwife has been conceptualised as the ‘Preferred Professional Self’.</p> <p>Analytical Memo: I wonder if the way in which they situated themselves in their narratives reflected how they wanted to be understood. Return to data.</p>							

Whilst there was some weak evidence of healing within the narratives, it did not account for all that was in the data; however, reviewing the data of the midwives accounts of their anxiety (a property of the ‘Stirring-up Emotions’ dimension) lead the researcher to a place of theoretical sensitivity and through further inductive – deductive cycles reached an abductive reason that the midwives are concerned about ‘Being Watched’ (Table 4.9). As illustrated in the table, abstraction was used to see the possibilities within the data whilst ensuring that the new properties and dimensions are saturated (section 4.4.2) with data and not forced by the researcher’s interpretation (Schatzman and Strauss 1973).

Table 4.9 Interrogation of the ‘Stirring-up Emotions’ Dimension							
Hypotheses Testing: Are the midwives concerned with ‘Being Watched’? If yes, why?							
	Anna	Becky	Cassie	Daisy	Ellie	Fran	Gina
Being judged by peers/Others	✓						✓ (you)
Doing something wrong		✓ (others)	✓ (others)		✓ (you)		
Saying something wrong			✓ (others)	✓ (you)	✓ (you)		
Feeling uncomfortable		✓ (I)					
Feeling vulnerable in front of peers			✓ (I)				
Not having the right level of knowledge			✓ (I)	✓ (you)	✓ (they)		
Feeling threatened					✓ (they)		
Skills not up-to-date					✓ (they)		
Being investigated		✓ (I)		✓	✓		✓ (we)

The inductive deductive cycle lead to the elevation of the property of 'being watched' to a significant dimension. Reading around Michel Foucault's Panopticon (Freshwater et al 2015; Foucault 1997/1995) and the role of fear in the learning process (Sappington 1984) led to the identification of labels in which to conflate the above into properties and the renaming of the dimension. Table 4.10 provides an example of the construction of this dimension with examples of data segments to support the property in which it is situated.

Table 4.10 Being Watched Dimension			
	Direct Gaze (from simulation)		Indirect Gaze (from the Organisation)
	Fear of Embarrassment (Interpersonal fears)	Fear of Incompetence (Internal fears)	Fear of Being Investigated
Anna		<i>'Being watched by peers, I feel is the most challenging thing about simulation... midwives are generally lone workers in that a vast amount of what we do is face to face with women and done whilst we are on our own. Simulation opens us to being watched and potentially judged' (2nd Interview)</i>	
Gina			<i>'There's been times when something happened, sorted it, but the doctor's not been involved. Then there's a whole issue about documentation, did we escalate appropriately and if we didn't, we haven't followed procedure' (1st Interview). Analytical Memo: Documenting is a strategy for protecting 'self'</i>

Points from reading: The work by Sappington (1984) was used to organise the data pertaining to being watched in simulation into the properties of 'Fear of Embarrassment' and 'Fear of Incompetence' Consideration was given to re-labelling this dimension to the panoptic metaphor of 'Under the Gaze; however, 'Being watched' was the terminology used by the midwives and therefore not re-labelled.

Theoretical Memo: In simulation, midwives are 'Being Watched' by others, mostly their peers and colleagues from the multi-disciplinary team. The midwives perceive that every action is scrutinised and analysed. Becky and Cassie mostly narrated from the first person singular and plural, thus the concerns were their individual and collective concerns. Collective in this sense refers to the midwives positioning themselves with others that they are professionally aligned to (i.e. other midwives)

In real life they are directly 'Being Watched' by women who do not have to question their care. They are indirectly 'Being Watched' by the Organisation through clinical governance and risk management processes. In the above, Ellie has positioned herself and others that she is professionally aligned to within the Organisation that prescribes the rules which they must all follow.

4.5.3 Identifying the Central Organising Perspective

The above processes of Dimensionalising, conflation and differentiation were concurrent with data collection and resulted in the final dimensions and their properties (Table 4.11).

Table 4.11 Final Dimensions and their Properties	
Dimension	Properties
Representations of Self	Experienced Self Preferred Self Expected Self
Being Watched (Organisation)	Fear of Organisational Scrutiny
Being Watched (Others)	Fear of Performance Embarrassment Fear of Performance Incompetence
Watching Others	Emotional Response Trigger to past experiences
Managing Expectations: Organisation Childbirth Simulation	Childbirth is Risky Childbirth is Normal Expectation of an Emergency
Ruling/Ruling Out	Gathering Information Anchoring Making Sense (further information gathering) Clustering Information
Making Credible	Collegial Verification Being Confident
Demonstrating Personal Agency	Taking the Lead Remaining Calm Capacity to Act Following the Rules Modifying the Rules
Developing Knowledge & Experience	Education Training Past Experiences
Performance Contradictions	Performing out of Professional Role Performing out of Setting Fidelity Issues
Working with Others	Prompting the Rules/Not prompting the Rules Knowing Others/Not Knowing Others Being on the same page/Not Being on the same page
Self-declared Reflective Learning	Watching Self & Others
Self-regulating	Reflective Reconstruction Wisdom of Hindsight Positioning Self/Others/Objects

The above analytical processes that the researcher engaged in and has described has high-lighted the importance of not forcing the theory. An explanatory matrix or storying the relationship of decision making by experienced midwives according to a central organising perspective was undertaken many times over. This involved connecting the different dimensions and assigning them as context, conditions, processes and consequences to illuminate their explanatory power.

The process of differentiation shifted the dimension of Performing Knowledge and Experience (section 4.5.2) from being focal in accounting for variations in decision making to being one of the processes within their decision making. The 'Being Watched' dimension emerged as being significant and had the greatest explanatory power. It was central to the developing theory. The story of the case was diagrammed to unite the context, conditions, processes and consequences with 'being watched' as the central organising perspective (Appendix 21).

4.5.4 Integration

Integration is the final stage in theory generation. In this stage, theoretical sampling is undertaken to test the connections between the dimensions and to verify and not force the developing theory. After coding and categorising, when you have an ample set of memos and have achieved a higher level of abstraction (known as theorising) and completed a process of induction (proceeding from many disparate chunks of data to a reconstructed, explanatory whole), the theory may be written and disseminated. To simplify this somewhat, the codes and categories provide the structure, while the memos provide the explanation and discussion.

The substantive theory emerged during supervision in early May 2018. 'Being Watched' in simulation and real life resulted in fear and anxiety; consequently, in the other dimensions there was something about the midwives protecting, defending, upholding and repairing self. Google was used to search for a word that integrated these concepts (table 4.12); **Self-guarding** was the central label that drew it all together and best explained the social process that the midwives were engaging in when narrating their decision making.

4.12 Development of the Substantive Theory		
As per Box 4.4	Defending	SELF-GUARDING Definition: To keep safe from harm or danger; protect.
<i>'They have investigated this case and there are no omissions in care, and nothing could have been done any quicker. It was just unfortunate that we were unable to resuscitate the baby'</i> (Ellie caring for a woman having an antepartum haemorrhage – 2 nd Interview)	Up-holding	
As per Box 4.4	Protecting	
<i>'If something happens, the first thing you have to do is organise your notes and make sure everything is documented because you know they are going to get reviewed and scrutinised'</i> (Gina)		
As per Box 4.4	Repairing	
<i>'It had not picked-up. It was 60 b/m We didn't know how long it had been like that. I just thought I need to get the resus equipment out for the baby'</i> (Becky 2 nd Interview)	Preparing	

A consequence of self-guarding was the *defensive behaviour* through reflective reconstruction and positioning. This was further conceptualised as **Self-regulation** and is defined as ‘the endeavours that the midwives undertook to alter their own responses/behaviours.

A diagrammatic model of the theory (figure 5.7 in section 5.6) was tentatively taken back to the midwives for verification. The feedback was positive with the midwives from this study in particular identifying with the findings and the overarching theory. No further dimensions were identified during this stage.

4.5.5 Conclusion

This Chapter has operationalised the methods of data collection and analysis underlying the theoretical perspective discussed in chapter 3. The dimensional analysis techniques that were used have been illustrated with examples from the data to demonstrate the building of theory.

The next chapter presents the substantive theory using the explanatory matrix that was developed in this Chapter and presented in Appendix 21.

Chapter 5 Findings

5.1 Introduction

This Chapter presents the findings from the study. It is set out as a substantive theory that was constructed from the analysis of the data. The decision making of the midwives is implicitly embedded and arranged into the following themes:

- Representations of the Professional Self
- Balancing Expectations (Contexts in which their decisions are situated)
- Strategies for Managing the Expectations (Process of decision making)
- Factors influencing the Representations of the Professional self (Factors influencing their decision making)

In accordance with the dimensional approach the dimensions are represented in bold and their properties in italics. The narratives from the midwives are used and argued for to describe the theory. Most of the data reflected throughout this chapter are representative of the sample; however, where specified, atypical data is also presented to show differences in perspectives.

5.2 Representations of the Professional Self

The way in which the midwives described 'self' in role and purpose; the way in which they thought 'others' saw them and their beliefs around the attributes of an experienced midwife may help to understand their motivations in relation to how they wanted to be understood; how they constructed; presented and described themselves and others within their narratives.

5.2.1 The Experienced Professional Self

The data that was collected from the biographical questionnaire presented in the previous Chapter and the interview data

provides insight into the experience of the midwives with respect to the amount of time spent in midwifery; their development of 'self' in relation to knowledge and skills and their experiences in simulation and real life obstetric emergencies (Tables 5.1-5.6). This **representation of self** has been conceptualised as their *experienced professional self* and reflects the type of midwife that they believe themselves to be.

Table 5.1 Experiences of the Midwives							
	Anna	Becky	Cassie	Daisy	Ellie	Fran	Gina
Previous Simulation Training							
With a computerised mannequin	✓	✓	✓	✓	✓	✓	✓
With a phantom ⁵²	✓	✓	✓	✓	✓	✓	✓
With a patient actress	✓		✓	✓	✓	✓	✓

Table 5.2 Preparation for Managing Obstetric Emergencies							
How well do you think that this training (previous simulation) has prepared you to: (1 = not prepared; 2 = slightly; 3 = moderately; 4 = fairly well; 5 = well prepared)							
	Anna	Becky	Cassie	Daisy	Ellie	Fran	Gina
Recognise signs of deterioration	3	4	5	5	5	4	4
Manage obstetric emergencies	5	5	5	5	5	5	5

⁵² Phantom – Task trainers designed for specific tasks or procedures

Table 5.3 Clinical Involvement with Obstetric Emergencies							
	Anna	Becky	Cassie	Daisy	Ellie	Fran	Gina
Antepartum Haemorrhage	✓	✓	✓	✓	✓	✓	✓
Maternal resus	✓			✓	✓		✓
Shoulder dystocia	✓	✓	✓	✓	✓		✓
Post-partum haemorrhage	✓	✓	✓	✓	✓	✓	✓
Eclampsia	✓		✓	✓	✓		✓
Ruptured uterus	✓	✓		✓	✓		✓
Cord prolapse	✓	✓	✓	✓	✓		✓
Neonatal resus	✓	✓	✓	✓	✓	✓	✓
Vaginal breech delivery	✓	✓	✓	✓	✓	✓	✓
Sepsis	✓	✓		✓	✓		✓
Inverted uterus				✓	✓		

Table 5.4 Recent Clinical Involvement						
Which was the most recent obstetric emergency that you have been clinically involved with						
Anna	Becky	Cassie	Daisy	Ellie	Fran	Gina
Neonatal resus	Undiagnosed Breech	Neonatal resus	Neonatal resus	PPH	PPH	APH & PPH

Table 5.5 Role in Recent Clinical Involvement							
What role did you play?							
	Anna	Becky	Cassie	Daisy	Ellie	Fran	Gina
Lead until arrival of the obstetric team		✓	✓	✓	✓	✓	✓
Assisted the lead midwife until the arrival of the obstetric team	✓						
Assisted the Obstetrician							✓

Table 5.6 Confidence in Managing Obstetric Emergencies							
How confident do you feel to: (1 = not prepared; 2 = slightly; 3 = moderately; 4 = fairly well; 5 = well prepared)							
	Anna	Becky	Cassie	Daisy	Ellie	Fran	Gina
Recognise signs of deterioration	4	4	4	5	5	4	4
Manage obstetric emergencies	4	4	4	5	5	4	5

Table 5.7 Areas for Training	
What things would you like to see covered in your skills drills?	
Anna	Neonatal resus
Becky	More structured reflection/feedback after simulation
Cassie	Scenarios relevant to area of work – e.g. community, Birthing Centre
Daisy	Video reflective review of performance
Ellie	We have a very comprehensive skills drills in our Trust
Fran	Management of emergencies in the community and Birthing Centre
Gina	Sepsis

The midwives are dually qualified as registered general nurses and registered midwives except for Becky. They are all in senior positions. The median is 16 years as a practising midwife (range 10-26 years) and they have attended and/or are instructors on Courses that deliver evidence-based theoretical and practical training in the management of obstetric emergencies.

At the time of this study, five of the midwives were also Supervisors of Midwives (SOM)⁵³. This role was framed in statute (NMC 2012); however, following the Report of the Morecambe Bay Investigation (Kirkup 2015)⁵⁴ and recommendations from a Department of Health Consultation in 2016 (Kings Fund 2016) supervision was removed from regulatory legislation in March 2017. Essentially, their role was to support, guide and supervise midwives in clinical practice to enable them to achieve high standards of practice thereby ensuring the safety of the mother and baby.

⁵³ To be appointed as a SOM, a registered midwife had to have a minimum of three years' experience as a practising midwife of which at least one year had to have been in the past two years. They were required to successfully complete an approved programme of education for the Preparation of Supervisors of Midwives

⁵⁴ Kirkup Report (2015) reported on serious failures of clinical care in the Maternity Unit in Furness General Hospital (now Morecambe Bay NHS Foundation Trust. The investigation found avoidable harm to mothers and babies including unnecessary deaths.

Further evidence of how the midwives perceived themselves in role and purpose was found in their narratives. These narratives were situated in real life contexts (spaces) in which they worked and included length of service; being experienced and having a range of experiences; leading and managing obstetric emergencies; teaching students and peers; disseminating knowledge. They all narrated from the perspective of 'I' thereby foregrounding their representations of self. They juxtaposed their role with the roles of others. They constructed 'self' as experienced who were called upon to assist 'others'. 'Others' were generally constructed as being deficient in knowledge and skills:

'I was working as a senior midwife in the community & I was on call & I got called out to a woman ...I arrived at the house, the midwife came to the front door – quite a junior midwife and she said I'm really sorry, I want some support because it's really difficult, the atmosphere is awful, they're being really difficult. She doesn't want me to assess her – very hushed at the front door & I just felt that I wanted someone with me' (Becky 2nd Interview)

'I wasn't the midwife looking after the woman – she was being looked after by a junior midwife she'd had a normal vaginal delivery, no complications, third stage was out. She was trickling a small amount of blood but quite a constant, small amount. I wasn't called for a PPH – I was called to help her suture' (Anna 2nd Interview)

'I've been an experienced midwife (MW) for several years. I've been heavily involved in teaching clinical skills for about 7 years in total & I still have input in my current Trust So I've had a lot of experience teaching students as well as my peers and when there is a change in protocol, because I am a Band 7 its good practice that you're knowledgeable about those changes so that you can disseminate those changes to your peers but also on a day to day basis' (Ellie 2nd Interview)

'The MW that I was with kind of panicked a bit I think she didn't have a lot of confidence in her own practice & following that I did have to deal with that as her manager, so I did deal with that situation & sent her on extra training' (Fran 2nd Interview)

Fran works in a standalone Birthing Centre and in the above real-life emergency of a postpartum haemorrhage, the midwife could not insert a cannula. There is no medical back-up and midwives that work in such environments must be able to initiate first line emergency resuscitation whilst they are awaiting paramedic transfer. From a 'manager' position, Fran constructs a subordinate relationship in which she exerted a position of power to address the deficiencies in the midwife. The midwife was sent for training so that in the event of future emergencies requiring fluid resuscitation she would not compromise the condition of the mother; reputation of the others that she is working with or that of the Birthing Centre.

In the below narrative, Gina aligns herself with other midwives and concedes a limit to their role:

'Fundamentally we are autonomous practitioners when it comes to normal birth low risk pregnancies. We are the ones that escalate when we say this is not normal this is not right & we escalate it to our colleagues who take it from there' (Gina 1st Interview)

A consequence of professional autonomy is accountability and working within the limits of professional competencies to safeguard the wellbeing of mothers and their babies. Knowing and working within your limits also offers protection from coming under the gaze of the Organisation.

In summary, the midwives in describing themselves in role and purpose have constructed 'self' as different from 'others'. 'Others' were constructed as deficient in knowledge and skills.

In so doing, this reinforced their experienced and senior selves (Figure 5.1).

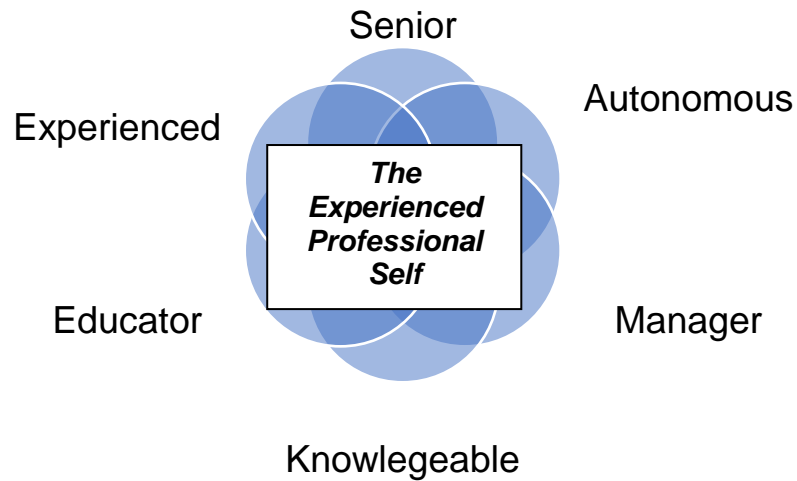


Figure 5.1 The Experienced Professional Self

5.2.2 The Expected Professional Self

The midwives self-reported that ‘others’ see them as senior, leaders and experts who are expected to and are able to lead, manage and support others in the management of obstetric emergencies. This **representation of self** has been conceptualised as the *expected professional self* and reflects the type of midwife that they believe ‘others’ prefer them to be:

‘In simulation, I’m very aware that people see me as a senior midwife & being knowledgeable – being involved in the statutory training providing clinical support it’s almost like I don’t know if I’m doing that to myself & putting myself under that pressure to know everything or whether people actually really feel like that, but that’s what I feel. I feel like people are watching & they expect you to not make any mistakes to be perfect & be the expert in everything’ (Daisy 3rd Interview)

'I found that I would run down the corridor & answer the bell & as soon as they see me, they would expect me to take control because you're the person that teaches us all about it so therefore, you'll know all about it. They would see you as a very senior midwife, so you take control' (Anna 2nd Interview)

'I'm sure she would have managed if she'd had to – I think because I was there, she kind of went – there you go' (Fran)

'And do you think that's the case sometimes'
(Researcher)

'Yes, I think so, I suppose hierarchy does do that. I'm not one for strutting around saying that I'm the boss but I think if you are senior to somebody, they are more likely to allow you to lead the situation' (Fran 2nd Interview)

In the above narratives, the midwives have described the 'others' as relinquishing their autonomy⁵⁵ to them. They have constructed the 'other' as passive and receptive and 'self' as having to take control of the situation; however, on closer examination of the narratives it can be speculated that this may also be related to power imbalances (Fran) and of them taking control rather than being handed over control. The reason for the latter can perhaps be explained by the following:

'Delivery suite Coordinators' are very senior & are responsible for someone else's practice - maybe responsible is not the right word, but if you were to have a shoulder dystocia being managed by a band 5 & a band 7 was standing there watching & not being proactive & it wasn't going well it's that band 7 that's going to be held accountable for their role as senior midwife & judged against that whereas if you are getting more involved in the scenario, supporting the band 5 and being more forthright' (Anna 2nd Interview)

⁵⁵ Professional autonomy - individual has the right to make independent decisions without being constantly supervised

Constructing 'others' as relinquishing control of the situation to them further up-holds their representations as experienced midwives. Anna does however high-light senior midwives working with and empowering junior midwives to manage obstetric emergencies. In comparison, Ellie asserts her position as either leader or mentor. The latter being relative to the capabilities of the midwife:

'So, I'm seen to be the leader because I have a senior role & I tend to maintain that authority during emergencies on delivery suite. Your peers look to you for guidance and leadership to manage the situation. If they are confident you can usually guide them, or I adopt a different role. It just depends on how junior that person is' (Ellie 2nd Interview)

The midwives' perceptions of how they think 'others' see them is congruent with their perceptions of how they see 'self' (Figure 5.2). Of significance is that in their narratives of how they think that they are seen by 'others', the 'other' has again been constructed as being passive and receptive to the midwives being senior and in control.

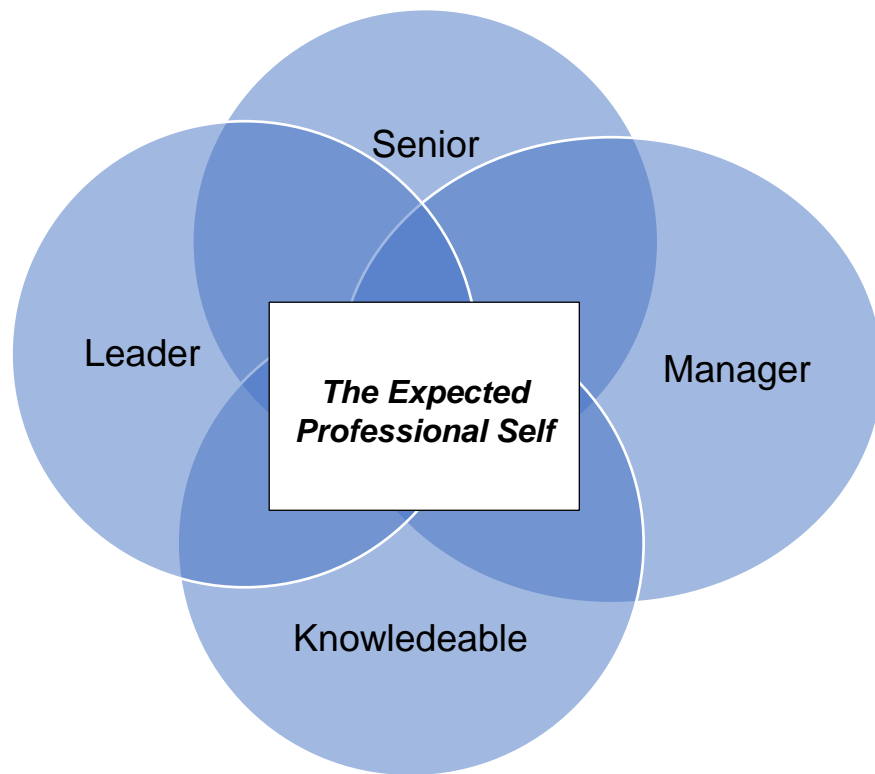


Figure 5.2 The Expected Professional Self

5.2.3 The Preferred Professional Self

Table 5.8 reflects the midwives' perceptions of the attributes of an experienced midwife as high-lighted in bold. These perspectives have been conceptualised as the *preferred professional self*. It reflects the desired image of an experienced midwife.

Table 5.8 Representations of the Attributes of an Experienced Midwife	
Anna	<i>'Leadership skills and I think that's the difference between the band 7 roles. Band 7 roles I see as leaders & not as managers & therefore they have clinical decision making themselves but also to have confidence in clinical decision making of others so that we can get our work force up, otherwise you don't get your work force to improve if we make decisions for them & particularly with junior staff, you need to give them scope to make their decisions in a safe manner, quickly, promptly, but also to support that learning & I think that's a particular skill of delivery suite co-ordinators'</i>
Becky	<i>'You would want them to be um obviously competent, able to really multi-task, really up to date, lots of relevant experience, calm under pressure, still focused on normality, to kind of give you the broad overview that you need, but to still recognise the deviations that you can see from this, but still staying calm & seeing normality, because in almost every scenario as a MW if you're just focused on an abnormal observation – you know there is something abnormal with every woman that you would read with that – that's what I've always felt. I'd say as well, good role model, good educator that's really important & the leadership thing is huge & taking your team with you'</i>
Cassie	<i>'I think the main attribute is calmness, professionalism, the ability to communicate succinctly, to be able to delegate well to take some control but to also have the ability to stand back when it's time to stand back'</i>
Daisy	<i>'Someone who is confident in their practice. Someone who is approachable to all staff no matter what grade so open to talking to any staff & any ideas – valuing all of that Someone who is current with research & evidence & be able to advocate for people on that basis, to say this is what the newest research is saying I suppose someone with a sense of leadership someone you can aspire to someone who is confident, has a sense of purpose & you feel safe with them in the practice sense, but also safe in that you can trust them to treat you like a human being & respect you & have an adult relationship rather than an adult child relationship'</i>
Ellie	<i>The procedure in our Trust to appoint a Band 7 is that they must have 3 years post registration experience in all areas, achieved specific clinical skills attending ALSO, PROMPT, NIPE, a vast array of clinical skills under their belt, leadership skills</i>
Fran	<i>'Someone who's going to ask for help & not just go gun ho because it's a different place to work & you have to be very good with your clinical skills, but also need to know when you need help that's one of the most important attributes'</i>

Table 5.8 Representations of the Attributes of an Experienced Midwife (Continued)

Gina	<p><i>'Her experience in terms of her background and potentially how long she has been qualified because that does come into it. I think sometimes we have an issue with hurrying our band 6's through to become band 7's but they have no depth behind them. So it does depend on what you've done, where your scope of practice is laid before because that influences their decision making Having an all-round midwife who can appreciate all aspects of care & not being narrow minded it's just about labour ward that they can take on & think about other aspects of the unit on that day & vice versa if you're on postnatal ward you need to know what's going on labour ward & where you can support each other. So, I think her approach, her leadership management style is very important because you could be the most amazing person at managing obstetric emergencies to ensure the safety of that woman, but you completely destroy your teamwork around you. She/he can be very multi-faceted they can look great on paper & in practice it's very different & only through working with somebody do you realise they're a bit of a star, but you may not be very confident in the interview I think the proofs in the pudding when you're practicing with someone.</i></p>
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The midwives have constructed the preferred professional self as having the non-technical skills of decision making, communication, team working, leadership and coping with stress. Fran and Cassie have constructed the preferred professional self as having clinical forethought (reading trajectories) of clinical eventualities and being able to manage their emotions when under pressure. This is probably reflective of them working in a standalone Birthing Centre where there is no medical back-up and the need to keep the situation calm whilst awaiting transfer to the Consultant Led Unit is crucial. The ability to read trajectories such that the circumstances of the situation will heighten awareness that will result in calling for assistance is a significant feature of experienced (intuitive) decision making. Furthermore, there is much professional confidence to know when to call for assistance and especially before it has all cascaded into evidential data.

Becky, Ellie and Gina describe practice experiences as being important because it extends a knowledge base and Gina and Ellie have conceptualised experience as the amount of time spent in midwifery. Anna disagrees however and considers that years of experience does not necessarily lead to improved practice. Whilst midwives should have the skills, knowledge and experience appropriate to their banding, all midwives irrespective of banding should be able to 'undertake appropriate emergency procedures to meet the health needs of women and babies' (NMC 2009); however, obstetric emergencies are rare; hence the importance of skills drills:

'I think the hierarchy in maternity is more evident now than it used to be a while ago, so people really own their own titles and their bandings. We never use to say you're a senior midwife band 6 or you're a junior band 6 you were either a newly qualified midwife, a midwife or a senior midwife as you're a band 7 – so what makes you senior band 6 – are you talking about

years of being a band 6 because it doesn't make them any more knowledgeable or better does it than midwives who are 2 years at Band 6. You're measurable against NMC standards & everybody at band 6 should be able to do the same job. But we have this presumption that other people can do it better' (Anna 2nd Interview)

The desired attributes of an experienced midwife correspond to those of the experienced professional self and the expected professional self. Cumulatively they represent the *preferred professional self* (Figure 5.3).

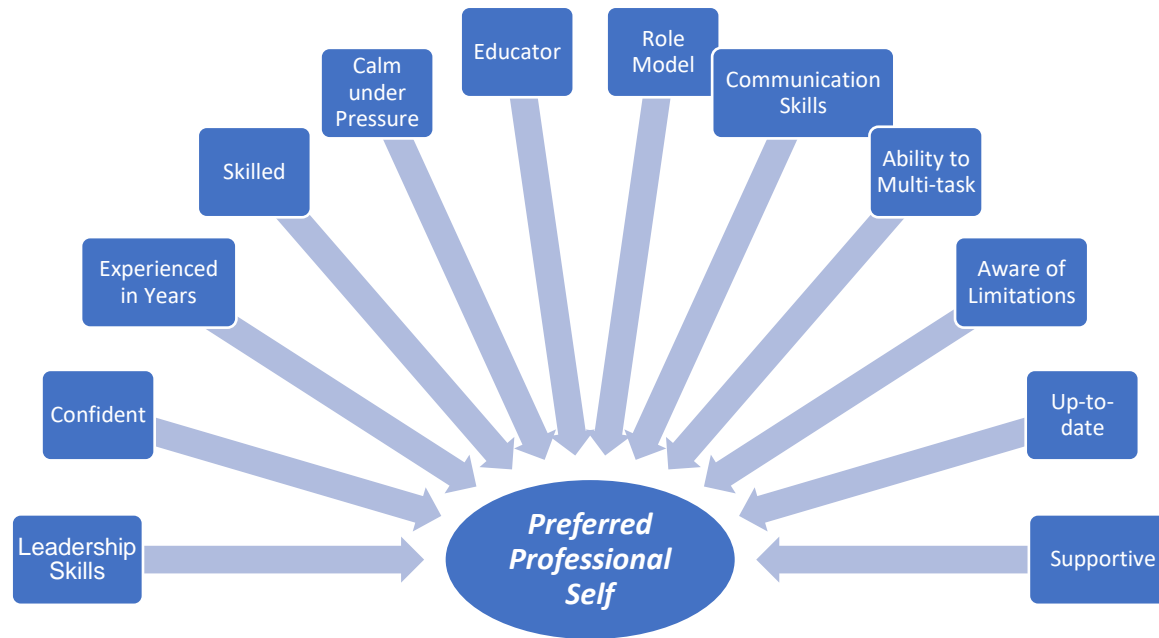


Figure 5.3 The Preferred Professional Self

In summary, it is considered that the above three perspectives of 'self' influenced the way in which the midwives constructed and located themselves in their narratives. This was within the social entities of people; different environments (simulated and real) and the Organisation.

5.3 Balancing Expectations (Contexts in which decisions are situated)

The midwives' representations of self and hence their decision making was situated in the following contexts:

- Expectations of Childbirth
- Expectations of the Organisation
- Expectations of Simulation

They had to balance the expectations in the contexts in which they were in.

5.3.1 Expectations of Childbirth

Midwifery philosophy is centred on the promotion and facilitation of childbirth as a normal physiological process (NMC 2009). Midwives are considered experts in normal childbirth (FIFO 2005; Hatem et al 2008; Walsh 2012) and are the lead professional in 66% of births in the United Kingdom (NHS Information Centre 2009). An accepted **expectation of Childbirth** is that *childbirth is normal* whereby the role of the midwife is to support this normal process; however, this is a continuous balancing act because everything can change or is not so clear cut. An example of this was in the scenario of the antepartum haemorrhage simulation. Video footage shows Anna gathering information around the presenting condition of the mother.

In the reflective space, Anna watching self in the simulation accounts for her actions:

'Blood pressure (BP) was in normal range – obviously it's difficult because you don't have a baseline for her – but it's not skies high – it's in an acceptable range. Pulse, a bit tachycardic, but if she is in pain then it wasn't majorly tachycardic, so you could say look at that as a distressed person. She's anxious – so again it's that normalisation of things – it could be okay – that's okay, so now we've got a bit of history that's okay – some observations that are probably okay & limited else so you're still border of normal apart from the fact that her response was not particularly normal in the sense that she did not really engage back & most of my experience with women is that they will engage back & have a relationship quite quickly. I think we needed to continue with the assessments. We needed to recognise that there might be something underlying that wasn't normal' (Anna 1st Interview)

Anna gathers a range of information to reduce uncertainty, but at this stage the empirical evidence is normal. Anna's past experiences however is alerting her to the fact that the mother's behaviour is not normal, so she continues to gather further information. In any case, she has not yet accumulated sufficient information that would warrant a referral to the obstetrician. It is suggested that Anna is balancing her expected role of supporting normality with risk assessing. The use of the personal pronoun 'we' suggests a shared responsibility in the care of the woman.

This is supported by Daisy. In the below narrative, watching the video of the simulation midwives in the antepartum haemorrhage evoked a feeling of something not being right. Subsequently, this feeling prompted Daisy to reflect on her own experience of navigating two competing expected professional selves when caring for women in the real world. At opposing ends of a spectrum there is the risk assessing midwife and the normalising midwife at the other end. She has positioned herself as having to balance these competing roles:

'Because of my experience I suppose, I was a Case loading MW for 5 years, lots of homebirths, home waterbirths, very into normal birth, hypnobirthing that sort of thing, but I have my risk assessing hat on all the time, but very aware of keeping things as normal as possible. So, it's like you have 2 roles. The face that the woman sees is the normalising MW, that you're positive & supportive & listen to the birth plan – what can we do to keep this normal, encouraging all of that, but there is an alertness there as I said I could feel it in the first scenario, you're constantly looking for those little minute by minute risk assessing if this changes now, I'll have to change my plan... but generally my initial mindset when I go into labour ward in the morning is birth is normal. I've got a very normal view of labour, but I have that risk assessing hat on all the time' (Daisy 1st Interview)

The expectations of childbirth in the real world were found to be influenced by the environment in which the midwives work:

'I'm on guard more in antenatal and labour period because women can develop risk factors & the acuity of that is quite important because when they develop problems in labour it's acute and fast like pre-eclampsia and that's my experience where I know there's more scope for things to go wrong there's more opportunity for things to become abnormal' (Gina 1st Interview) sensitised to things going wrong

'In antenatal, you are constantly risk assessing; what can happen now. I want to keep someone normal, but because of my job (works in Antenatal Day Assessment Unit) someone doesn't come unless there is something wrong with them' (Daisy 1st Interview)

'I know I'm watching it thinking there's going to be a problem - you've got the benefit of knowing that this is going to be some sort of emergency situation a normal midwife may not be immediately suspecting anything – particularly at a Birthing Centre because your default position is that everything is going to be normal because women come to you because they are normal, they don't come to you if they are not. So initially you do expect them to be quite normal' (Fran 1st Interview)

In the above, the midwives were watching the videos from the position of their experienced self and from the environments in which they work. Daisy and Gina work in areas of high complexity where they have an expectation of *childbirth being risky*. Consequently, they assess for risk. In comparison, Fran works in a low risk area where she has an expectation of childbirth as being normal until proved otherwise. It would appear however that the risk assessing role of the midwife dominates. This is because in real life the midwives have an imagined fear of an obstetric emergency. Consequently, they *prepare* for an emergency that has not happened and might not happen:

'Things are really well managed when its expected when you know you are looking after somebody, and that particular scenario can happen like if they've already had a previous shoulder dystocia and they've got another big baby so you're anticipating it so there's specific things that you start doing prior to even witnessing it happening so you're preparing for it' (Ellie 2nd Interview)

'If you are at a home birth or in hospital & you're looking after a woman in labour or you're supporting another MW, you're always in the back of your mind for me looking around that room going right can we get a resuscitaire in that room, in that corner, or is all the bags in the way. Have we got access to her round this side or is a big chair in the way? So, whether that's just experience, I don't know. But I absolutely believe that every single MW has got alarm bells – not alarm bells, but you don't know its fine until its fine. Especially with the 3rd stage, that's why everyone's like why you don't cry when a baby is born, or why don't you get emotional, well it's because I'm now thinking I need to make sure this placenta comes out because if it doesn't, she can have this, this, this or she could haemorrhage. So, I always think you're 10 steps ahead. And personally, I think that's the sign of a good MW is that you're always anticipating sometimes the worse because you're then ready for it. You can deal with it before it becomes an emergency' (Gina 2nd Interview)

The 'anticipation' and the 'alarm bells' that Ellie and Gina allude to can also be linked to clinical forethought/reading trajectories resulting from past experiences which they use to guide their decision making. Being 'one step ahead' by working preventatively for anticipated events and a reliance on past experiences are strategies for coping with uncertainty.

The above midwives work in high risk environments; however, *preparing* to manage an imagined emergency was even the case for the midwives that work in a Birthing Centre. This is probably because they have no immediate access to medical back-up and need to be skilled-up. Of significance is the way in which Fran has used personal pronouns. From '*I feel very...*' she quickly switches to '*we are*' aligning her vulnerability with other Birthing centre midwives; however, 'they' then become 'others' who do not know how to cannulate and positions herself as maintaining her skills:

'I feel very – I think we're in a very vulnerable place in a Birthing Centre & I think that we have to be hot on our skills. There are midwives in the Birthing Centre who freely admit that they don't feel up to doing cannulations & I wouldn't feel able to practice there if I felt my skills weren't enough to deal with any scenario that was thrown at me. I wouldn't forgive myself if I knew I couldn't deal with something & left myself in that situation, that's why if I ever get called down here to work, or occasionally I get called as a Supervisor of Midwives, I work on the labour ward. I really push to work on the labour ward because I want to do a cannula here a bit of suturing, keep my skills up to date' (Fran 2nd Interview)

5.3.2 Expectations of the Organisation

Risk assessment as described by the midwives in the previous section is deeply rooted in pregnancy and childbirth. Midwives experiences of risk are influenced by the expectations of the Organisation. Midwives were positioned as being in a

surveillance Organisation where clinical governance and risk management systems are used to monitor, control and allocate blame to the practice of midwives:

'After a break in clinical practice for 2 and a half years – going back & doing some Bank work made me think how things had changed. So, in terms of governance, structures, audits & algorhythmns, completion of paperwork that the guidelines for practice are now so rigid, there's very little for freedom. They're not guidelines, more like tram lines, you're walking down this path that you must do things – that if you miss something somebody is going to be on to you. I also worked in an audit role & midwives felt very scrutinised & I think that makes them quite defensive'
(Becky 2nd Interview)

This has been conceptualised as **Being Watched by the Organisation** and has shaped the 'selves' by which midwives' practice. Consequently, midwives adhere to guidelines that are prescribed by the Organisation to support their decision making, control their behaviour and protect their professional reputation from blame (this will be further discussed in section 5.6.3).

When a serious untoward incident occurs a root cause analysis which involves a structured investigation is undertaken by risk managers who are appointed by the Organisation. They have the power to identify the causes for the incident and identify safer ways of working to reduce risk to women and their babies. Perhaps not wanting to be perceived as deviants, risk takers or rule breakers, the midwives positioned the outcome of their recounted stories within formal investigations. Narrating the no blame conclusions which were reached in relation to their management *upheld* their image of experienced midwife:

'It transpired that this baby had Downs (syndrome) and a major heart defect. Really interesting, but

nothing showed up at the time' (Cassie managing a neonatal resuscitation - 3rd Interview)

'There was a heartbeat up to the moment of birth. It was unexpected and one of those very strange things. The feedback was that they thought there was some sort of antenatal assault' (Daisy caring for a woman in labour whose baby required resuscitating at birth – 2nd Interview)

The midwives also identified deviant 'others' that deliberately tipped the balance in favour of normality. In their quest for normal childbirth, the 'others' challenged their accepted professional roles and acted outside their scope of expected professional practice and organisational rules. This unfortunately resulted in harm to the mother and baby. Gina, a Delivery suite co-ordinator positions and compares herself to community midwives when discussing their actions and the consequences of their actions. Fran works in a standalone Birthing Centre and her narrative about "another' birthing centre midwife perhaps serves to hint at a difference between 'self' and 'other' that is the same, but different:

'We had an incidence recently a twin lady who had booked a homebirth because of her experiences in one of the hospitals & MW's were giving her (cervical) sweeps at home & saying wouldn't it be amazing she'll have a twin birth at home & we can stick 2 fingers up to our doctor (Dr) colleagues but that is not normal it's not low risk & you're not doing her any favours. It has to be done properly & safely. She knows the risks, that's her decision, but it's not normal, it's not low risk & as it was, one baby was born normally but the other one had a footling breech & had an emergency caesarean section, so we need to be careful especially in our area where most women know what they want. If it's to do with the safety of your baby that's not right. I would go to the ends of the earth for women⁵⁶ & if I was the MW that had to

⁵⁶ Midwives have a duty of care to attend a labouring woman wherever she may be even it challenges perceptions about risk and safety

attend the twin lady, I would have done so, but I'm not going to promote that' (Gina 1st Interview)

'I went to a conference recently where they discussed a MW in a Birthing Centre who kept plodding on aiming for normal, normal, normal & was blinkered & wasn't recognising that things weren't normal & she wasn't acting on things that were in front of her' (Fran 1st Interview)

In the below, Daisy was comparing watching the videos to real life. Watching the videos of the simulation midwives triggered an emotional response. This led her to reflect on a past experience where she had two coalescing roles. There was no anticipation of an emergency. Daisy could not prepare herself for it. When it occurred unexpectedly, she relinquished her professional role to others but maintained her personal role of friend. It can be speculated that when the baby was born with no response, Daisy anticipated the worst possible consequences. Furthermore, her *fear of organisational scrutiny* was such that she *avoided* resuscitating the baby to protect her professional self. On the other hand, this may have been Daisy's first experience of a neonatal resuscitation. The shock of it 'paralysed' her and she could not call upon the script that she would have previously rehearsed numerous times over to help her manage the situation:

'I think when you're watching a video, you're able to be even more logical about I would do this, this & this. When you're in the situation because you're human and your emotions are involved, when I think back to a recent one, I felt frightened – I actually felt frightened. It probably didn't help that she was a very good friend of mine & it was a neonatal emergency. So, you desperately want everything to be alright & everything was alright, but there was a big feeling of fear because you know what can happen you just have to act your face on, and all this & all these things are going through your mind. You don't want to betray how worried I am on my face but that was influenced

because she was a friend of mine. I found it harder to keep myself out of it. That's the first time I can remember feeling a great sense of fear. Maybe in other emergencies you might be worried about what might happen and you can anticipate that but I don't necessarily feel fear, but with that emergency, I felt massive amounts of fear & recognised that I really wasn't the right person to be doing the resuscitation in that situation so I stepped back and supported Mum & let the rest of the staff take over because my fear was paralysing me' (Daisy 1st Interview)

'Okay – what were you frightened of?' (Researcher)

'That the baby would die. It was a normal birth, but it was born with no response at all unexpectedly' (Daisy 1st Interview)

Documentation is a professional requirement and is regulated by the Organisation. It demonstrates that the midwife has applied midwifery knowledge, skills and judgement in line with professional and Organisational standards. Documentation can therefore be used as evidence in legal proceedings; disciplinary hearings and coroner's requests. Organisational investigations involve scrutiny of documentation:

'Once an emergency has been identified it's crucial for somebody to start scribing; so, what the time is? what the incident is? who's present, for example, if it's a PPH what specific clinical skills have been undertaken? for how long? what drugs have been administered? so that you can keep an accurate record on time of what is going on & also for any form of statement writing if it becomes quite a serious incident' (Ellie)

'What do you mean by serious incident?'
(Researcher)

'If that clinical scenario has a poor outcome it will be investigated by the clinical risk team. The MW's that are involved in that incident would be asked to write a statement of their involvement' (Ellie 2nd Interview)

'I had to see the Head of Midwifery within a week. I was surprised to hear that the legal team from the hospital had all been involved. They started to question one of my entries in the notes. The legal advisor had gone through and noted that there were two different entries during the same minute by two different midwives. It was the fetal heart rate and they said that is something that will really undermine our case in Court' (Becky)

'How did that make you feel?' (Researcher)

'Quite angry because there was very little of didn't you do a great job, getting the baby to hospital with output' (Becky 2nd Interview)

The above narrative of a real-life experience emphasises the importance of meticulous documentation and the principle of 'if it isn't written down, it didn't happen.' Documentation is the midwives main defence if their actions or decisions are ever scrutinised. Becky describes how instead of being upheld for her actions she was positioned as 'other' or deviant because her record keeping did not conform to the expectations of the Organisation. Consequently, the reputation of the Organisation was at stake.

Midwives have to balance the wishes of the mother with following the organisational rules. In the below narrative, the mother did not want the fetal heart monitored in the second stage of labour. Becky anticipated an adverse outcome and practiced defensively. Acutely aware of her accountability and the potential consequences, she ensured that she had documented the advice that she had given to the mother. In this scenario, the baby died:

'From that point on it looked like she was moving into the 2nd stage. She decided that she didn't want us to listen to the baby anymore. Half an hour was spent trying to cajole her into understanding at this point that this was the one thing that we really needed to

do..... & then me sitting like a baddie at the end of the bed & having a conversation about really in the 2nd stage of labour because she was having involuntary pushing how her baby was being affected & it could potentially suffer from a lack of oxygen & at that point be damaged and I remember writing that in the notes thinking I've never had to do this before, but then afterwards thinking thank goodness I documented that' (Becky 2nd Interview)

'Why did you document it?' (Researcher)

'I don't know. I suppose it's the sort of thing about putting the pieces together & that's the clinical decision making. That this was outside my judgement, I hadn't experienced it & I felt quite – I'm not defensive as I've said, but I felt quite threatened by what was going on' (Becky 2nd interview)

5.3.3 Expectations of Simulation

In simulation, Anna and Becky (simulation midwives) had an *expectation of an emergency*. They were aware that they would be filming two obstetric emergencies and for some weeks prior to the filming they were jesting about how they were revising all the emergency guidelines. In the sepsis video the mother presented with breastfeeding problems and tearfulness; however, video footage shows the simulation midwife (Anna) disregarding the presenting history. Within thirty seconds from receiving the handover, she asked the mother 'how's your head' and started to take a set of physiological observations. There was thus a mismatch between the presenting condition of the mother and the immediate actions of the simulation midwife. In the non-diegetic space, the simulation midwife (Anna) was asked:

'When you went into the room and after the handover, did anything come into your mind?' (Researcher)

'No. I had no connection to an emergency. I thought it's just going to be about breastfeeding' (Anna – Simulation midwife 1st Interview)

Anna's account of her actions outside of the simulation does not match her actions inside the simulation. This narrative provides evidence that Anna's professional self is fluid and that she has constructed it to manage the situation (space) that she has found herself in. In the space of the simulation she has positioned herself as a risk assessor. In her relationship with the researcher in the space outside of the simulation she has *re-positioned* herself as privileging normality. In both spaces she is managing her professional expected self and **self-regulating** her behaviour

This mismatch was also recognised by the midwives watching the video of the sepsis simulation:

'She went straight into it, probably because it was simulation and she knew something was going to erupt' (Fran 1st Interview)

'I felt that the primary midwife should have listened more to why she felt so tearful. At first, I would have listened longer. In simulation she was anticipating that something was wrong and in real practice this wouldn't happen' (Ellie 1st Interview)

'The only thing in my case that would be different is that I wouldn't initially be thinking there was anything wrong with her – I would be thinking breastfeeding, psychological day 3. It was only when the woman said she felt unwell that I had a cue that something else was going on here. In a postnatal situation, I wouldn't automatically assume sepsis with someone who's upset with breastfeeding problems presume normal until something becomes abnormal – it was almost like she was pre-empting that there was going to be something wrong with this woman, but that was probably because it was a scenario' (Daisy 1st Interview)

'That caught me by surprise. Initially, I was getting a bit frustrated I was like you're not asking her what's wrong' asking her why she's crying, you're just doing things to her so when that first BP came up & Temp,

I did go hang on a minute that's not quite right. My initial approach wouldn't have been that. I would literally be sitting on a bed with her giving her a hug & maybe it's because I was a bit influenced by the notes saying that she was hormonal due to breastfeeding she was struggling & she was tired that she hadn't slept that she'd got a headache I thought well you would have a headache because you're exhausted. You'd not drunk, you'd not eaten; so, my initial approach would have been a bit more nurturing and cherishing & I did think at that point why are you doing a set of obs. She needs a hug; she needs to be talked to, why are you doing that? Immediately she jumped on a very clinical - I'm going to do this & I'm thinking why you are not asking why she's feeling so upset' (Gina)

'Why do you think that was?' (Researcher)

'Possibly because we are used to something going wrong in sim' (Gina 1st Interview)

The midwives watching the videos identified the mismatch. Gina & Daisy in particular suggested that the expectation of an emergency in simulation is common amongst midwives. Consequently, on entering the simulation, midwives' home in on the set-up of the room and the mannequin to identify the nature of the emergency. In the below narrative she further elaborates and explains how midwives *prepare* for the uncertainties of simulation, especially because there is a perception of being tricked:

'Before you go into the sim, you're trying to second guess what the emergency could be & I think sometimes that could be quite distracting. You're trying to very quickly figure out from the clues, the room how it's set up or the mannequin what it could be. In some ways, that is like real life because you're trying to piece a few pieces of the puzzle together to figure out what's going on or what's gone wrong. But I think it also distracts you from the learning because you're trying to figure out how they are going to catch me out what am I going to do. You're trying to run through all the obstetric scenarios in your head &

algorhythmns before you even get in there' (Gina 2nd Interview)

The aim of obstetric simulation is to maintain knowledge, develop skills, confidence and learn from the experience:

'We know that through sim that by looking & reflecting on what people are doing that's how we learn and what's happening & what our actions are doing' (Daisy 3rd Interview)

However, the feedback from the facilitators is not always conducive to learning:

'I don't feel they're totally honest because we're all present and the feedback is given as a group, so they're not identifying individuals' (Ellie 3rd Interview)

The midwives perceive that simulation does involve critical peer scrutiny of knowledge and skills. **Being watched by others (in simulation)** created *fears and anxieties* centred on *performance embarrassment* and *performance incompetence*. The below narratives reflect anxiety related to performance embarrassment:

'It is not that you are doing things right or wrong - mainly that they are observing you as a person and this is often what proves to be a challenge in watching back simulation, so, you need to get over the 'did I look like that? is that what I sound like? really did I do that? and these sort of fears and anxieties' (Anna 3rd Interview)

In contrast, Ellie positions herself with others who enjoy the role play of simulation:

'Some people absolutely dread any form of role play, but I also see the fun side. Some people really embrace it and engage with it and we have a laugh at the end of it. Some of the silly things that we may have

said that was picked-up when the feedback is given to you. I personally feel confident in that environment. I think it's because I've been exposed to it in several ways. Initially as part of my mandatory training but also, I've been on the other side of it where I've facilitated it and so I know how the facilitators are viewing things, but I also feel that I can draw on a lot of experience during it, so it doesn't particularly phase me' (Ellie 3rd Interview).

In the above narratives, the *'really did I do that'* (Anna) and Ellie making light of the feedback referring to it as *'some of the silly things that we may have said'* could also be a protective strategy for covering-up their fear and anxiety.

Being watched by peers and facilitators corresponds to the methods of data collection that was used in this study and further supports the construction of the researcher generated videos. The midwives were concerned about their performance being observed; being judged by 'others' (peers and facilitators); being asked questions and making mistakes. It is suggested that the fear may be related to reputational damage:

'Well how we do our sim for mandatory training is that you usually do it in two groups and one group is doing and the other one is observing. The observation group gives feedback & they are able to pick out certain aspects of the care that you might have done well, or that you might have missed or they might throw a few questions & we kind of swap around so it's a bit of vice versa that's one way we do it, but other types on our skills drills is that we do it as a whole group & with that people will give you feedback. Facilitators will look at what you're doing & what your actions do & the consequences of them. So, you do feel a little bit scrutinised at times & you do worry what other people may think of you during the scenario & during the feedback session afterwards' (Gina 3rd Interview)

'The pressure or the perception that you're wondering I wonder what my peers are thinking – maybe I've got this wrong and I'm being observed. The old style,

when there was the mannequin, and we had to wear mikes, and we were videoed. That was horrific. It was horrific for me because I was worried about what people would think. I wasn't there to save her life, I was worried about what people would think, which is awful. But in real life, I don't give a stink what people think. It was awful for the people watching, because they knew they were next' (Cassie 2nd Interview)

Whilst Gina positions her fear with that of other midwives, Cassie takes ownership of her fear. She also shows empathy for others who were waiting their turn. In a real-life emergency, she says 'I don't give a stink'. This could be because women generally do not have the knowledge and/or are able to understand what the midwives are doing. This was also reflected by Anna:

'Being watched by peers, I feel is the most challenging thing about simulation... midwives are generally lone workers in that a vast amount of what we do is face to face with women and done whilst we are on our own. Simulation opens us to being watched and potentially judged' (Anna 2nd Interview)

The above narratives suggest that in simulation, the fear of the threat to the professional self is far greater than the fear of the potential loss of life, albeit simulated; whereas in a real-life emergency it is the other way around. In the below, the midwives suggest that they are so practiced and rehearsed in the management of obstetric emergencies such that when one occurs the adrenalin produced by their fear helps them to respond and work together to manage the situation without conscious thought. This is also crucial in *avoiding* organisational scrutiny. Becky could also be implying that there are less people around to observe for errors:

'There are less people around it's such a different situation because you are so full of adrenalin & you're so focused on the task & the outcome that you don't have time to feel self-conscious or observed. You're

just getting on with it & you're driven to achieve a good outcome' (Becky 3rd Interview)

'It is more stressful than an emergency in real life and again it's to do with that not worrying; whereas in real life you're not thinking about yourself; you're just thinking about the situation in hand & dealing with it & getting a safe outcome. But in simulation you're quite self-conscious & you're worried about showing yourself up or not having the right level of knowledge or saying something silly but in a real-life emergency it's innate, it's so practiced you just do it. You haven't got the space to consider yourself as a person how you feel at that moment, you just deal with it & think about it after. Whereas in simulation you're very self-aware' (Daisy 3rd Interview)

A common feature of midwifery education is that students may not be directly observed or supervised in clinical practice. Consequently, they are not used to being watched:

'We do everything privately behind closed doors. We don't do enough of our learning in public (Becky Validation Interview)

In the below narrative Ellie compares being watched in a simulation to real life events. Her use of pronouns shifts from 'they' to 'myself' and back to 'they' as she negotiates her professional selves in the contexts of simulated and real-life emergencies. She positions herself with other midwives when feeling threatened and making mistakes in simulation; however, making mistakes in real-life happens to 'others':

'When we have a sim on the ward when it's quiet and everybody is around - the anaesthetist, the registrar & some poor midwife answers the emergency bell & the scenario is set to run. I've witnessed some of my colleagues absolutely terrified because there are observers in the room. For some reason, I don't know why some people perform very differently when they're being watched to when it's a real-life scenario because the woman's life's at risk. So, I don't know

why they feel threatened it's not very pleasant & it's happened to myself & you feel very vulnerable because there's so many eyes watching you' (Ellie 3rd Interview)

'What's making you vulnerable?' (Researcher)

'You don't want to make a mistake. When you're under intense pressure you fail to say things, do things & maybe you feel that you wouldn't do that in a real-life scenario. Some of my colleagues in a real emergency don't do the right thing because they've become extremely anxious about everything.' (Ellie 3rd Interview)

Rehearsing an exceptionally uncommon emergency is difficult in a simulated environment and leaves midwives more open to making a mistake. Midwives perhaps feel comfortable with the more frequently occurring emergencies because they have a repertoire of past experiences that they can draw on to help them manage the situation. Consequently, they can give a good performance and as such are less likely to be scrutinised:

'I feel really observed & worried about doing something wrong because neonatal resus isn't something that you do very often not a full one like the one, I was involved in at the homebirth I described. It doesn't feel like it's an instinctive thing that you feel completely comfortable & familiar with it. I've always felt when you do your simulation with things like post-partum haemorrhage, I feel more comfortable doing that because I feel that I've been involved in it more. So, it's always struck me that simulation feels much easier & more comfortable if it's something that you have done routinely in your practice whereas for a midwife like me who's a direct entry midwife, I haven't been involved at all ever in an adult resus & I've missed it in my career. Like I need simulation, but it doesn't ever feel comfortable because I haven't even experienced it properly. I know that's not the purpose, but it just gets easier once you have the physical experience' (Becky 3rd Interview)

In the above, Becky has positioned herself as 'other' by intimating that those that are dually qualified have an advantage in the management of maternal resuscitation; however, maternal resuscitations are rare in midwifery with many midwives never being involved with one during their entire career. This is certainly true of Anna who is dually qualified. She asserts the value of simulation and it is this training that Becky (above narrative) utilised to manage the neonatal resuscitation in the community setting:

'I have done adult resus but not maternal, so that's still theoretical... but it's through that rote learning and through sim and stat training that you revisit every year because sometimes you don't see them in practice. So, it does make you think and revisit and bring it back to the forefront of your mind – yes I can still remember it' (Anna 2nd Interview)

The extent of some midwives' fear and anxiety is such that they would rather *avoid* simulation:

'When I was on my last mandatory training day a member of staff had to leave. I've never seen somebody turn around and say I can't do this and just leave. She just could not cope with that type of teaching environment. I don't know what would happen if she was faced with it in real life' (Ellie)

'What level of midwife was she?' (Researcher)

'A band 6 qualified for a while. As I said some of us engage with this wholeheartedly as if it was real and others find it intimidating so they don't participate as well.'

'So, what do they do?' (Researcher)

'So, they stand there with a BP cuff until they think it's appropriate to put it on' (Ellie 2nd Interview)

The use of third party pronouns in the above narratives have constructed those midwives that do not participate in simulation as 'other; however, an alternative explanation could be that the midwives have never seen an obstetric emergency before and for them the simulated emergency was their first experience. On the other hand, walking away and *avoiding simulation* could be a strategy for protecting self from being exposed as incompetent.

5.3.4 Expectations of the Researcher

One midwife described being watched and that her ability to sequentially recall the management protocol for APH was under scrutiny of the researcher:

'I almost felt it was like a test. I was quite concerned and nervous about what you wanted to hear and how you wanted to hear it... In practice I'm not repeating something from a script but doing it as the situation arises. It might not be in that linear format'' (Cassie 2nd Interview)

This was an atypical finding from the semi-structured interview; however, findings from companion researcher observation found that all the midwives made notes whilst they were watching the videos. Perhaps they did contemplate being tested on aspects within the video. The researcher struggled to recruit experienced midwives to this study. Initially it was attributed to them not having time to participate in lengthy interviews; however, it can be speculated that their reticence was more to do with the nature of the research and a concern around their knowledge, clinical judgement and decision making being scrutinised. Avoiding participating in the study is therefore a protective strategy.

The midwives said that they learnt by watching others in real life situations and from watching the videos:

'So, every time you see an emergency scenario you think I like the way that particular person did that & I see the logic behind that & I will adopt that myself next time' (Daisy 2nd Interview)

'This is something I'll take away from this, that in postnatal you assume that problems have already happened. Yes, sepsis would definitely be more on my radar 3 days after a normal birth' (Gina 1st Interview)

I clearly remember the postnatal one (Sepsis simulation) (Ellie 2nd Interview)

'Why that one in particular?' (Researcher)

'Because it's not something that I deal with day in day out because that's not the environment I work in (works on Delivery Suite). Women who have delivered are transferred to the postnatal ward and are usually okay. It made me realise that I need to be a little more tuned in with some of the aspects that MW's have to deal with on a postnatal ward' (Ellie 2nd Interview)

Ellie and Gina all work in high risk areas. Their attitude and beliefs towards the postnatal period are one of normality, thus, they do not anticipate any problems arising in this setting. Watching the sepsis video made them shift place and reflectively position 'self' in the place of the 'other.' **Self-declared reflective learning** was a consequence of watching others; however, this could not be verified.

In summary, this section has presented the contextual factors impacting on the midwives' representations of self and hence their decision making. It has been identified that **being watched** by the Organisation and others in simulation created *fears and anxieties*. These fears and anxieties are situated in the **expectations of the Organisation, Childbirth and simulation**. Consequently, the findings thus far indicate that the narratives of the midwives are shaped by their attempts to *position* and *re-*

position representations of self within the expectations of the Organisation, childbirth and simulation (Figure 5.4). The next section will show how the midwives were managing these expectations and hence their decision making.

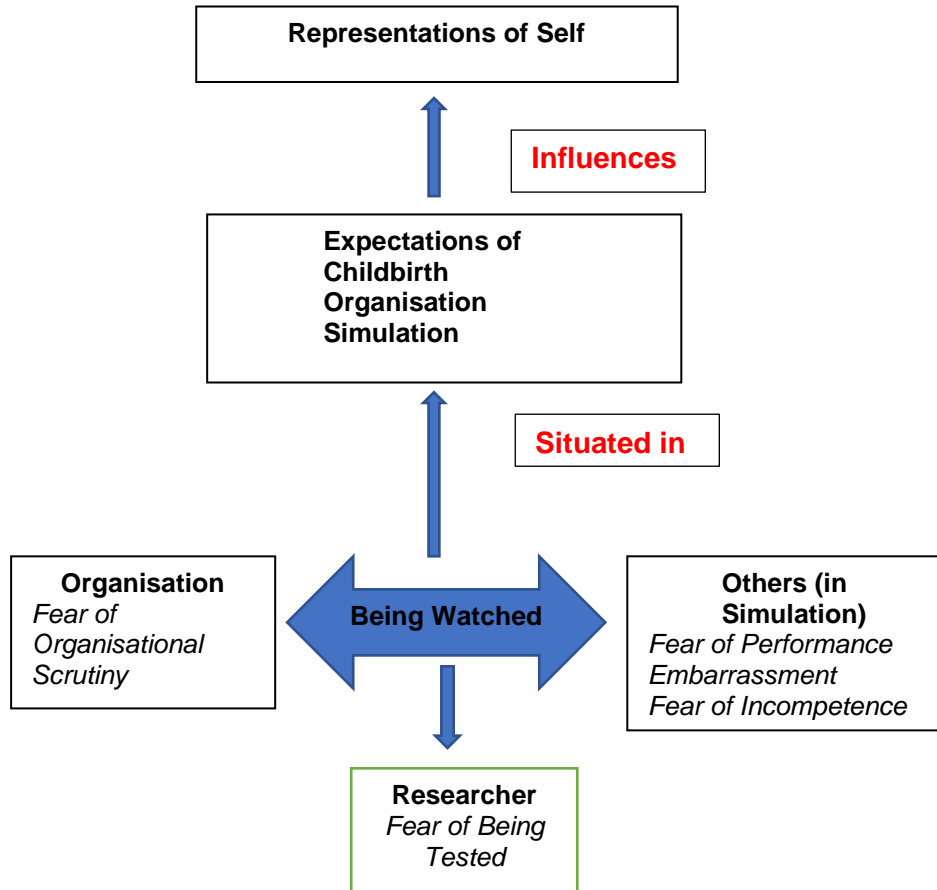


Figure 5.4 Contextual Factors Impacting on the Midwives Representations of Self and Decision Making

5.4 Strategies for Managing the Expectations (Process of Decision Making)

This section presents findings in relation to the various strategies that the midwives were engaging in to manage the expectations of the Organisation, childbirth and simulation. This section is divided into the following themes:

- Ruling in/Ruling out
- Making Credible (the Escalation)
- Demonstrating Personal Agency

5.4.1 Ruling in/Ruling Out

When confronted with uncertainty the midwives' initial clinical reasoning processes involved gathering a comprehensive range of information (history, physiological, physical, and diagnostic) around the presenting condition to develop situation awareness. In the video, Anna (simulation midwife) is *gathering information* around previous births and mode of delivery to rule out risk (uterine (scar) rupture from previous caesarean sections) in the APH scenario:

'At this point I think I'm trying to establish if this is an early labour type of episode..., I really just wanted to have an overview in those few seconds, did you have a CS – did you have 3 previous CS's & I'm not aware of this'

'What were you thinking then?' (Researcher)

*That she was having some kind of (uterine) rupture
Just trying to knock off another thing off the list of the information that you are trying to process. (Anna 1st Interview)*

This was also the case for the midwives watching the videos:

'Initially when they first took over, I thought she might be in normal labour because she's 39 weeks & she's come in with pain. So, within the first Minute If I'd

walked into the room & was given that hand over – 39 weeks, un-booked, abdo (abdominal) pain, I'd be prepping for that. Within a minute it would become obvious because she's so agitated. So quite quickly I was thinking that there is something wrong here.... but really the previous experiences that you had in practice will shape how you respond' (Daisy 1st Interview)

'With experience, you can generally tell if a woman is labouring or if there is something else going on. Abruptions aren't something that you see often especially in a birthing centre, but she just didn't look like a labouring woman – Gut – I don't know what it is, but she just didn't look like a labouring woman' (Fran 1st Interview)

Daisy and Fran, discuss ruling out normal labour very quickly. This was based on their past experiences of normal labour, thus the 'gut' that Fran refers to is misleading. Situation awareness was therefore influenced by past experiences.

The narrative below further captures the essence of applying experience and knowledge to a situation. Gina discusses a decision making process that involves thinking in action and which embodies intuition, emotions and the senses. This can be considered the hall mark of an experienced midwife:

'It's all really about history taking & looking at her. If she's writhing around in agony & she can't barely talk to you, you're thinking abruption – So I think by just watching the woman & with experience from whats happened before it all comes flooding back to you. It's about history taking & you hear it from MW's all the time – oh she doesn't look like she's in labour, it doesn't look like she's doing anything. So, we use our eyes & our ears so much & our hands the more than we recognise' (Gina 2nd Interview)

The midwives watching the videos appraised and considered other information that the simulation midwives could have collected:

'I think I would have asked probably earlier on about her vaginal loss and being a little bit more specific about whether it was blood or water, but that's easy as an observer, when you're there you're thinking as a midwife and thinking ahead – you know this could be an abruption' (Cassie 1st Interview)

'I didn't see that they did a urine dip. It could have been a horrendous UTI or kidney infection' (Gina 1st Interview)

Cassie explained that this was easy as an observer. This is because the midwives watching the videos watched them in their entirety, they knew what the emergency was. Consequently, this allowed them to draw on their knowledge and experiences and judge what information was gathered, not gathered and should have been gathered. This is in comparison to the simulation midwives who had to react to the circumstances of the event as they unfolded. The 'thinking ahead' that Cassie alludes to, was her understanding of the situation. This was probably less stressful for her because she was watching it rather than being in it.

This was also described by Daisy who was thinking ahead as the scenario unfolded such that she wanted to help the simulation midwives prepare for an eventuality that might occur:

'It was that anticipation of what could happen next and thinking ahead even though I was watching the video and wasn't involved of what I could do to alter where this is going to go and just wanting to help the MW's that were in there' (Daisy 1st Interview)

The midwives in the scenarios started off with a supposition that was based on the limited information that was available; however, this changed as more information became available. In the sepsis scenario Anna (simulation midwife) asks the woman how she feels and if she has a headache. The woman mentions that she feels 'tired' and 'a bit sick'. When Anna takes the woman's temperature, she tells her that it is a 'bit low' and could indicate an infection. In the reflective space, Anna accounts for her thinking:

'Well, within the first minute of talking to her she told me that she'd got a headache and I wondered straight away if she'd got a dural tap⁵⁷ because she had an epidural although they tend to complain of much more violent headaches. I wondered whether her blood pressure is raised - some sort of eclampsia or post-delivery raised blood pressure.... But then there was that BP is fine. Then the temp is 35°C and I'm like oh.....I kind of got in my mind that there was some kind of infection' (Anna 1st Interview)

The above can be explained as *anchoring*; that is starting off from an anchor point or hypothesis and adjusting this in relation to new information. This was also demonstrated by the midwives watching the sepsis video:

⁵⁷ Dural tap can be a complication of an epidural. It is a puncture of the dura mater (one of the membranes that surround the brain and spinal cord). This causes leaking of spinal fluid and results in a severe headache

'I suppose the difference with HELLP (haemolysis, elevated liver enzyme levels, and low platelet levels) & sepsis is that you've got the temperature change which is more of a sepsis sign & the fact that she said her lochia was smelly – I suppose it's the subtle things that make you have an inkling the way it's going, but you have to keep your mind open to anything that could be wrong with her. As you're taking the history and doing the observations, in your mind, you're ticking things off. It's likely to be this & less likely to be this. So, initially it was the headache & the feeling unwell. But then the obs, it made me think more sepsis, but you can't rule out anything' (Daisy 1st Interview)

'What did you think was wrong with the woman? (Researcher)

'Septic shock' (Fran)

'When did you suspect that?' (Researcher)

'Not initially. I was wondering whether she was bleeding because she was talking about being very tired. As soon as the observations were done you kind of think septic and she was talking about having offensive lochia and abdominal pain. It quickly fell into place' (Fran 1st Interview)

However, they had the benefit of seeing the video to the end. Fran in particular, started off with the definitive diagnosis of septic shock and adjusted the information to fit the diagnosis. It is questionable if the initial physiological observations (BP 90/60, Temp 35°C) and a history of feeling sick with a headache would have led them to immediately consider septic shock or sepsis. It is suggested that in the reflective space, they started off with the diagnosis and adjusted the information to fit the diagnosis.

Having engaged in inductive reasoning (collecting information relevant to the presenting condition, to generate a possible diagnosis and making adjustments which may be true), they then engaged in deductive reasoning. This involved further *focused* information gathering to take account of the hypotheses being

considered. This was conceptualised as *making sense*. In the APH scenario for example, this involved putting the woman on the CTG, diagnostic tests and taking further observations:

'My feeling is yes – 100% I would have wanted to do a CTG to make a sense of it as there are many things that could have been going on with that picture & the CTG would have been another clue in the picture of abruption. And the point at which I thought CTG was when the uterus was hard. When you asked how was the uterus & you said it feels hard – so immediately I wanted to put a CTG on more than anything else' (Becky 2nd Simulation Midwife)

'When they listened in & heard a deceleration that is also a classic sign. As her condition deteriorates, the decels become apparent. Until she's put on the CTG, you're not really clear with what's going on' (Ellie 1st Interview).

'If your suspicions are abruption then doing more observations & monitoring the FH will tell you if your suspicions are going along the right lines' (Fran 1st Interview)

The narratives suggest that initially midwives have a sense towards a clinical situation and that this is based on their past experiences. This guides them towards more focused collection of data to make sense of the situation. Thus, objective data collection (CTG and further physiological observations) was used to guide the **ruling in ruling out**.

The midwives talked about putting pieces of a jigsaw together. This helped them to support the inference and identify the problem. This was labelled *clustering information*. The simulation midwives accounted for this when they were reviewing the sepsis video in the reflective space. Video footage showed that a Doctor's review was requested at 5 minutes and 27 seconds:

'Why did you request a Doctor review at this point?'
(Researcher)

'It was the vomiting and the history that she gave of an offensive lochia and she was now vomiting in conjunction with that. There was the low temperature, so there were a lot of features that were starting to clump together' (Becky 1st Interview)

'We have 3 things now, the offensive lochia, the vomiting and the low temperature. It's like I've nearly got the whole jigsaw now' (Anna 1st Interview)

Anna did, however, have an opportunity to request a doctor's review earlier. Video footage at 2 minutes and 59 seconds shows her asking the actress mother:

'Does it hurt – Do you have any pain anywhere?' (Anna Video Footage)

"I had some stitches" (Actress Mother)

But Anna did not examine the perineum. At 3 minutes and 29 seconds she takes the mother's temperature and it is recorded at 35°C. She tells the mother:

'Your temperature is a bit low' (Anna Video Footage)

'What does that mean' (Mother)

'Probably that you've picked-up an infection'
(Anna)

It wasn't until the other simulation midwife entered the room and asked the mother about her vaginal loss that Anna was able to complete her puzzle:

'What's your loss been like?' (Becky Video Footage)

'It's been okay – red and a bit smelly' (Mother)

Video footage shows Anna smiling and nodding, a sense of satisfaction that she has worked it out.

The midwives watching the videos were able to reconstruct the clustering of information in the reflective space because they had watched the videos to the end and knew the diagnosis:

'Well I was wondering whether she was bleeding & being very anaemic because she was talking about being very tired & then she quite quickly deteriorated as soon as the observations were done you kind of think septic & she was talking about having offensive lochia & abdominal pain – it quickly fell into place' (Fran 1st Interview)

'The moment that the observations were done, so you've got a low BP and a low temperature, the pain, which is quite indicative of sepsis' (Ellie 1st Interview)

Fran and Ellie added in the abdominal pain and pain into the reflective review as although the mother was upset throughout the scenario, she only complained of a headache. This was possibly unconsciously added in to strengthen their diagnosis of sepsis.

The sepsis scenario was the most complex and uncertain of the two scenarios. Despite the simulation midwives not explicitly using the MEOWS (Section 5.4.2) in either scenario, they did request an obstetric review. This was in relation to how the information was clustered. The outcome of this decision was that the woman collapsed at the time emergency assistance was requested. Whilst the simulation midwives were waiting for the doctor to arrive, they demonstrated a *capacity to act* (Section 5.4.3). It is suggested that their ability to act distracted them from calling the emergency team. This notion was supported by other midwives:

'...So, when to call for help especially when something is really fast moving because it's really easy to overlook who actually makes the call if two of you are really focused on trying to manage an emergency' (Becky 3rd Interview)

Another explanation could be that they believed that they had to keep the scenario going until it was stopped by the researcher. The delay in escalation could also be attributed to it being hierarchical in nature; thus, Anna sought advice from another midwife. She then called a registrar. In contrast, the midwives watching the videos all stated that they would have put out the call for emergency assistance much sooner.

The simulation midwives had to assimilate, interpret and analyse the information as the scenarios unfolded. The midwives watching the videos however had the advantage of being able to do this in the reflective space after they watched the videos. This most likely accounts for the high number of emergency calls (2222) (Table 5.9)

Table 5.9 Escalation Cues and who was Called			
APH			
Participant	Clusters	Diagnosis	Escalation
Anna	Pain + some distress + borderline obs + CTG + hard uterus (light-bulb moment)	Abruption	Reg Review
Becky	Borderline obs + hard uterus	? abruption	CTG – gives clue about the uterus
Cassie	Hard & tender uterus	Abruption	Registrar
Daisy	Agitated + getting off bed + shortness of breath (SOB) + constant pain	Bleeding & having an abruption	2222
Ellie	Hard uterus + continuous pain + no bleeding	Classical symptoms of abruption	2222
Fran	Constant pain, hard uterus	Abruption	Transfer to Consultant unit
Gina	Constant pain Fainted	Abruption	Registrar review 2222

Table 5.9 Escalation Cues and who was Called (Continued)			
Sepsis			
Participant	Clusters	Diagnosis	Escalation
Anna	Headache + feeling sick Offensive lochia + vomiting + low temp Offensive lochia + vomiting + low temp + 3 reds on the MEOWS	? Dural tap; eclampsia; post del raised BP Infection Nearly got the whole jigsaw now	2 nd MW Agrees with MW 2 to get Reg Review. 2222
Becky	Vomiting + offensive loss + low Temp	Infection	Registrar review
Cassie	Offensive lochia + vomiting	Infection of some description	Discuss with Registrar re: transfer to obstetric unit (999)
Daisy	Temp change + offensive lochia	Infection	Registrar review
Ellie	The moment that the observations were done – so you've got a low BP + low Temp.	Indicative of sepsis	2222
Fran	Pushing up resps + conscious level changing	Sepsis	2222
Gina	Offensive pads	? Infection	Admitted to' knowing it was sepsis now' during reflective review

Of significance was Cassie's narrative:

'The alarm bells would be going – hard and tender. So that would be my biggest sign that maybe this is an abruption and I'd want the team (2222) in. I think I would probably ask (thinking) this is a difficult one – I think I would ask for the team because I've seen it to the end'

'So, you'd put out the 2222' (Researcher)

(Hesitant). It's so easy here on this side. If I was in that situation, I think I would ask for a registrar rather than the 2222' (Cassie 1st Interview Watching the APH video).

By her own admission, she reflectively re-constructed this decision because she had watched the video to the end. It is proposed that she changed her decision to make it comparable to that of the simulation midwife who she perceived as belonging to the same group of midwives (experienced) that she self-identified with.

The findings in this sub-section has shown how the midwives initially engaged in inductive reasoning. This involved *gathering information* to evaluate patterns and trajectories to generate the problem. The latter was adjusted in relation to incoming information (*anchoring*). They then shifted to abductive reasoning. This involved *making sense* of the information through more focused information gathering and *clustering of information* before reaching a conclusion (deductive reasoning). These processes were guided by their past experiences of normality and previous obstetric emergencies. Essentially, the midwives were cognitively processing and putting together the information needed to **Rule in/Rule out** hypotheses based on the analysis of the information to make a diagnosis that they could escalate up. This process meets the expectations of the

Organisation and simulation with respect to reducing risk to self and others.

5.4.2 Making Credible (the Escalation)

The maternal mortality reports for the United Kingdom have consistently raised concerns about physiological observations not being completed and not recorded on a MEOWS. This results in delays in escalation; thereby increasing the risk of maternal morbidity and mortality (Chapter 1). Findings from this study found a number of barriers to escalating concerns across all levels of midwives.

In the APH scenario, Anna (simulation midwife) called for another midwife. This was when she auscultated the Fetal heart rate with a handheld sonicaid and found it to be 150 beats per minute with a deceleration. In the reflective space, she provides a rationale for this decision:

'She was distressed at this point. I'll have somebody else. I can't just stand here for the next 5 minutes. She's distressed & my mind was then beginning to think that this is not normal labour. Something is undercurrent here. I suspected that there was something around APH' (Anna 1st Interview)

Anna may have been following the usual practice in simulation of calling for another midwife. There is, however, a sense of personal distress in the above narrative and it can be speculated that she was also 'distressed at this point.' Calling for help (from another midwife) would offer her emotional support (collegial support) and the opportunity to verify her suspicions prior to referral to an obstetrician. Thus, *collegial verification* validates the information gathered, confirms thinking and reduces feelings of uncertainty. Significantly, it also protects the midwife from the emotional burden of making an inappropriate referral.

Later on, in the APH scenario, Anna (simulation midwife) requests a registrar review when the fetal heart is 150 beats per minute with a deceleration and the uterus is reported as being 'hard' She accounts for this decision in the reflective space:

'I would have liked a Dr to come in and be in a position to recognise that at this point that I was thinking that this is an APH, concealed' (Anna 1st Interview)

This suggests that Anna had gathered sufficient information to warrant a review. In contrast, the midwives watching the videos discussed corroborating their interpretation of the information gathered with an obstetric registrar:

'Until you have a full obstetric review, you do question your findings. To me, I felt it was clear with what was actually happening' (Ellie 1st Interview)

'I would have been thinking APH, but I would be thinking that we need help – A Dr because we don't know where the placenta is' (Daisy 1st Interview)

Obstetric registrars have specialist training in high risk pregnancies. Not only can they corroborate the information gathered, they can also undertake specialist assessments to make further sense of the situation and plan care. Midwives do, however, need to have credible evidence to justify calling them in the first instance:

'The only thing I feel is that the initial presentation – when some one's come in & their feeling slightly unwell & they discuss the loss – I would have had a look at that. I would want to see - smell for myself. That's such a key thing in midwifery – you know to corroborate the story – you're like definitely so that when you've got the Dr there it's definite' (Becky 1st Interview)

'As time went on you could call on her behaviour, but initially you need all of the observations so that you

can tell the Dr this is what I'm thinking. This is the observations – come now. If you phone up the Dr saying I think she's septic, the first thing he's going to ask you is what are her observations – you need that evidence to encourage them to come' (Fran 1st Interview).

Significantly, the ward co-ordinator can be a go between and gatekeeper, controlling access to the obstetrician:

'If I'm going in as the co-ordinator, because we do have – 'can we have some help please or a buzzer will go; so, I go straight in & say 'what's the problem?' – 'I want a Dr' – 'why do you want a Dr?' Sometimes I'll stand at the door & say what is it & what do you need & sometimes MW's will say oh she's just bleeding a bit, the shoulders a bit.... No, is it a shoulder dystocia that kind of thing & that's something we try to teach – state what it is & then we know. We have that sometimes with babies in theatre – oh we just need the paediatrician – why? - Because they're going to ask me when I bleep them to come. One of our Dr's is the same. He wants a Consultant - why does he want the Consultant. He just does. No, I'm not phoning until he tells me why he wants him' (Gina 2nd Interview)

In the above narrative, situation awareness also led to perceptions of how the situation may progress. The midwives recognised a deterioration trajectory that begins with a little bit of bleeding, or difficulty delivering the shoulders. It is suggested that they fear adverse outcomes and the effect of this on them professionally. Reading trajectories and early escalation will shift accountability and decision making to the doctor. The co-ordinator on the other hand has been tasked with calling the doctor. She like Becky and Fran in the previous narratives need to ensure that they have credible evidence to justify the review. It is suggested that a fear of being reprimanded by the doctor for a false alarm is driving them to *protect* their reputation of

experienced midwife. **Making credible** the escalation is therefore a pre-requisite prior to summoning the doctor.

The MEOWS can be used to support decision making by facilitating the identification of patterns. This can also make the escalation credible. When the midwives were watching themselves in the reflective space, they recognised that they did not take a full set of observations during the sepsis scenario.

Video paused:

'Why are you recording the first lot of observations on a MEOWS?' (Researcher)

'Trend & what was the last respiratory rate? It was 30 something – is that right?' (Becky)

Researcher reminds them that they didn't take an initial respiratory rate

'It was over 30 the second time' (Anna)

'And by that time, you know their resps are over 30, they are really compromised' (Becky)

'I often think that when you start doing a second lot of obs that you need to record the first lot of obs' (Anna)

Anna has adopted a defensive position in defending the actions of Becky in recording the observations; Becky champions the fact that despite them not having an initial respiratory rate they recognised that the woman was ill.

Notably, the midwives watching the videos were quick to point out that the simulation midwives omitted to take a respiratory rate with the initial baseline physiological observations or use the MEOWS. This is significant because taking and recording a complete set of physiological observations and reflecting these on a MEOWS chart is essential in recognising clinical deterioration and supports clinical decision making. Failure to

complete a full set of physiological observations can delay treatment thereby compromising the safety of the woman/baby:

'She got to the resps eventually, but that was when the mother was hyperventilating with pain' (Cassie 1st interview watching the APH video)

'Because my background is risk assessing in AN DAU, I would have been doing a full set of observations. So, her resps, temp, BP and pulse, but she didn't do resps for quite a while and they were quite abnormal so that would have been a cue that you need help from the Dr' (Daisy 1st Interview watching the sepsis video)

'.... continuous monitoring, the MEOWS Chart so you need to do frequent obs. She's very sick with a temp of 35' (Ellie 1st Interview watching sepsis video)

When the midwives were specifically asked about using the MEOWS in real life, some said that they used it explicitly in situations of uncertainty and implicitly during emergencies:

'In real life you'd be writing your obs on a MEOWS chart so that might trigger you to the fact that the situation is changing but in the emergency itself I don't think that it's used in that way. You might say the BP is this now or the temp is this & because you automatically know that's a red or a yellow you wouldn't necessarily say there's 2 reds now because you are in the emergency, you're already aware that this person is deteriorating. By the time the emergency comes you still write it down, but you're not necessarily looking at reds or yellows you're seeing if the observations are deteriorating from the time before – that you did 5 mins ago' (Daisy 2nd Interview)

The above mirrors Anna's reconstructions of how she used the MEOWS. It is suggested that when women are rapidly deteriorating, midwives are probably not mentally identifying which measurements are triggering the MEOWS but are using their clinical judgement based on the observations that they have

taken in conjunction with the condition of the mother and other physical assessments.

Concerns were expressed with Health Care Assistants completing the MEOWS:

'We've had this discussion when we've done sim in terms of if you had a real-life scenario, we would immediately give the health care assistant the job of scribing & using the MEOWS chart to record observations & sometimes we have that discussion about is that the best use of that person. They then panic, they've got a different level of training to us & they don't automatically know what the observations mean so what I have seen is that lots of people grab a piece of hand towel & start scribbling times & they scribble observations on there, but they don't use the MEOWS chart because it's too confusing for them' (Gina 3rd Interview).

This should not cause concern; the charts are colour coded and therefore do not require skilled interpretation of observations and/or decision making. This possibly reflects a lack of training of the health care assistants in the use of the MEOWS and/or the midwives being worried about being over all accountable should the outcome be poor.

In simulation, there was concern around being criticised for calling the wrong team:

'In a simulation I'm so concerned that I'm going to call the wrong team. You don't need a paediatrician if the baby is already out and again that's in simulation because I'm worried about what people will think of me. In real life I would say to switch board – if in doubt I'd call everybody. I don't care – I want the mother & baby to survive' (Cassie 2nd Interview)

In real life, 'others' were positioned as not knowing who to call:

'Because of the risks to the mother & the baby we should be calling for help as soon as that is recognised. So, I think anything you feel you're going to need help with it's better to call earlier & get someone there even if when they arrive you turn them away because the situation has resolved so paediatric resuscitation that sort of thing & getting the right people – we had a risk form in recently about a paediatric resuscitation following a premature labour that the MW had called the SHO for & the baby was born in very poor condition & the Reg should have been called too in that situation. It's about recognising the sort of people you are going to potentially need & getting them there as soon as possible whether it's before the birth or as you need them' (Fran 2nd Interview)

The above narrative illuminates the uncertainty of the situation but also the inability of the midwife to recognise what might happen and thus who she should call to undertake the resuscitation. The above narrative further suggests that some midwives may be reluctant and or delay calling for help unless they are certain that help is required. This is significant as failure to escalate can result in mortality and/or morbidity. It can be speculated that delaying calling for help is a strategy for *protecting* self from the ridicule of making a wrong call.

This contrasted with experienced midwives working in birthing centres:

'In that situation I would have called for an immediate ambulance. I think that I would have monitored the fetal heart straight away when I saw that she was so uncomfortable & suspected an abruption quite early on & called for a 2nd MW & ambulance immediately – very fast ambulance – impress on them the urgency of it, then I would have cannulated her, catheterised – you know, prepped her for theatre as much as possible whilst waiting for the ambulance and explaining what's going on & reassuring her' (Fran 1st Interview)

'My thought processes are thinking concealed bleed. I can't take myself away from being in a standalone

unit. I would be thinking immediately of transfer and cannulation' (Cassie 1st Interview)

Fran and Cassie were watching the APH video. They positioned themselves in the scenario and accounted for their actions from the position of birthing centre midwives. Their narratives suggest that when they recognise a trajectory of deterioration, they make arrangements to transfer the woman to an obstetric unit. This is probably because there is no access to medical back-up in a birthing centre and they cannot afford to watch and wait. Fran and Cassie also demonstrated a *capacity to act* whilst they are waiting for the ambulance (to be discussed in the next section) Findings suggested that experienced midwives working in obstetric units were also not afraid to escalate:

'I did put out a medical emergency for a woman, at first they thought she'd fainted but with her history of high blood pressure & she was very symptomatic of eclampsia & she collapsed. I escalated it very quickly & it was poo poed when they got there – they were like we don't really know why you've done this – what's your problem & then they found out that she had a really high lactate⁵⁸ & she'd had a brain injury she had cerebral irritation after a scan & then started taking me seriously. So, I know for me, I escalate very quickly & that's what we're told because it's better to have someone there & turn away because you don't need them to then try to get hold of a consultant when it's too late or you're on the later side' (Gina 3rd Interview)

Junior midwives on the other hand were positioned as requiring confidence and support to escalate concerns:

'I think experience does have a huge amount to do with it (escalate). It's more difficult for junior staff, so I think support for them is essential. I'm involved in an investigation at the moment into a newly qualified MW who didn't escalate a situation because she thought everyone knew already and she should have been so

⁵⁸ Patients with critical illness have high lactate. It results in a lower the flow of blood and oxygen throughout the body.

much more supported.... I think nurturing of the brand new MW's so that they are empowered and confident to call the matron or Dr' (Fran 2nd Interview).

It can be speculated that previous criticism around being unable to cope or making an inappropriate escalation could be a barrier to junior midwives escalating concerns in the future. In contrast, it could be the case that senior midwives are not afraid to escalate because they may have previous experience of the consequences of failing to escalate. Subsequently, it is suggested that for senior midwives, the damage to their reputation is far greater from failing to escalate than that of making a false call.

Whilst *being confident* is required to escalate, making the emergency call is associated with stress, suggesting that there is also an emotional cost associated to escalation:

'I think it is confidence to put the call out because it's quite an adrenalin feeling moment and ultimately you have to make that decision to put the call out' (Anna 2nd Interview)

5.4.3 Demonstrating Personal Agency

Managing an obstetric emergency is akin to directing a performance. It therefore requires a leader who can direct the performance. In real life, the senior midwife was generally defined as the one *taking the lead*. The leading role was described as having an over-view that involves planning and the allocation of tasks:

'In a labour room, it isn't always a primary midwife (midwife caring for the woman) that will lead it. It will usually be someone like myself, a senior midwife' (Ellie 3rd Interview)

'I think the labour ward co-ordinator is the one people rely on the most to run and lead an emergency & I would say that even with the Dr's in the room & the Consultant in the room & the Anaesthetist, they ensure that everyone is there. They ensure that everyone is doing what they should be doing & try to remain objective in terms of saying, I can see this is going somewhere, we need to get to theatre for example. Whereas sometimes the other professions you get kind of embedded in your role, what your role is doing, but I would say that normally in our Trust it's the senior midwife who is in there & who is running it.' (Gina 2nd Interview).

Gina implies that there is an expectation from others that the senior midwife takes the leading role. This must be based on an assumption that such midwives by nature of their title have the competence to lead the incident; however, there is also an expectation that the leading role is hierarchical:

'You'll put self forward to undertake skills drills on the day and you learn from the mistakes that you make and that enables you to be a lot more confident and competent at managing the scenario. Perhaps that's why you don't stand back and allow those particular members of your team to lead because you know what you are doing' (Ellie 2nd Interview)

It is clear that it is not about what profession takes the leading role, but the competence of that person in that role:

'If you're managing a real emergency you've got different people with different skill sets who assume their rightful roles' (Becky 3rd Interview)

Indeed, as the scenario develops, it may necessitate a change in the leading role to reflect the different knowledge and skill set that is required:

'If it's a PPH we do all the initial stuff & if it's going down the resus route or they're going to theatre, we transfer leadership to the Dr' (Daisy 3rd Interview)

In simulation there was variation in relation to taking the lead:

'In simulation you could be on a study day working with lots of band 5 MW's. One might be asked to lead it. That probably wouldn't happen in real life – well they could be in a situation where there is a PPH. My experience is that you would get people with more experience so you would get people who would naturally take the lead. Because they've got the right experience' (Becky 2nd Interview)

'And one of the main things that comes out time & time again (in simulation) is the communication of who's taking the lead. And that's the hardest thing for staff – it doesn't matter where you are in the structure of hierarchy – but for the one person to say I'm taking the lead, let's do this' (Cassie 2nd Interview)

'Often at the start of simulation the person who's facilitating normally says be in your role. So, you're not asked to be in a role that you're not used to. But again, I think there is an unspoken hesitancy initially just to see who the more senior people in the sim or who you perceive as more senior what role they take & fall into line with that but if they don't take a role quickly – because of the training that we've all had somebody will just bite the bullet & say I'm going to do this & that seems to trigger everybody to fall into the process' (Daisy 3rd Interview).

In simulation, junior midwives are probably allocated leading roles so that they can develop skills in leadership, communication and decision making without causing harm. This is because in real life the junior midwife may be on her own. The senior midwife may be busy, and the emergency team are yet to arrive. Findings in section 5.3.3 (Expectations of Simulation) showed being watched by peers creates fear and anxiety for midwives; hence, delaying taking the lead is probably a *protective* mechanism to avoid taking the lead. In real life, poor

communication and a lack of leadership can compromise the safety of women and babies.

The midwives identified attributes of successful leaders:

If you're working with colleagues, it is about – you need to have someone who's leading it not necessarily the most skilled. I've always found that the person leading it isn't always the most skilled person but is probably the person who is most directive in what they want to achieve so often it's the band 7's. Because I teach it, I felt I was competent & confident to make decisions – probably couldn't get the cannulas in but that's beside the point but I was competent to run it & I do think that it takes a slight personality to do that' (Anna 2nd Interview)

'In the simulated scenarios (videos), there are two very experienced midwives doing role play and in clinical practice that may not be the case. You may have very junior midwives managing the situation until someone that is senior comes along and is able to coordinate more succinctly, but also assess more quickly' (Ellie 1st Interview)

'I very much like the way Anna leads in simulation like that. She's very calm. She communicates so well with the woman and she is very succinct to the direction that she wants others to take. So, her lead, anybody would walk over the hill with her' (Cassie 1st Interview – watching the videos of the simulations)

The above narratives suggest that good leadership promotes team working. The ideal leader is experienced, confident and calm with clear communication skills. In positioning junior midwives as having slow assessment skills, Ellie has bolstered the abilities of experienced midwives. Cassie implies that if the leader creates a positive atmosphere, she will be able to be guided by them. It was also suggested that good leadership skills can compensate for a lack of technical skills (Anna). This also supports the previous discussion about having the right person in the role.

Interestingly, a leadership style that ensures the safety of women was given as a reason for destroying team working:

'I think her approach; her leadership management style is very important because you could be the most amazing person at managing obstetric emergencies to ensure the safety of that woman, but you completely destroy your teamwork around you (Gina 1st Interview)

It is suggested that Gina is referring to the ego or self-image that the leader is radiating; in particular their self-confidence in their abilities to manage the situation. In the below, Daisy also discusses ego. Her narrative confirms that ego is related to self-confidence. In team working, the ego of the 'other' can become bruised as they feel less confident in their own abilities. Thus, the ego of 'another' can threaten the ego of the 'self'

'.... someone with a sense of leadership someone you can aspire to someone who is confident, has a sense of purpose & you feel safe with them in the practice sense, but also safe in that you can trust them to treat you like a human being & respect you & have an adult relationship rather than an adult child relationship. There's something about being a leader but without the ego. Sometimes it's hard to get someone who's a leader but doesn't have the ego' (Daisy 3rd Interview)

After escalating their concerns, the midwives described *remaining calm* and demonstrating a *capacity to act*. Remaining calm involved managing emotions; that is, sustaining an outward appearance that makes others (woman and other practitioners) feel calm (feelings displayed). This was even though they (midwives) may be 'paddling like a swan' beneath the surface (feelings inside):

'I think it is similar to my clinical practice (sepsis scenario). We would have the basics, the cannula, the Hartmann's or normal saline to put up, catheterise &

then what we would have to do is wait for the ambulance. So, it's very much a waiting game which would be incredibly scary and trying to maintain her airway and keeping that woman & the rest of the staff as calm as possible is the main thing' (Cassie 1st interview)

'I said to the MW you need to do an episiotomy now (for fetal distress). She freaked out. So, it was not only managing a situation, but also a MW who had freaked out, gone to pieces and was literally shaking like a leaf' (Becky 2nd Interview)

'So, you desperately want everything to be alright & everything was alright, but there was a big feeling of fear because you know what can happen. You just have to act your face on and all of this & all of these things are going through your mind. You don't want to betray how worried I am on my face' (Daisy 2nd Interview)

Daisy suggests that managing emotions requires acting skills or impression management to maintain a fitting professional appearance. Remaining calm in obstetric emergencies is crucial. If the midwife is seen to be panicking the others will also panic. Masking emotions also imparts an impression of being able to cope with the situation and it is suggested that this is a learnt, self-protective coping strategy found in experienced midwives:

As evidenced in Cassie's above narrative, remaining calm was embedded in a *capacity to act*. After the midwives called for help their response to the deteriorating woman increased considerably. This involved procedures such as changing the position of the woman, internal and external manoeuvres, cannulation, urinary catheterisation, commencing intravenous fluids and oxygen therapy. This was evident in the videos, in the reflective reviews of the midwives watching the videos and when the midwives were recounting memorable past experiences. These procedures are rooted in the organisational guidelines for

the management of obstetric emergencies and underpinned by their education, training and past experiences.

In simulation and real-life emergencies, when the midwives determined the scene they activated and enacted the guideline for the recognised obstetric emergency. Guidelines are prescribed by the Organisation and the organisational expectation is that they will be followed. Like theoretical scripts, they consist of a progressive sequence of authoritative evidence-based steps that can be applied to guide actions. Conceptualised as *rules*, guidelines minimise human error and improve maternal and neonatal safety. In addition to ensuring that management is evidence-based and standardised, it also acts as a defence against any allegations of negligence.

The midwives self-reported that they do not need to refer to the guidelines:

'They were used (guidelines), but for somebody like me who's been qualified a long time you use them subconsciously. You are aware of what the next step is, you don't need to be reminded' (Ellie 2nd Interview)
'I don't pull them out. We do follow the guidelines but its innate' (Daisy 1st Interview)

'You could have a woman with shoulder dystocia and think I'll just get the protocol out, but it doesn't work like that. You just kind of do it' (Gina 1st Interview)

This reflects the fact that experienced midwives are so rehearsed in its use over time that it has become second nature. This process started from when they were students and has been on going through continuous professional development and mandatory skills and drills:

'Like managing a PPH is pretty much the same as it was 20 years ago – you'd get yourself a bit of help, cannulate, get some fluids up, rub up a contraction, bimanual

compression all that stuff hasn't changed over the last 20 years. Management of a breech hasn't changed. The basics are the same, so I've had 20 years of the basics being put in' (Fran 1st Interview)

'Sometimes there's new drug management, but in my career, I can't think managing a PPH has been that different in the last 15 years, or an APH or a neonatal resus' (Anna 2nd Interview)

The above narratives suggest that when they recognise that the situation requires a response, they can draw on and reproduce their knowledge of the guideline (theoretical, procedural and tacit).

The midwives self-reported that there were times when they did access the guidelines:

'I would probably say for eclampsia with regards to the drugs that we need – the magnesium & the labetalol then yes we use it to draw those drugs up, to double check the dosage & the rate because I think that's quite difficult for some of us to retain that in our heads, but something as acute as PPH & you're needing to go further down the line in terms of ordering fresh frozen plasma & cryoprecipitate. I think people have gone & printed off a guideline' (Gina 3rd Interview)

'Sometimes when the mother is having an eclamptic fit. It may not necessarily be the whole guideline but part of it will be available because not everybody will have the drug regime in their head. So, those prompt cards will be available. In my Trust they're stuck on plastic envelopes with the drugs, with the correct drugs inside' (Ellie 3rd Interview).

This was in contrast to simulation, where the guidelines are not generally made available:

'In simulation, we don't tend to use those trigger lists. I'm not sure if they're always available. In real life they're in the room' (Daisy 3rd Interview)

'They're not readily available, I feel that's part of why you feel you are being tested – you know test your memory of the protocol. But actually, as part of the debrief you might look at the guidelines to see what you did well and what you did not do so well' (Becky 3rd Interview)

In real life, the organisational *rules* (guidelines) were retrieved and used in situations that required accuracy. This would avoid error and protect the midwife from the scrutiny of the Organisation. In simulation, they are not made available as they are being tested

In real life emergencies all the midwives in this study self-reported that they were *modifying the rules* for shoulder dystocia. Data collection and analysis included theoretically sampling local and national guidelines. This found that the local guideline for shoulder dystocia from the Trusts in which the midwives practiced conformed to the national guideline which included removing the posterior shoulder (Table 5.10). Whilst the midwives may be *modifying the rules* for shoulder dystocia, the rules give them the licence and security to do this.

Table 5.10 Guidelines for the Management of Shoulder Dystocia	
Trust X (Cassie and Fran)	'The healthcare professional needs to decide which internal manoeuvre to attempt first and should base their decision on your training, clinical experience and the prevailing circumstances' (Trust X 2016)
Trust Y (Anna and Daisy)	'The HELPERR mnemonic is used to facilitate a systematic approach. The steps H – E – L - P should be used first but following this, subsequent manoeuvres may be attempted in any order according to clinician's judgement ' (Trust Y 2013, 2017).
Trust Z (Becky, Ellie and Gina)	There is no advantage between delivery of the posterior arm and internal rotation manoeuvres and therefore clinical judgement and experience can be used to decide their order (Trust Z 2014)
National Guidelines	'There are no randomised comparative studies available comparing delivery of the posterior arm and internal rotation. Some authors favour delivery of the posterior arm over other manoeuvres, particularly where the mother is large. Others have reported that rotational methods and posterior arm delivery were similarly successful, but rotational manoeuvres were associated with reductions in both BPI and humeral fractures compared to delivery of the posterior arm. Therefore, healthcare professionals should base their decision on their training, clinical experience and the prevailing circumstances ' (RCOG 2012)

They felt that modifying the rules was the correct thing to do because of the circumstances of the situation. For example, in the reflective space, Cassie and Gina narrate their past experiences of having to modify the rules for the management of a shoulder dystocia and a vaginal breech delivery respectively:

'I suppose something like shoulder dystocia I can give you the HELPER⁵⁹ and go through it, but actually in reality I may end-up doing the last thing first. Depending on the situation and the woman and what was happening to the baby at that stage and my own intuitive feelings I can't put it into words... the one I'm thinking of is the position of the woman – she was in the bath and you couldn't put her in McRoberts. There wasn't time to empty the bath, drain it, and the head was out and she was still under the water and the time of getting her out of the bath onto the floor, onto the bed, into McRoberts would have just been wasting time; so just using the bath and putting her leg up on one side – at least one leg is in McRoberts – so the situation you change it' (Cassie 2nd interview)

'I could start seeing descent so said I'm just going to start to deliver the head and manually because I didn't want to wait any longer, but when I went into find the cheek bones the head was completely deflexed right back, so I couldn't even find anything. At this point I should have said to the Reg, right we need to apply forceps, but I remembered from our training all the simulation with the supra pubic pressure that we do. So, I got the Dr & the senior MW to do that & eventually, I managed to grab and push and get the baby out. There was just a moment when I thought right, I don't know how to get this baby out because I can't do the normal manoeuvres that I've been taught. It was only because one of our previous educators was a breech guru and she'd done a study day and a conference on breech and said you can try these things if the head is a bit stuck and I remember thinking oh I can try that' (Gina 2nd Interview)

In both scenarios the midwives narrated stories where they were exerting their professional judgement and capacity to act to pragmatically manage the situation in the circumstances in which they found themselves. Gina chose not to hand over the care of the woman to the Registrar (who was in the room) when she realised that the baby's head was deflexed. She was

⁵⁹ This is a mnemonic that is used for the management of shoulder dystocia. It consists of H – Call for help; E – consider episiotomy; L – legs in McRoberts; P – Symphysis pubis pressure; E – enter internal manoeuvres; R – remove posterior arm; R – roll the mother

perhaps reassured that she had the protection of the Registrar if she could not manage the delivery successfully. It is questionable if she would have followed this same path had the Registrar not been present.

The midwives indicated that the ability to modify the rules was born out of education (Gina above), mandatory training and (reflective) learning from past experiences. For example:

'Mandatory training is an experience and because emergencies don't happen that often they stay with you and influence what you take in from the mandatory training for next time and as you go along and then you might have a new experience and that will almost replace the one before especially if that one has gone better. Each incident that happened helps you to reflect on how it was managed and look at your practice in that situation that was good or not good and where do I need to improve – actually I could do with a bit more training there. Each one is a learnt experience' (Daisy 2nd Interview)

'You have managed numerous situations and you just store bits of that scenario somewhere in your brain and it's all little bits and pieces that you've picked-up over the years and you've seen it work & there's nothing documented about it in a text book & I know they use the term tacit knowledge and that is what you gain. So, every time you see an emergency scenario you think I like the way that particular person did that and I see the logic behind that, and I will adopt that myself next time and you know one size doesn't fit all either. It is picking up 20 odd years of experience and implementing it into each particular scenario' (Ellie 2nd Interview)

It is suggested that education alone does not influence decision making. The ability to decide whether to modify the rules is born out of new knowledge that has been produced from past experiences.

Having the capacity to modify the rules according to the circumstances of the situation reduces risk and ensures a safe outcome for mother and baby. It is a protective strategy that will also avoid the midwife coming under the gaze of the Organisational clinical governance procedures. In contrast, all the midwives in this study suggested that the rules for the management of shoulder dystocia can only be modified according to the level of experience of the midwife:

'If you're not very experienced then quite often you won't go for the posterior arm. You'll try all the other remedial measures first whilst you're waiting for help' (Fran 2nd interview)

'With shoulder dystocia, the senior midwives go straight for the arm. So, they walk in and go straight for the posterior arm. The more junior midwives will start trying the more internal manoeuvres' (Gina 2nd interview)

In the above, the midwives have constructed junior midwives as reliant on linear, rule prescribed behaviour and who are unable to modify the script according to the circumstances of the situation. This serves to strengthen their constructed position as having the ability to do this. Anna explains that junior midwives are probably unable to modify the rules because they do not have a range of experiences compared to experienced midwives on which to draw on:

'Actually, the management of shoulder dystocia by an experienced midwife against a newly qualified midwife band 5 will be different. It won't necessarily be safer or unsafe it will be different because the band 5 won't have had much experience managing it themselves. They may have had lots of experience of seeing them but not doing much and if they have to manage it themselves, they probably go back to the mnemonic and be more process driven because that's their trigger as opposed to using their experience to influence the way that they make their decisions' (Anna 2nd interview)

The below narrative eloquently explains the relationship between training, experience and the ability to modify the rules:

'They say skills drills; it drills it into you and then you get the experience and are able to understand how it varies and what differences you can make' (Gina 2nd Interview)

The midwives drew attention to times when the guidelines were not followed:

'There were times when in the Community ...for things which were half way house, so say someone was pushing in the 2nd stage for an hour and a half , there were some staff – well hold on a minute let's not transfer her just yet because you're seeing a little bit of advancement of the head when in actual fact it was oedema and moulding and it was just getting bigger because of this feeling of safe guarding the woman's wishes rather than looking at the bigger picture. Actually, you're damaging that perineum and what are you doing to that baby, the hypoxia and so forth and the same thing with the 3rd stage, how long can you keep them on community or the Birthing Centre before you transfer them. How long is long enough or short enough? Who are you trying to save/not save, and I would suggest it's mainly the woman. It should always be the woman, but sometimes I think in that situation it was a little bit like Kirkup in a way. We can get the woman through, we can give them what they want, without stopping to think on a broader scale what's happening physiologically to the mother and the baby. It's not just about wishes' (Cassie)

'So, the CMW's weren't following the guidelines for transfer?'(Researcher)

'They weren't following the guidelines and quite a lot of the time we could justify why we weren't following the guidelines. It's when we couldn't justify' (Cassie 2nd interview)

In the above Cassie identifies with other Birthing Centre midwives but positions them as 'other.' The 'other' being the midwives that were identified in the Kirkup Report (2015). This

Report identified system failings in a Maternity Unit and the midwives were reported as pursuing normal birth 'at any cost' (Kirkup 2015: 7). It is suggested that for Cassie, the Kirkup report acts as a foreground threat that breaks into her ontological insecurity to sure up risk assessment to transfer out.

Whilst in real life emergencies, the midwives were *modifying the rules*, in simulation the midwives self-reported that they were all *following the rules* as it was set out. This is probably because at mandatory up-dates they are using simulation to train and test the memory of the guidelines. This will help to reduce errors in real life emergencies:

'So, the simulation is always pushed to the end degree, never stopped as in brilliant, you've walked in and removed the arm, because that might be what happens in practice; it is probably what would happen. You're made to go through all the steps; all the manoeuvres before you get to the end and the baby is out' (Gina 2nd Interview)

'In simulation there's an expectation that you follow the (shoulder dystocia) mnemonic' (Ellie 2nd interview)

There are 'others' who irrespective of being watched in simulation will go against the expected norm of following the rules:

'Mandatory study days that we attend there is an expectation and a slight feeling of losing face amongst your peers and those who don't follow the guidance. There is a little bit of 'oh, why are they doing that and that's going off piste a bit'. Interestingly that causes a bit more debate. And those that are strong enough because of peer pressure maybe they don't use a linear process. Those who've got the courage to explain why they're doing what they're doing, and it makes sense. Listening to others in the group saying that's exactly what I would do' (Cassie 3rd Interview)

In the preceding narratives, there was evidence of midwives modifying the rules to reflect the realities of the context and circumstances of the situation; however, the above narrative suggests that conditions did not exist which required a modification of the rules. It is speculated that the midwives in Cassie's narrative were challenging authoritative knowledge in simulation just because they could. Another explanation is that they were showcasing their knowledge and experience.

Becky, the simulation midwife also seemed concerned with sequentially following the rules for the management of antepartum haemorrhage. The narratives below by the simulation midwives resulted from them watching back at the video of the antepartum haemorrhage scenario in the reflective space. It was at the point in the video footage when Anna said, *'We should consider catheterisation'* and Becky goes off to gather the equipment for the procedure:

'Watching in the moment, of course I was going with what was going on, but watching it back if you were going to do anything, it would be to cannulate because you are suspecting there is an APH and I can't believe we didn't' (Becky 1st Interview)

'We were going to, because we had got the bloods ready and things' (Anna 1st Interview)

'Interesting to see the sequencing of things. Anna was obviously leading, but I would have sited the cannula first because I can see it, but when I was in it, I wasn't quick enough' (Becky)

'It's not necessarily about what needs to be done first, it's like the skills of different people and the fact that it needs to be done simultaneously which is maybe slightly different in a simulated environment because you are trying to be a bit more logical and I know that my decision-making is in a logical process as almost going top to bottom' (Anna)

In the reflective space, Becky seemed concerned that catheterisation preceded cannulation. What is also evident in the above narrative is the way in which Becky positions and *repositions* herself relative to what was going on. In the reflective space, it is suggested that Becky is initially defending her actions and shifting responsibility to Anna. She implies that in the simulation she was merely following the instructions of Anna. Her subsequent use of 'we' perhaps symbolises a social interdependency on one another and emphasises a shared responsibility for considering cannulation over urinary catheterisation in the sequencing of actions. Anna launches an immediate defence of both their actions; however, this is a *reflective reconstruction* of performance because video footage showed that cannulation, including collecting the equipment was considered immediately after catheterisation. This is a strategy for *repairing* self.

Noteworthy, is that the midwives that were watching the simulations also demonstrated the trend for following the rules for the management of an antepartum haemorrhage:

*'At that point, because she's had a BP and a P done, as I said, I would have done a respiration – I would have been thinking she's unwell, she's agitated, she's short of breath. I would have been thinking APH. So, I would be thinking she needs obviously to listen to the baby's heartbeat, but she needs IV access because if she's bleeding, she's going to need some kind of fluid recompensing. So, yes, I would be thinking Oxygen, lie on the side, IV access, **then catheter last** (Daisy 1st Interview)*

In the reflective space Daisy has positioned herself against the simulation midwives. She has become the (non-diegetic) narrator, *correcting*, but regurgitating the rules sequentially.

Noteworthy is that during the sepsis scenario, Anna (simulation midwife) asks Becky (simulation midwife) to get some intravenous (IV) paracetamol for pain. In the reflective space, Cassie noted:

'I couldn't give IV paracetamol. I would have given it orally' (Cassie 1st Interview)

Anna's Trust guideline permits 1 gram of paracetamol to be given intravenously for low risk sepsis (Table 5.11). The guideline from Cassie's Trust and the midwives from the other remaining Trust does not include the administration of paracetamol via any route. The latter is also commensurate with national guidelines for the management of bacterial sepsis following pregnancy (RCOG 2012). This reflects variations in local and national guidelines and how in this study the midwives were well informed about and used the guidelines from their respective Trusts. It further shows that both Anna and Cassie perhaps did not appreciate the significance of the woman's worsening condition. Administering paracetamol could be considered a strategy for keeping oneself busy whilst waiting for the doctor to arrive.

Table 5.11: Guideline for the Management of Sepsis in the Puerperium (Feb 2015)

Low Risk Sepsis
• Arrange clinical review
• Paracetamol Give 1g IV or PO

The senior midwives' *capacity to act* did not necessarily stop with the arrival of the emergency team:

'We're not stepping back and the onus isn't given to the Reg walking through the door. Quite often a senior MW is giving instructions to a junior MW and also liaising with the other senior personnel and if they are unable to manage that situation then they take over. I

have been present when the Reg couldn't deliver the posterior arm & in the end the primary MW managed to do it and there were 2 LW co-ordinators in the room; So that Reg quickly recognising that she was unable to succeed. So, there is very much a team approach and some of my colleagues are a lot more assertive than others and they are skilled and will attempt whatever is necessary' (Ellie)

'What do you mean by some MW's are not assertive?'
(Researcher)

'Not over-stepping the Dr as the Dr is expected to manage the situation... It is I would say the junior MW's that feel they are unable to do that, and I too would admit to that myself years ago would have stepped back and felt relieved that someone more senior has come into the room to take on whatever is required (Ellie 2nd Interview)

'The only time I've seen a difference to that is with shoulder dystocia... it's a skill that you use all the time... but when it's something like pre-eclampsia or where it's going down the resus route then we're more comfortable handing over the lead of that' (Daisy 3rd Interview)

Ellie and Daisy have positioned experienced midwives as having the knowledge and skills to offer back-up behaviour and support to medical colleagues. This is limited to shoulder dystocia but probable because as Ellie suggests, through regular skills drills midwives are very rehearsed in its management. This is not about professional hierarchy and handing over your accountability but about knowing your limitations and transferring your accountability to safe-guard the baby and protect the professional self from coming under scrutiny of the Organisation.

Findings in this subsection have shown how the midwives simultaneously remain calm and are prepared to use the organisational rules that determine how to act. In real life they work collaboratively, use their clinical judgement to *modify the*

rules to reflect the realities of the context and circumstances of the situation. In simulation, they *follow the rules* because the application of their knowledge of these is being tested. *Taking the lead, remaining calm* and having a *capacity to act* comprised the **demonstrating personal agency** dimension. Personal agency represents the midwives' capability to initiate and direct actions. It is underpinned and shaped by their education, training and experience.

In summary, this section has presented findings in relation to the strategies that the midwives used to manage the expectations and reflects the decision making process of the midwives (figure 5.5).

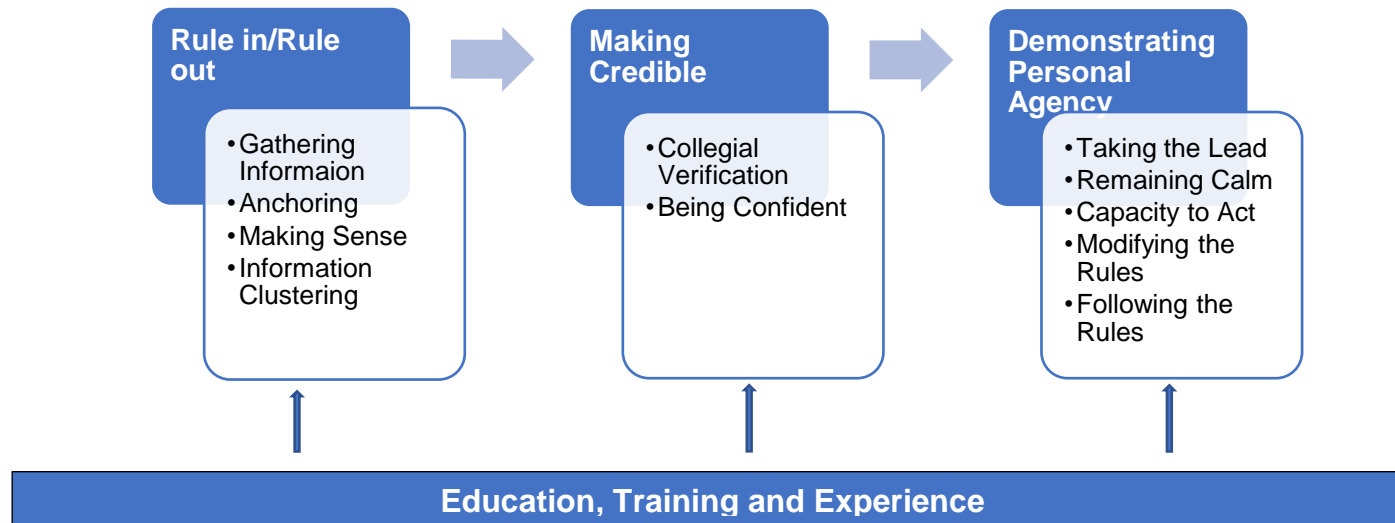


Figure 5.5 Strategies for Managing the Expectations

5.5 Factors influencing the Representations of the Professional self (Factors influencing their decision making)

This section presents findings on the conditions that can facilitate and threaten the strategies for managing the expectations that were previously described. This section is divided into the following themes:

- Working with Others
- Performance Contradictions

5.5.1 Working with Others

The successful management of obstetric emergencies is dependent on effective teamwork, communication and situational awareness. Findings found that working with others could both facilitate and threaten the midwives' decision making and thus her image in the situations in which she found herself in.

It was suggested that *knowing others* was more conducive to team working and that *not knowing others* could affect performance in simulation:

'I think if you know your team well in practice, then things generally go quite smoothly because you run like a well-oiled machine....in a simulation if you don't know who you're working with it can all go wrong because you can't read each other as well and so very similar to practice you're on shift with different people every day and the dynamics aren't the same' (Gina 2nd Interview)

'I think part of the problem with sim is that you are often doing it from cold with a group of people that you don't know very well from the Trust. You get people from different sites; you've literally walked through the door and you're straight into a sim with people you don't know and we all know that doesn't really work socially in any setting so it's not going to feel amazing when you're trying to manage an obstetric emergency' (Becky 3rd Interview)

The professionals that midwives work with will vary. This is challenging for midwives in simulation; however, *not knowing others* could be the reality in real life. These comments might reflect poor leadership in simulation and the inability of the leading professional to quickly establish the competencies of all the team members, allocate tasks and co-ordinate the team. It is also a further indication of midwives' reluctance to fully engage with simulation whilst positioning it as impacting performance.

Midwives have to work with others, whether it is in a team or with just another person. The situation may be fast moving, elements of the guideline may be overlooked and/or the team have to respond to changes and change the plan of care. Findings suggested that in real life emergencies, midwives are generally open to taking on the ideas and perspectives of others, even if the others were more junior to themselves. The giving and receiving of feedback in team working, underpinned by mutual trust and respect was conceptualised as *prompting the rules* and facilitated the decision making of the midwives:

'In hospital emergencies, there's that adrenalin, excitement type of thing around emergencies. Sometimes the atmosphere can be fuelled by the different members of staff. If you've got a lot of different people, they can fuel the tension and anxiety about it all and that's when people make mistakes. If you've got the scribe who is the prompt to say, stop, let's go back to the top take 30 seconds – somebody's not going to die in 30 seconds – Okay, we've got airway under control, IV, or you bring the syntocinon and nobody's put the cannula in' (Anna 2nd Interview)

'If you're in it you can't see the bigger picture sometimes it could be a band 5 or 6 that say what about this and you think yes, I haven't done that. That's why it's so important. Unless you're sitting outside of that and looking at everything you can't possibly have mastered everything – you know, cannulated, catheterised you can't do that by yourself so quite often your team members prompts you –

what about this – have you thought about that so long as you've got an open environment for that at work then that's fine' (Gina 2nd Interview)

'The way that, especially where I used to work because it was so isolated the encouragement from your colleagues was very valuable. So, have you thought about doing this? what do you think about if we do this next? So, that working together is much more in reality and it happens all the time and people weren't afraid wherever they were in the hierarchy of the team. They weren't afraid of saying well hang on, have you thought about this that's a really good idea, well I don't think we should do that and explanation why' (Cassie 2nd Interview)

In contrast, one midwife disagreed. She positioned hierarchy against a lack of confidence when *prompting the rules*. Her narrative suggests a lack of trust and respect for midwifery support workers:

'Often we use Midwifery Support Worker (MSW) as scribes, but actually in adult resus they use the board holder, so the senior person because they can see if someone has said something to someone else and they haven't done it and because they are senior they can say he said that and you need to do that – whereas, the MSW might not have the confidence to do that' (Fran 2nd Interview)

In simulation, the midwives gave a variety of reasons for *not prompting the rules*:

'Actually, I don't mind prompting but probably I don't as I would in a real situation because of not wanting to upset that person. I think being observed not wanting them to feel I guess demeaned in front of their colleagues which is quite an immature way of me looking at it because actually the more we do prompt correctly and in a professional manner then others will learn by role modelling and make sim much more effective. So, I think it's about me growing-up' (Cassie 3rd Interview)

'When there are 2 co-ordinators in one group that can be quite a strong relationship that could cause conflict. During a debrief they have questioned each other's management but not during the actual simulation' (Gina 2nd Interview)

'People are more hesitant they're more worried that it might look as if you're taking over or just being more aware of other people's roles whereas in real life that happens less. As I said it's almost like egos disappear. If someone says something, you don't worry about it. You're not thinking oh gosh I should have thought about that earlier, you might do afterwards but not in the event at the time, but in simulation you're just so self-aware. It's almost like if someone says something like that you think oh, I should have thought about that already' (Daisy 3rd Interview)

It is suggested that not prompting the rules in simulation is not a strategy for saving face of others from embarrassment, rather, it is a strategy for avoiding embarrassment to 'self' by saying something inappropriate or incorrect thereby preserving reputation. In real life, a life is at stake. The rules are therefore prompted to protect reputations and avoid the team coming under the gaze of the organisation.

The midwives reflected on past experiences where other members of the team lacked a shared understanding of the situation. This was labelled as *not being on the same page*:

'Their decision making, you might think oh, I'm not sure about that, sometimes a lack of knowledge comes through and you have to guide that. You need to look after that person and try and compensate for them as well. (Gina 2nd Interview)

'The one PPH I had at Birthing Centre X was quite significant. I was all but on my own because the MW I was with wasn't able to manage. I was telling her everything I needed to do I think I got the 2nd one (cannula) into her brachial vein and then catheterised her and while I was doing that stuff the other MW was

off phoning the ambulance and the midwifery support worker came in and gave me a hand - put some fluids up. We ran through some syntocinon. She did have a tear, but it wasn't the tear that was bleeding it was a uterine atony that was causing the problem, but I did suture whilst someone was rubbing up a contraction while we waited for an ambulance that took forever. I think she'd lost about two and a half litres of blood by the time she got to the Consultant Led Unit (CLU.) She recovered very well but it's a scary place to be in that scenario' (Fran 2nd Interview)

'So, the team working didn't go very well'
(Researcher)

'The MW that I was with kind of panicked a bit I think she didn't have a lot of confidence in her own practice. This MW did very much take a step back. I was rubbing-up a contraction and I asked her to cannulate and she said I can't – I'm not very good at cannulating. I think it was a confidence issue she had been through quite a difficult case an investigation and I think it just really knocked her confidence. So, you do have to think about aspects like that – people do get affected by all different kinds of things personal and work stuff'
(Fran 2nd Interview)

Not being on the same page means that the other midwife could not contribute to the decision making and management. The midwives had to support the second midwife by re-distributing the tasks. Providing this level of back-up behaviour ensures effective team working. Notably, Fran narrates in the first person and positions self at the centre of the story where she more or less single handily managed the situation. The other midwife was positioned as being unable to cope and lacking in skills and confidence. This further enhances the image of experienced 'self'. Whilst Fran has positioned herself at the centre of her narrative, in the below Anna has positioned herself as an outsider entering into a scene and acting upon the evidence:

'One of the ones I remember most vividly is a PPH. I wasn't the MW looking after the woman – she was being looked after by a junior MW, so she'd had a

normal delivery, no complications, 3rd stage was out. She was trickling a small amount of blood but quite a constant, small amount. I wasn't called for a PPH – I was called to help her suture. I remember going into the room and saying oh there's quite a lot of Inco's (incontinent pads) on the floor & blood everywhere. I asked her if she'd made an assessment of blood loss because the woman hadn't moved since delivery. She didn't think it was very much and she had the woman ready for suturing but the inco she was on was quite sodden and there was another one on the floor and I said I think we've probably got quite a lot of blood from here, but she was like really. Then she said that she'd put some in the bin and I was like I think we probably have a PPH... but the whole thing felt really disorganised. The Band 5 was saying well I don't think it's a PPH & you're over-reacting. I was like, no, there is a significant amount of blood here. When we talked about it afterwards her only experience of PPH was the classic gushing 500-600ml bleed instantly' (Anna 2nd Interview)

In the above scenario, Anna has positioned the junior midwife at the centre of the care, but not recognising the slow cumulated blood loss. The junior midwife was not on the same page and the subsequent management was chaotic. It is suggested that the above narrative as told by the rescuer provides evidence of her experience. It does not however, take into account her own errors.

In the above Fran intimated that the personal circumstances of the other midwife may have contributed to her not being on the same page and her subsequent lapse in performance. This was also reported by other midwives in this study:

'I think what I've seen more and more recently certainly at this Trust is actually that MW, what mood she's in, what she's got going on at home. What her last delivery was like if she had some really rough things happen people are struggling at home and that totally affects who they are at work. Because when you say, gosh what's wrong with her today, she's really experienced and she's missed that, what's

going on and we've had that a few times. I think that has a massive impact on how we behave at work and our decision making. If you have something on your mind, if you're worried about anything, if you're involved in statement writing at the time – the last lady you looked after, something went hideously wrong, you are completely floored sometimes' (Gina 2nd Interview)

Being investigated for negligence or an adverse outcome in particular can undoubtedly cause emotional distress for midwives. This can result in a loss of professional status, confidence and feeling unsafe in their decision making. Walking away or taking a back seat is defensive practice to safe-guard an already tarnished reputation.

Gina further high-lights the impact of stress on decision making. She also high-lights how not performing to an expected standard can impact on how the midwife thinks she's perceived by others:

'So how you react in a certain situation I think a lot of MW's will always straight away see I should have done that better, I should have called it earlier. Maybe if I'd done this earlier, this wouldn't have happened. So, there's a lot of what you expect of yourself. Sometimes there's a lot of you are disappointed in yourself. And then you think well what must have they thought of me as I was in that room doing that – so there's a massive element of probably more than I appreciated of the being watched and how you are, but then I think most MW's would reflect back on themselves as a member of that team and consider should I have done something different. So, the expected self and the preferred self-that's really interesting that came out, cos we'd all really all prefer to be a certain type, but sometimes we're not that person when an emergency is going on. We have this at work there are a lot of senior MW's doing the awful daily trudge of being in charge and carrying a lot of their own personal stress and you can completely see how it impacts on decision making and the clarity in which they carry out their decisions. (Gina – Theory Verification)

5.5.2 Performance Contradictions

In simulation, midwives felt that the level of fidelity affects their decision making. In addition, some midwives had to take on roles in the scenarios that went well beyond their expected professional role or perform in settings that they were unfamiliar with. This has been conceptualised as **Performance Contradictions** and comprises of *performing out of (expected professional) role, performing out of setting and the level of fidelity.*

In simulation in one particular Trust the roles were assigned to the participants. In addition, some midwives were expected to *perform out of their expected professional role:*

'I know that we don't have the buy in from the Obstetricians and the Consultants. The Anaesthetists are brilliant, and they always come, but the Obstetricians not so much so then they are saying as a senior midwife, can you please play the role of a Dr which is not great' (Gina 2nd Interview)

'The roles in sim are ascribed to you and they might be at odds with your actual experience whereas if you're managing a real emergency you've got different people with different skill sets who assume their rightful roles in managing the emergency' (Becky 3rd Interview)

Performing out of ones expected professional role in simulation did not cause anxiety for these midwives:

'In a real emergency you are who you are, so you're performing in your own professional role so that's why in a sim some of my peers' struggle to be the Registrar or the anaesthetist. So, if you're an anaesthetist there will be an element of your knowledge missing. It's alright for someone like myself, I've been around a long time and witness what it is they actually do so you have an expectation of

what they're going to do. So, you know what you can concentrate on' (Ellie 3rd Interview)

'Probably more comfortable doing that, a bit less vulnerable to scrutiny, it's going to okay if I get it wrong because it's actually not my role. So, I'm literally role playing something that I don't do. So, it's something I've observed and absorbed and a pre-conception that I have about what their role is and it's not me in my real role, so it feels a bit separate in a funny sort of way' (Becky 3rd Interview)

Ellie positioned herself against 'others' and suggests that she is comfortable performing in an unfamiliar role. Becky suggests that performing out of your professional role can insulate your defence if you make a mistake.

In simulated and real-life emergencies, midwives were also *performing out of setting*. This applied to community and Birthing centre midwives that had to attend simulation or cover staff shortages in the consultant led unit. This inevitably caused anxiety:

'For me personally, I felt very uncomfortable in that position because I haven't worked in that environment for many years. I worked where there was no buzzer. However, I voiced that fact from saying this is not my remit and this is what I'd do. I'd pull the emergency buzzer and call the team and make no hesitation in handing it over because I don't know where the equipment is, I don't know what equipment they use and how their pumps are turned on..... There's an expectation that you know where the trolley is or if you need magnesium sulphate where that's kept who's got the key, I wouldn't know which bit of corridor to go up so it's the ability to actually say I am me I've never worked here. I don't even know who you are' (Cassie 2nd Interview)

'What I don't agree with is that they don't do anything community based on the PROMPT day and there are a lot of us in this Trust that don't work on the obstetric

Unit. There's 40-50 MW's across the Trust that don't work in obstetric Units and there's nothing with how to deal with a PPH with just you and an MSW or 2 MW's and Dr's that are not to be seen or are an hour away Because we are very vulnerable (accentuates this) so I do think that that's a real failure of the Course' (Fran 1st Interview)

Cassie's anxiety in simulation was such that she immediately escalated and handed over the management to the Team. She is very honest in stating that this is because of her unfamiliarity with her surroundings and how to use the equipment. It can also be speculated that this is also a strategy for avoiding any further embarrassment to herself thereby preserving her reputation.

Birthing centre midwives were required to cover staff shortages:

'With economics and crisis of staffing there was an expectation that if the Obstetric unit was busy, we would be pulled from community or the birthing centre and quite rightly, so we had to be up-dated with simulation, although it's very hard because it's once a year. And you soon forget. It would make people really fearful of working in obstetric units because of this perceived, self-perception that you should know what to do in every situation and you do, you did, but with that particular equipment.... One of the things I tried to drum into people was that honesty it's really hard if you're experienced to actually say I'm out of my comfort zone this is not my territory. I can scribe for you I can talk to the woman, but don't give me a Baxter pump' (Cassie 2nd Interview)

All midwives are subject to yearly mandatory up-dates; however, the difference between midwives that work in the community or Birthing Centres is that their exposure to real-life obstetric emergencies is limited compared to midwives that work in consultant led units. This is because women that choose to birth at home or in a Birthing Centre are carefully selected; generally low risk and therefore less likely to deviate from the normal.

Taking on a non-technical role will *safe-guard* the woman and baby and guard the midwife from reputational damage.

In the below narrative, a woman unexpectedly collapsed and was unconscious in a strange location (bathroom floor):

'We had a maternal collapse recently. This lady had her baby it was a normal delivery. This was the first time she had got up to go to the bathroom for a shower and she'd just collapsed on the bathroom floor, so you're in a small confined environment. The difficulty of assessing what was going on was the environment & also her partner he was present he'd gone into the bathroom to help and he was really distressed. She was totally unresponsive so you do your initial ABC you know that she's breathing My first thoughts were that she'd just fainted, but she was unconscious for too long you couldn't rouse her at all. Because there were so many members of the team, we were able to pick her up and put her on the bed. Then you're able to do your full risk assessment full ABC she was cannulated, but it was also evident that it was as a result of a PPH'

'So, was she bleeding then?' (Researcher)

'Yes, you can see after you moved her. Because of the confined space it wasn't until she was rolled onto a draw sheet and actually picked-up that all the blood was underneath her – so she had been cannulated while she was on the floor, she had her observations taken and they were all within normal parameters and then when she was lifted it was evident what was going' (Ellie 2nd Interview)

In the above scenario, the midwife affirms that she completed the full airways, breathing, circulation assessment to determine the loss of consciousness and that the woman's physiological observations were within normal parameters. This is despite the fact that when they eventually moved her, it was evident that she was having a post-partum haemorrhage. The woman may not have initially presented with hypovolaemic shock. This is because of the protective function of haemodilution which occurs

during pregnancy. Women can lose up a third of their circulating blood volume without displaying physiological signs of shock. If the midwife had palpated the uterus, she would have recognised that it was atonic leading her to suspect a postpartum haemorrhage. A physical assessment was not undertaken because the normal physiological observations were normal. She did recognise this when she was recounting this story, suggesting ***self-declared reflective learning***:

'When a particular scenario develops you're able to call on it and use it but sometimes you're left like in the scenario where the lady collapsed someone made an assumption that it was just a faint and something vital was missed but it wasn't too long before she was moved and you realised the full extent. So, you don't get it right all the time. So, if something similar happens again I might move her and have a look and have a feel' (Ellie 2nd Interview)

Findings suggested that the level of fidelity in relation to three components, namely physical, conceptual and psychological⁶⁰ impacted on their decision making during simulation. The midwives reported that they could not perform a holistic assessment. They had to undertake elements of the assessment in individual succession and wait for the information to be given before they could move on to another element in the assessment process:

'Although they had a sphyg and sats monitor and so forth, you can't use it, and so you constantly have to keep asking for the observations. It's never real time. You kind of stop, turn around for the information whereas in real life you wouldn't be doing that, you'd be doing about 3 things all at once, probably thinking ahead. In simulation it's much more formulaic. You're doing disparate things. So, you have some information and you act on that' (Cassie 2nd Interview)

⁶⁰ Discussed in section 1.5.4, table 1.2

.... You pause and ask questions and then you get given the information whilst in real life you're continually doing what you are doing' (Ellie 2nd Interview)

This suggests that simulation interferes with the cognitive processing of information thereby producing a deductive inductive approach to decision making. Simulation is disruptive to the ruling in ruling out that experienced midwives enact. Simulation renders them unable to think ahead to determine which rule (guideline) to rule in and rule out. The findings in relation to the simulation midwives (section 5.4.1) do not concur with the above. The simulation midwives interacted with the actress woman, gathering a range of information from the woman. During this process they also simultaneously conducted physiological and physical assessments. Whilst they asked the researcher for the findings from the physiological assessments, they did not always do this following their physical assessments. For example, video footage shows Anna saying to and palpating the abdomen of the actress mother:

'Just going to feel your tummy' but did not ask how it felt.

Later In the video of the APH, Anna (1st simulation MW) gives a handover (history and assessments) to Becky (2nd simulation MW). The handover prompts her to ask how the uterus feels Anna watching back at herself stops the video at this point and says:

'That was it, when I knew precisely what I was doing, where I was going with my clinical decision making – the final piece in the jigsaw.... It's like the last tick in the box really. You've got a woman in pain, some distress, borderline observations, a CTG that could be interpreted in any manner at that stage because you've only got a couple of seconds on it. Looking back now was that I palpated, and I should have

asked what it felt like because I was in that situation'
(Anna 1st Interview)

In the above, looking back at 'self', Anna highlights the limitations of fidelity; however, this could also suggest that *positioning* the actress (wearing a plastic abdomen) in a *defensive* position excuses a delay in identifying the problem. The researcher also acknowledged that during the simulation she should have said that the uterus feels hard at the point at which Anna palpated the uterus.

Furthermore, in the reflective space, Becky the other simulation midwife hinted at a mismatch between the abdominal examination and the behaviour of the mother in the APH scenario:

'But that's the difference between real life and simulation, because if you'd have felt that, she probably would have immediately jumped off the bed and thought oh that's not normal. But you can't replicate that in simulation' (Becky 1st Interview)

This conceptual error on the part of the researcher possibly contributed to a delay in the simulation midwife identifying the situation; however, contrary to the above, findings also suggest that midwives' do request the findings from physical assessments on plastic mannequins. It also emphasises the merit of using an actress to enhance conceptual fidelity:

'Imagining a dummy sat there who's trying to tell you it's an abruption it's not going to be the same and actually quite a few people have gone to rub up a contraction, feel the tummy and say is it contracted or not, because it's rubber, they don't know the sensation of it. But if there was an actress there who was screaming, you'd be I know where this is going. So, I suppose the realism there isn't as much as it would be' (Gina 2nd Interview)

Midwifery is a very sensory profession. Midwives use all of their senses to holistically assess women. They are unable to do this in simulation on mannequins:

'So, when visualising a plastic mannequin there's nothing to see, so there's no skin colour or tone'
(Anna 2nd Interview)

'A big proportion of our job is body language, just a look that you get a word that's said that makes you think, the fear in their eyes. Actually, there's lots of behaviour, movements, things that make you alert. If someone's uncomfortable - whereas you don't get any of that in sim. I think one of the reasons why MW's feel uncomfortable with sim is because it's almost like a sense has been cut off. So, you become less confident in your decision making because you are missing that whole cue all the non-verbal behaviours other symptoms that you see or hear or smell – you can't do that with a model' (Daisy Verification Interview)

This was also the case when using actress women. In the sepsis simulation in this study, Anna the simulation midwife asked for the temperature and was informed that it was 35. She then touched the arms and hands of the actress mother. In the reflective space she offered the following without prompting:

'... then the temp is 35°C and I'm like oh and that's when I touched her because my own experience of people who have temps of 35 is that they feel like they have temps of 35' (Anna 1st Interview)

When Anna touched the actress mother during the simulation, she did not ask how she felt; likewise, the researcher did not say how the woman felt. Perhaps, if this was articulated it would have further supported her decision making. Similarly, midwives seem reluctant to 'have a look' in simulation with actress women:

'I wanted to look, but I didn't, and I didn't look because she was a person and I didn't know if she had anything on underneath. I should have said I would look, but because it was simulation, but in real life I would have looked'' (Cassie 2nd Interview)

'I know its simulation, but I tend to look myself at the pads and blood loss' (Gina 1st Interview watching the APH video and noticing that the midwives did not look at the actress mother's sanitary pads)

It is tentatively suggested that midwives position the level of fidelity in a defensive position to excuse their decision making; however, evidence from this study demonstrates how conceptual errors with the use of actresses can compromise the decision making process. Lastly, it appears that although actresses offer human contact to increase psychological fidelity, interaction is not realistic. Midwives are unable to temporarily suspend disbelief and interact with her (e.g. having a look at sanitary pads) as they would do in the real world. If you are not in the authentic situation touching someone could mean something else. The reasons for this are unclear and need exploring.

This section has presented findings in relation to the incidental influences on their representations of self and decision making. These are summarised in figure 5.6

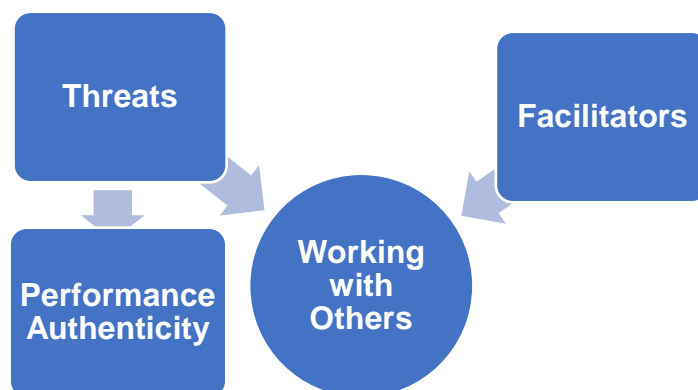


Figure 5.6 Factors Influencing the Representations of Self and Decision Making

5.6 Conclusion

This chapter has presented findings and answered the research questions of this study in relation to:

- How experienced midwives as the primary responders make decisions in obstetric emergencies (section 5.4.1 – 5.4.3)
- How experienced midwives develop their practical knowledge (section 5.4.3)
- The experiences the midwives are using to recognise and manage obstetric emergencies (section 5.4.1)
- The factors that influence the decision making of midwives during obstetric emergencies (section 5.5)

The midwives' decision making, and representations of self was situated in the expectations of the Organisation, childbirth and others. Their decision making process was conceptualised within the dimension of ruling out risk to rule in normality. It involved gathering a history from the mother in relation to the presenting condition; physiological and clinical information to

evaluate patterns and generate the clinical problem (inductive reasoning). This was then adjusted (anchoring) in relation to new incoming information. They made sense of the information through more focused gathering (abductive reasoning) and clustering of information before reaching a conclusion (deductive reasoning). These processes were underpinned by their education, training and past experiences. This process meets the expectations of the Organisation and simulation with respect to reducing risk to the woman and self and avoiding scrutiny.

The midwives rarely engaged in checking out their hunches with each other. They were confident to refer to the obstetric registrar; however, they did have to ensure that they had credible information to justify the review. The MEOWS was not explicitly used to support their decision making to escalate; rather, there was a reliance on changes in physiological observations alongside the behaviour of the mother.

Whilst they were waiting for the doctor to arrive, the midwives demonstrated personal agency. This involved them simultaneously remaining calm and being prepared to take the lead and use the organisational rules that determine how to act. In real life they work collaboratively, use their clinical judgement to modify the rules to reflect the realities of the context and circumstances of the situation. In simulation, they follow the rules because the application of their knowledge of these is being tested. Personal agency represents the midwives' capability to initiate and direct actions. It is underpinned and shaped by their education, training and experience.

Working with others is a factor that both strengthens and threatens their decision making. In real life emergencies the team working is strengthened because they know each other. If other members of the team did not have a shared understanding

of the situation the midwives would support others by re-distributing the work-load and/or prompt the guidelines. In simulation they do not prompt the guidelines. It is suggested that not prompting the guidelines is a strategy for avoiding embarrassment by saying something inappropriate or incorrect.

The level of fidelity in simulation was also found to be a factor that threatened their decision making. Some midwives had to take on roles in the scenarios that went well beyond their expected professional role or perform in settings that they were unfamiliar with. Collectively, these threats were conceptualised as performance contradictions. In these contexts, they were being watched resulting in fear and anxiety. This drove them to self-guard their representations of self, operationalised through their knowledge, clinical judgement and decision making.

The midwives' decision making was narrated through a process of self-guarding. This was conceived through the central organising perspective of 'being watched'. Being watched by the Organisation and 'others' (in simulation) created fear and anxieties. 'self-guarding' is grounded in the data and best explains the midwives' behaviour. Consequently, they self-regulated their behaviour by positioning and re-positioning self and others to explain, support and excuse specific decisions and actions. As a result of the wisdom of hindsight, they also became the non-diegetic narrator reflectively reconstructing events in the videos and from past experiences. Consequently, these defensive strategies were used to affirm their knowledge, clinical judgement and decision making to self-guard their reputation of experienced midwives.

The next chapter draws on other relevant empirical findings and literature to discuss key relationships between the dimensions

and concepts in the theory with the intention of explaining it at a higher level of abstraction.

Chapter 6 Discussion

6.1 Introduction

The aims of this study were to understand and explain the decision making processes of experienced midwives during obstetric emergencies and to develop a substantive explanatory theory of their emergency decision making. The data were subjected to constant comparative method and analytical strategies that drew from dimensional analysis (Schatzman 1991). Chapter 5 presented an explanatory account of decision making by the midwives implicitly narrated through a process of **self-guarding**. The substantive theory will be discussed within the following theoretical frameworks:

- Identity
- Space
- Position

6.2 The Substantive Theory

The substantive theory of self-guarding is grounded in the data of the midwives from this study (Figure 6.1). In the study, the midwives watched themselves and other colleagues recorded in videos performing to an obstetric emergency. This placed them as sitting on 'the edge' of a representation of an emergency conceptualised as the **Window to the World** and gave them opportunity to comment on their own performance and the performance of others. For some midwives, watching the videos triggered memories of past experiences.

Being watched directly by others in simulation and indirectly by the organisation generated anxieties for the midwives. Anxiety of performance error, during the simulation and evaluation of their performance was exacerbated by the organisation's position that childbirth is risky, regulated through clinical

governance and risk management systems. Noncompliance with guidelines could result in an investigation. This organisational position conflicted with a midwifery philosophy of the normality of childbirth. However, in-simulation the midwives used the appropriate protocol (Rules)⁶¹ to manage an obstetric emergency whilst being watched and scrutinised by 'others.' To help reduce performance error.

The Midwives responded to and balanced these expectations by constructing and representing their 'professional self' to reflect the type of midwife they believe 'others' might wish to see. They lay claim to a repertoire of knowledge acquired from years of experience that is used to process the multiple cues that they gather from history taking and clinical assessments to determine the situation (midwifery diagnosis). They formed judgements first by identifying the situation; and then secondly, determining how to act, secured with a rationale for that action based on the (Organisational Rules) chosen guideline. This process enabled the midwives to remain calm because they have followed an accepted procedure to frame their decision to escalate or refer the situation to their medical colleagues. To convey personal effectiveness the preferred professional self also conveyed communication, team working, leadership and coping with stress. It was under these sets of circumstances and conditions that midwives were driven to *protect, defend, verify* and *uphold* the self-conceptions and image that they constructed of themselves. These four processes are further conceptualised as **Self-guarding**⁶². Essentially, the midwives were operationalising their knowledge, judgement and decisions in a way that self-guards their reputation.

⁶¹ Protocol/Rules offers an 'explicit framework for the process of care and members of the team who can follow precise steps of practice' (Fennessy 1998)

⁶² Self-guarding: 'To keep safe from harm or danger, to protect' (Dicionary.com 2019)

Intervening conditions supported and threatened the application of knowledge; judgement, decision making and reputation. In real and simulated obstetric emergencies, the midwives discussed the negative impact that stress can have on their judgement and decision making. *Knowing other's* strengths and limitations ensured that tasks were allocated appropriately. Team members offered prompts (suggestions for action or use of a management protocol). But when colleagues' strengths and limitations were unknown this exacerbated stress, because the veracity of their suggestions had not been tested. Hence, *working with others* both supported and threatened the judgement, decision making and image of the midwife.

Positioned in the **window to the world** (outside of the video and the clinical and simulated spaces that they usually occupy), the midwives were self-aware of their own behaviour. Consequently, from this position, they **self-regulated** their behaviour. This involved the actions that the midwives undertook to alter their own responses/behaviours. It involved changing a course of action and/or substituting one response or outcome for another to self-guard the representations (standard) that they had constructed of themselves. They became the non-diegetic narrator *reflectively reconstructing* events in the video and/or from their past memorable experiences. This strategy was used to affirm their *knowledge, judgement and decision making* thereby up-holding their image of practicing with wisdom, the foundation of which is grounded in experience. Second, they constructed two distinct and relational subject positions. When 'self' was positioned as skilled, knowledgeable and experienced, 'others' were positioned as lacking in skills, knowledge and experience. Subject *Positioning* was further supported through the use of pronoun indexical. **Personal agency** and accountability permeated throughout their narratives and were expressed in the first person indexical use of 'I.' This pronoun

was avoided and substituted with 'we' and 'they' when they wished to distance themselves from their judgements and decision making and or the consequences of these.

As well as constructing subject positions, the midwives also positioned objects in a defensive position. They affirmed that in simulated emergencies the degree to which the mannequin looks, feels and acts like a deteriorating woman impacts on their sense making. Some midwives said that they have to manage the emergency in unfamiliar surroundings such as the Consultant Led Unit when their usual place of work is the community setting or a Midwifery Led Unit and use unfamiliar equipment. Further to this, they are expected to take on the role of the obstetrician or anaesthetist for which they attested to not having the knowledge. Consequently, any deficiencies in knowledge, delayed judgements and decisions was attributed to **Performance authenticity**. Creating an 'otherness' by placing individuals and objects in a defensive position, allowed the midwives to excuse poor performance and up-hold their image. Collectively, these are defensive behaviours that restored their reputation and protected them from any possible conclusions that their knowledge, judgement and decision making are incorrect. **Self-regulation** and defensive practice are thus a consequence of the self-guarding process. It is routed back to the expectations of the Organisation and simulation as part of the chain of cause and effect. The process of self-guarding therefore feeds back into itself and starts off again.

Lastly, midwives expressed personal learning as a consequence of looking back at 'self,' 'others' and on past memorable experiences; however, data from this study cannot verify that **self-declared learning** had taken place. On the other hand, it can be suggested that the midwives did learn through the process of self-regulation. In being conscious of their own

thoughts, feelings and behaviour they were able to reflect and construct an alternative version of events. It can be argued that this is learning. In summary, when midwives watch 'self,' 'others' and are triggered to reflect on past experiences they are self-guarding their reputation as experienced midwives.

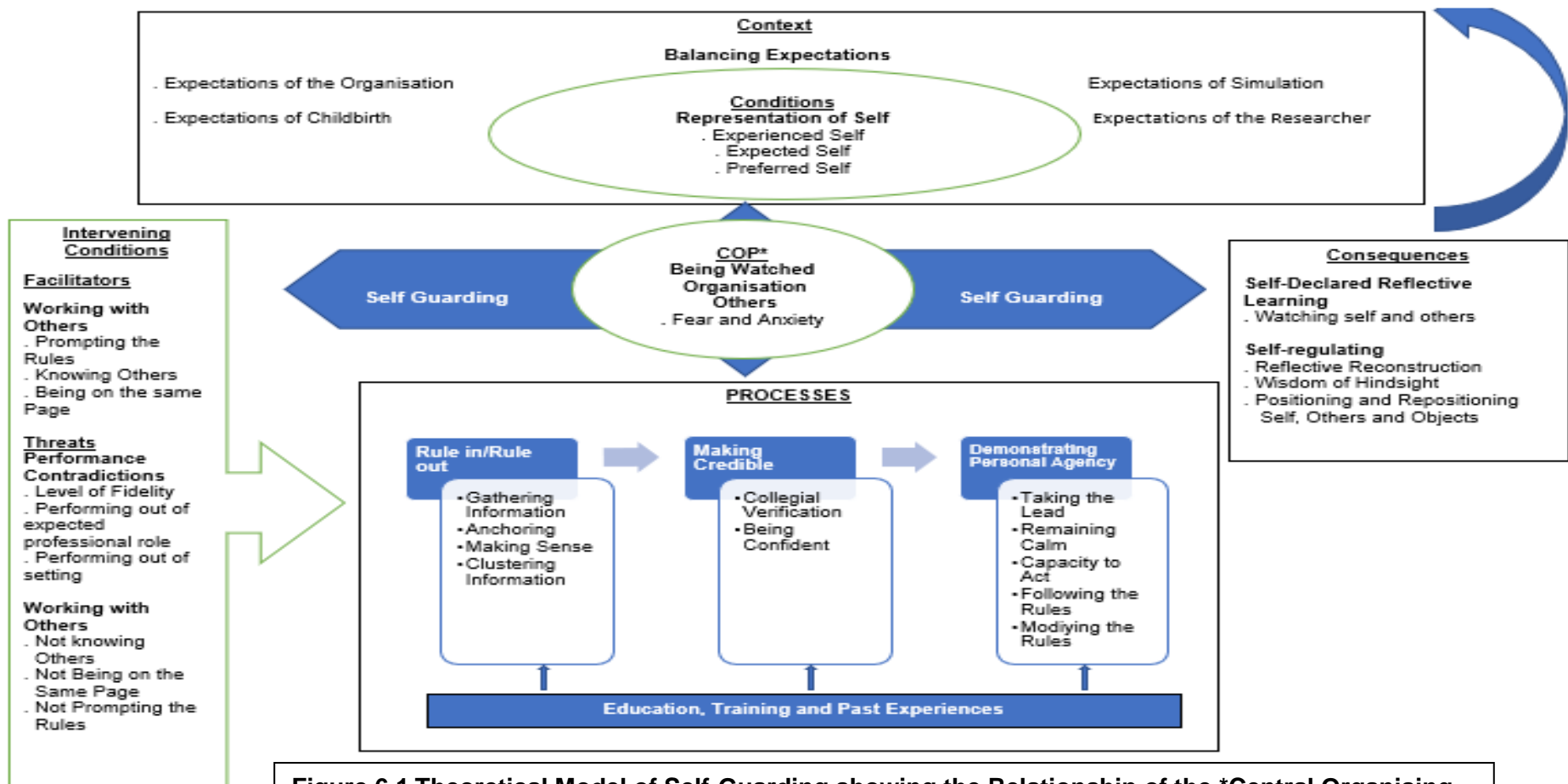


Figure 6.1 Theoretical Model of Self-Guarding showing the Relationship of the *Central Organising Perspective (COP) to the Dimensions

6.3 Identity

This section renders the substantive theory in the context of identity theory. Drawing on seminal theoretical works on identity, it focuses on how the midwives represented, located and differentiated 'self' from 'others' in simulated and real obstetric emergencies. Embedded in these are the strategies that they used for self-guarding their representations. The researcher has defined self-guarding as protecting one's reputation by placing others (individuals and objects) in a supportive or defensive position relative to oneself. This concept assumes that the midwives acted to self-guard their knowledge, clinical judgement and decision making as they interpreted theirs and others experiences.

6.3.1 Self-guarding Representations of Self

Professional identity is a fluid subjective self-concept consisting of a **role** (Stryker 1968; Burke 1980; McCall & Simmons 1978), a **social** and a **personal** identity (Hogg 1992; Hogg & Abrams 1988; Tajfel & Turner 1979) which stems from social interaction with others. The midwives assigned meaning to who they are and what they did by drawing from personal attributes, beliefs, roles and group membership (Ibarra 1999; Schein 1978; Wilson et al 2013). Stemming from social interaction with 'self' and 'others,' these micro level representations emanated from how they saw themselves, how they saw others, how others saw them and how they thought others saw them. Their *micro level* self-concepts were influenced by *macro level* structures and *meso level* inter and intra group relations. A desire for high self-esteem drove the midwives to project the 'self' outwards (Caza & Creary 2016) and affirm their identity according to how they wanted to be seen and understood by others. Cast & Burke (2002) and Stets & Burke (2014) have linked self-esteem of which there are two components as an outcome of the self-

verification process. They argue that role and group identities are motivated by wanting to be seen as competent and worthy. Similarly, Stryker (1980) proposes that when individuals consign themselves to a particular role identity, they are motivated to act according to their conception of that identity and protect it because their role performance conveys their self-esteem.

Drawing on Swann's (2012, 1987) theory of self-verification, the midwives used a number of self-verification strategies. Firstly, during their interactions with the researcher, the midwives constructed and presented a self-concept or an individual *micro* belief of how they see themselves and how they wished to be understood with respect to their roles (Baumeister 1999; Caza & Creary 2016). The professional self was constructed as 'experienced,' 'knowledgeable' and 'senior.' They supported these claims with reference to specialised advanced training, knowledge and skills (Pratt et al 2006; Caza & Creary 2016) thereby distinguishing themselves from others in what they could do.

Secondly, they demonstrated and narrated a number of the features of experienced practice. They collected a range of relevant cues as well as clustering cues together that may help to identify the problem and activate the correct management protocol (Hoffman et al 2009; Thompson, Moorley & Barratt 2016). The ability to collect and cluster relevant cues to form a hypothesis may reflect what Tanner (2006) explains as 'noticing' whereby the anticipation or expectation of a particular emergency is reliant on theoretical knowledge or knowledge from past experiences. This is also consistent with Dewey's philosophy (1938) which posits that every experience informs the next experience. The effectiveness and applicability of knowledge can however be constrained with respect to time, place and user (Bryant 2009, 2017). This was true of the

simulation midwives; however, the midwives that were watching the videos were not time pressured and they knew the outcome. They reconstructed the management, within expectations and behavioural norms of the guidelines. By *self-affirming* their knowledge, judgement and decision making within these norms, they were signalling that they have the stock of skills befitting an experienced midwife to manage the emergencies. Self-affirmation theory is a psychological theory that suggests that individuals are motivated to protect their self-integrity.⁶³ (Steele 1988; Howell 2017). It provides some understanding of the self-guarding process with respect to the midwives acting in accordance with cultural and social norms. The ways in which the midwives managed the perceived threats to their self-concept will be discussed in section 6.4.

After escalating the emergency, they demonstrated and narrated a capacity to act whilst waiting for help to arrive. Actions included siting cannulae, commencing fluids and starting oxygen in response to the deterioration. This is in contrast to a study which showed that novices' capacity to act slowed down once they had called for help. The students did not know what else they could do after they had escalated thereby drawing a line underneath further responsibility (Scholes et al 2012). They discussed 'keeping things calm for the other midwives and the mother whilst they are waiting for the help to arrive. As the midwife leading the emergency, they have to give the impression of being calm. If they panic, everyone else will. This can be likened to the 'swan effect' whereby midwives give the impression of a swan gliding across the water, but underneath the water they are frantically flapping their feet (Scammel 2011).

⁶³ Self-Integrity is an individual's concept (self-concept) of themselves, comprising of roles, values and belief systems

The midwives interacted in different groups and within different contexts. They held multi-faceted professional roles within their scope of professional practice (Elvey et al 2013). For instance, they had combined clinical and management roles; matron role, lecturer practitioner roles and for most midwives these were also combined with mentorship and statutory clinical supervision roles. Identity Theory (IT) as espoused by Stryker (1968), Burke (1980) and McCall & Simmons (1978) is a sociological theory that explains individual role based behaviour. Through a process of self-identification they identified themselves as an occupant of one or more of these roles (McCall & Simmons 1978; Franco & Tavares 2013).

Meanings and expectations are connected to the roles in relation to performance and the relationship between these roles and the roles of 'others' (Sets & Burke 2014). At a meso level of analysis, these roles took on salience according to the context of the emergency and the people that they interacted with. Notably, in their recounted stories of obstetric emergencies, they casted themselves as the protagonist who had to take over from 'others', applying their experience, knowledge and skills to make good clinical decisions. Taking credit for recounted experiences that resulted in good outcomes and personal success and blaming 'others' for any errors (Blaine & Crocker 1993; Gecas & Burke 1995) reinforced their status as experienced midwives.

Notably, were their favourable representations of 'self' that was located within the expectations of 'others' and similar to their own representations of 'self'. These favourable representations were based on their assumptions of how they think others see them and what others think of them as opposed to how they were actually seen by 'others'. The concept of the 'looking glass' self (Cooley 1902) theory focuses on how individuals are concerned about their image in the eyes of 'others'. It offers insight into how

'others' operate as mirrors that reflects images of the 'self'. Applying Cooley's 3 elements of the 'looking glass' self to the findings from this study, the midwives first used their imagination to reflect on their experiences. In so doing, they imagined themselves as how 'other's' must see them. Essentially, their representations of what 'other's' see was an image reflected back in a mirror.

Secondly, the midwives imagined the 'other's' evaluations of their performance. This is similar to Meads (1934) perspective of taking the role of the other, the midwives put themselves in the place of 'significant 'others' (experienced midwives). By acting and adjusting from this perspective and then to that of a generalised other (role taking), the midwives were able to verify their representation. This involved reflecting on the 'self' and internalising the role expectations that they believe 'others' have of them.

Thirdly and crucially in Cooley's perspective however, they would have experienced an affective reaction to the imagined evaluation from the 'other'. The fact that the representations were favourable suggests that the imagined evaluations from the 'other' were positive (even if they may not have been). Thus, on a scale of good to bad, the midwives marked their performances within their experiences as good. This further complimented and strengthened their representations of how they saw themselves. The midwives represented the preferred 'self' as having the attributes of communication, team working, leadership and coping with stress. These are generic skills that are important in obstetric emergencies. Their preferred 'self' can be likened to identity goals as coined by Charmaz (1987, 2014) in her seminal study on identity levels of the chronically ill. Findings from the midwives demonstrate that they did in fact reflect these desired goals as performance standards in their recounted experiences.

This suggests that as they interpreted and recounted their experiences, they adjusted their performance so that their perceived identity corresponds to and verifies their identity standards. This finding is corroborated in a study by Ibarra & Petriglieri (2015). They found that desirable or undesirable future images of 'self' acted as a filter through which professional women in career transitions modified their behaviour within their current environment and as goals for the future.

Whilst manager, matron, lecturer practitioner, mentor, supervisor of midwives are roles that are defined and situated within the structure of the NHS, they can also be considered social categories. So, as well as occupying these roles, the midwives are also members of these groups. Social Identity Theory (SIT) is a social psychological theory. It explains that a social identity is part of an individual's self-concept that originates from their knowledge that they belong to a social group (Hogg 1992, Hogg et al 2004, Tajfel & Turner 1979) that share the same social identification. These groups can be considered the 'in-groups'. The 'Others' who do not belong to any of these groups are considered to be in the 'out-groups.' The 'categories of the out-groups' were junior midwives, student midwives and midwives working in different clinical areas. Seeing themselves as different from the 'others' (Slay & Smith 2011; Neary 2014; Gignac 2015), the midwives accentuated the perceived similarities of knowledge, skills and experience between the 'self' and 'others' in the 'in-group' as well as the perceived differences (lack of knowledge, skills and experience) between the 'self' and midwives in the 'out-group. Perceived similarities and differences offered social validation and allowed the midwives to compare themselves favourably (Ashforth et al 2008; Ashforth & Schinoff 2016). It also served to bolster their self-esteem.

As discussed in the Methods Chapter, the researcher holds multiple professional roles. Defining herself as simultaneously holding the roles of midwife, lecturer, researcher, friend and colleague, she views herself as occupying some of the roles that the midwives also inhabit. Sharing similar roles, it is recognised that this may have influenced the micro interaction with the midwives leading them to compete with the researcher and present favourable images that are congruent with the image that they have constructed of themselves, meets role expectations, demonstrates competence and wins respect (Goffman 1956; Ibarra & Petriglieri 2016).

The midwives communicated a collection of attitudes, values and beliefs, (Schien 1978; Ibarra 1999; Wilson et al 2013). Represented as a personal identity in both identity theory (Stets and Burke 2000, 2014) and social identity theory (Hogg et al 2004) it forms part of the self-concept. They internalised a position towards up-holding a philosophy of normal birth with experiences in facilitating water births and homebirths. Indeed, qualitative midwifery studies have shown that midwifery is 'something someone is rather than what they do' (Hunter & Warren 2014: 930); is an 'important part of their (midwives) identity' (Kirkham and Morgan 2006:107) and midwives see 'the nature of their role as part of who they are' (Hall 2012). It can be speculated that the representations of their attitudes, values and beliefs may have been contrived to up-hold the dominant midwifery discourse because this was at odds with their risk averse behaviour.

6.3.2 Self-guarding within Organisational Structures

The midwives located and balanced their representations within the expectations of simulation, the profession and the Organisation indicating that their micro level self-concept is

influenced by *macro level* structures. An overwhelming finding from this study with respect to professional judgement was that that the midwives altered their behaviour depending on the context of the environment in an attempt to protect their reputation. In simulation the guidelines were followed sequentially irrespective of level of experience, whereas in real life obstetric emergencies the guidelines were modified with experience and professional judgement. Junior midwives were constructed as unable to do this. From a critical standpoint, higher expectations of maternity services from society mean that there is little tolerance for errors arising from adverse events. In particular, society will not accept a woman dying in childbirth through negligence. Consequently, their representations were embodied in professional conduct, competence and accountability which is externally regulated.

Foucault (1975) used the panopticon⁶⁴ metaphor as a way to illustrate the tendency of disciplinary societies to maintain control over its citizens. Being watched from Foucault's panopticon perspective is a postmodern/poststructuralist orientation, however, the panoptical ideas that comes from this theoretical perspective does contribute to the overarching theory of this study. Applying Foucault's theory to the theory of this study, the midwives were fearful and anxious under the panoptical gaze of the Organisation (NMC and Trust) and 'others' (simulation). The Organisational fear and anxiety were located in the level of control circulating through the organisational Codes and policies through which the midwives must adhere.

⁶⁴ Panopticon as described (but never built in his life-time) by Jeremy Bentham is a building that allows a watchman in a central tower to 'watch' for example, prisoners, workers in the cells surrounding the tower. The watchman can see everyone in the cells; however, the people in the cells cannot see the watchman and therefore have to presume that they are always being 'watched.'

In real life, although the protocol supports what they must do, they must respond to the circumstances of the situation. This is emergent, of the moment and may involve modifying the protocol to prevent the loss of life. It is considered that with external regulation, the midwives are pressured from the outside to conform to identity standards congruent with the micro practices inherent in the Codes and policies to avoid criticism to their professional standing, but crucially the consequences of investigations and litigation.

Furthermore, a fear of the consequences of risk and the imagined fear of an obstetric emergency led them to recoil, document, contemplate and/or prepare for emergencies that may not happen. Under-estimating as opposed to over-estimating risk will result in negative consequences for them and their reputation. Striley and Field-Springer (2016) liken this type of risk as an 'identity' risk, or a 'threat to the sense of self.' On the other hand, the constant risk assessing that they alluded to suggests that they were open to changing their plan of care. This demonstrates vigilance as they circumnavigated and self-guarded their professional (role) identity situated in structural expectations (Organisation and profession) and their personal identity (philosophy towards birth). Ultimately, the midwives cultivated their reputation over a number of years. They were not going to allow a single event to damage it.

They discussed other midwives who pushed for normal when the situation was clearly not normal. It can be speculated that such midwives were acting to *up-hold* the dominant midwifery discourse. Indeed, findings from the investigation into the management, delivery and care provided by the maternity and neonatal services at Morecombe Bay NHS Trust following the deaths of women and babies identified 'over-zealous' midwives 'in pursuit of natural childbirth at any cost' which 'led at times to

unsafe care' (Kirkup 2015). Another suggestion is that such midwives lack clinical judgement and the ability to adjust to the changing situation.

In the simulated setting, there was no threat to life, only to the reputation of the midwives. The detail, linear recall and adherence to the protocol was being observed to which the midwives did not have access. Consequently, the fear and anxiety were located in the debriefing (facilitated guided reflection) from others. The midwives felt vulnerable and were driven to *protect* their sense of self-worth by recalling and keeping to the protocol. They discussed others who deliberately avoided simulation. These findings correspond with the acquisitive and protective strategies described by Arkin (1981), cited in Ibarra & Petriglieri (2016). Acquisitive strategies involve signalling behaviours that will generate esteem from the audience. In this study, it involved following the protocol to signal their knowledge and credibility. In contrast, protective strategies involve attempts to avoid criticism. In this study, others were reported as avoiding simulation. It can be speculated that this strategy signals a lack of confidence in their competence.

Simulation based training should ensure that practitioners are fully immersed in the task and or setting as if it were the real world. The purpose is to prepare practitioners to respond effectively to emergencies in the real world that are often characterised by uncertainty (Eppich et al. 2011, Salas et al. 2013). Knowing the protocol is important because although midwives have plenty of experience in normal midwifery, they have little in real life emergencies. Consequently, when it does happen midwives can resort to the protocol to frame their knowledge and decision making. On the other hand, focusing on linear recall risks black and white thinking. In the real world of obstetric emergencies, practitioners have to process emerging

ambiguous information. Consequently, decisions are made in the moment which might necessitate modification of the protocol depending on the circumstances. The guidelines should therefore be made available (like they would be in the real world) to facilitate decision making and the most appropriate actions under such conditions.

Different contexts require different courses of action. Returning to Cooley's looking glass self (Cooley 1902), this results in different looking glass selves. The midwives therefore balanced the contextual expectations by imagining how others would see their actions and adjusted their behaviour accordingly.

6.3.3 Self-guarding within intra and inter-disciplinary Working

Meso level intra and intergroup relationships supported and threatened the midwife's self-esteem. At a meso level of intra group relationships, the midwives talked about making early referrals to obstetricians. In the Birthing Centre there is no access to medical back-up. This resulted in a prompt arrangement for transfer to the obstetric unit. Yet, they also described self-guarding through a narrative of intradisciplinary working. Their narratives suggested uncertainty in making decisions to escalate their concerns and how collecting and presenting credible evidence of deterioration was a pre-requisite for soliciting an obstetric review; however, the MEOWS was used with varying degrees to package physiological deterioration (Andrews & Waterman 2005; Martin 2015) which could facilitate a confident escalation to obstetricians. This is an area that can be addressed during simulation based training.

Through *collegial verification*, the simulation midwives corroborated with each other to verify their own understanding

of the cues prior to escalating as well as verifying who to escalate to. This suggests that they lacked confidence in their clinical judgements and needed support to escalate or were concerned about the risk of damage to their reputation. Overall however, the midwives had confidence to escalate concerns to the registrar as well as calling for the emergency team. They discussed 'others' who lack confidence to summon help. A delay in escalating care has been attributed to looking stupid, being ridiculed or reprimanded (Massey et al 2014; Shapiro, Donaldson & Scott 2010; Andrews & Waterman 2005; Cioffi 2000). This has serious implications for practice as delay in escalating deterioration is associated with an increased risk of adverse events that may have been avoided if the deterioration was escalated sooner (Massey et al 2014). Surely it is better to recommend that midwives escalate concerns rather than delay and if unwarranted to learn without fear of being reprimanded. It is recognised that the latter will require a change in Organisational culture.

In real life emergencies, the midwives talked about *knowing others*, their strengths and limitations in addition to others helping them out by *prompting the script* and/or by making suggestions for *modifying the rules* (the management protocol). This contrasted to simulation where *not knowing others* and others *not prompting the script* exacerbated their anxiety. It is contended that **working with others** both *supported* and *threatened* the judgement, decision making and self-esteem of the midwife.

Team working has been identified as a strategy for improving patient safety and reducing error (Weller et al 2014). Indeed, National reports continue to recommend more and enhanced teamwork training (CMACE 2011, Knight, Kenyon, Brocklehurst et al 2014) and human factor training (Carthey 2013) for

preventing maternal morbidity and mortality. In comparison, studies have shown teamwork and human factor training is not concomitant with improvements in clinical or process outcomes (Nielsen, Goldman, Shapiro et al 2007; Timmons, Baxendale, Buttery et al 2015), with some aspects of human factors training being clinically ineffective (Siassakos, Hasafa, Sibanda et al 2009).

Not knowing other members of the team and performing out of role in simulation has implications for training and education. This is because shared mental models (being on the same page) comprising knowing the roles and capabilities of the other team members is recognised as an important mechanism for effective teamwork (Salas, Cooke & Rosen 2008). Prior to starting the simulation, it is recommended that the team perform in their professional role and familiarise each other with their roles and responsibilities. Other team members could also be supported to prompt the organisational rules. Lastly, research needs to be done to fully understand the threats to teamworking in simulation so that they can be addressed. Draycott et al (2015) contemplated that 'team training and human factor training should not, by themselves, be regarded as panaceas for all current ills' (p5).

In conclusion, the theory of self-guarding thus far postulates that behaviour in obstetric emergencies are dependent on a named world and these names hold meaning through behavioural expectations and shared responses in different contexts that develop from social interaction. Situated in identity theory, meanings were used to assign roles within the social structure of obstetric emergencies. Individual midwives self-identified themselves as an inhabitant of a role and integrated into the 'self' the meanings and expectations that are associated with that role and its performance. As well as assigning their own roles and

expectations about how they are to behave, they also assigned the roles of and had expectations of 'others'. Motivated by a desire for high self-esteem, the midwives as social agents self-verified their representations within macro level structures and meso level inter and intradisciplinary group relationships. The next two sections advance the theory of self-guarding with respect to the consequences of living-up to the representations of self. It discusses the processes that the midwives engaged into self-guard their knowledge, clinical judgement and decision making.

6.4 A Reflective Space

The obstetric simulations presented a deteriorating woman that required intervention by the simulation midwives. In this space, they provided a diegetic narration of their activities/performance as the emergency unfolded. After they completed the simulations, they left this space and entered the threshold space outside of the representational world of the emergencies that they created. In this temporary space they 'looked- in' at themselves and participated in video-cued narrative reflection of their performance. Knowing the script and a subsequent understanding of the events prompted them to think ahead and reconstruct the decisions that they made in action thereby becoming the non-diegetic narrator outside of the video. They further accounted for their perceived slow response to the situation, citing the contextual circumstances of the simulation such as issues with fidelity and teamworking. Although these findings only relate to a small sample size (n =2), they were also found in a study by Scholes et al (2012) which used simulation to explore how 35 student midwives respond to a postpartum haemorrhage. It is suggested that when they were in the simulation their professional identity became disrupted. They were in a story (simulation) that was not of their making and are

positioned as the simulated 'other' As a consequence when they exited the story (simulation) they made the story 'their own' by repositioning themselves as the non-diegetic narrator outside of the story, thereby making the story their own. They **self-regulated** their behaviour by *reflectively reconstructing* events. This served to repair and up-hold their position as an experienced midwife,' this is considered to be defensive behaviour and is a consequence of the self-guarding process.

The other midwives described the intensity of watching their colleagues in the representational world (videos). They reported feeling anxious. Indeed, the researcher observed the midwives' literally sitting on the edge of their seats when they were watching the videos. Theorists from film studies have shown that watching a film is an embodied and emotional experience that triggers a set of responses in the viewer (Sobchack 2004 & Grodal 2009). It is proposed that the affective response of the midwives to the 'others' in the videos is grounded in the experience of their own embodiment, which emerges as they identify and sympathise with the 'others' in the videos (Sobchack 2004).

Simulation therefore does not usually invite audience alignment other than sympathy for the midwives who are performing in the scenario. They are invariably 'being watched' by their peers as part of a learning process. As a consequence, the mutually exclusive relationship between the midwives in the videos and the ubiquitous observers remain unchallenged; that was until a non-diegetic narrative was invited in the case of the midwives 'watching' the videos of the two midwives performing in the simulations. A significant finding was their alignment to the midwives in the representational world, thus they as observer became the non-diegetic narrator. They positioned themselves from the usual spaces that they occupy (Delivery suite, Birth

Centre, Day Assessment Unit) into the 'other' space, engaging with and critically commenting on the performance of the 'other' midwives and reconstructing events in the video. By creating an alternative subject position, it is suggested that the midwives were affirming their status, knowledge, judgement and decisions as experienced midwives from the perspective of the spaces that they usually occupy.

In addition, the affect in the representational world particularly in relation to the uncertainty, triggered an emotional response in some of the midwives. This prompted them to shift time and place from the representational world into the clinical and simulated spaces that they usually occupy. Positioned in these other spaces of reality, they reflected on past memorable experiences. The midwives claimed that they had learnt from these experiences; however, a noteworthy feature of these stories was that they were no fault stories even when the outcome was poor. The stories captured the emotions and the triumphs of the experience, but not the errors of the midwife. Any oversights were attributed to 'others,' the 'team' or issues with fidelity authenticity. It is suggested that when midwives look back at 'self' with a third party they are deliberately projecting their triumphs and avoiding their mistakes in order to up-hold their reputation.

The anthropological concept of liminality as a threshold space espoused by Turner (1967, 1987) is drawn on to conceptually position the reflective space. This is also consistent with the theoretical framework of the study. Turner (1967) described liminality as any "betwixt and between" situation or object thereby opening up all sorts of possibilities for the use of the concept (Thomassen 2009). In this study the concept is used in the following way; each individual midwife as the subject experienced an artificially produced liminality during a temporal

moment (in time) in a spatial threshold outside a virtual world. The latter is conceptualised as the representational world of obstetric emergencies created through the simulation videos. The reflective space outside of this is the **window to the world**.

The anthropological concept of liminality has been connected to reflection by Beech (2011) who quotes Turner (1967: 105) 'liminality may be partly described as a stage of reflection.' 'liminality is the realm of primitive hypothesis, where there is a certain freedom to juggle with the factors of existence . . . there is a promiscuous intermingling and juxtaposing of the categories of event, experience and knowledge, with a pedagogic intention.' (106). It is widely promulgated that reflection can facilitate an examination of the professional self and practice (Dewey 1933; Schon 1991, 1993; Mezirow 1978). Additionally, disconnected from the organisational structures that restrict them in the real world it was also a pedagogical space; a space for reflection with the potential for learning (Meyer & Land 2003). Indeed, the midwives alluded to this when watching 'self' and 'others' in a simulation and from recounting past experiences

They further suggested a transformational process. Embedded in Mezirow's transformative learning theory, the focus of this is concerned with meaningful changes in how individuals see themselves and their world (Mezirow 2003). The argument here is that the videos may have facilitated learning through a process of critical reflection and comparing 'self' to their identity standard and 'others.' This may have helped them to identify what they know, what they don't know and how much they need to know. This is a point of disjuncture upon which there could be powerful learning. Hence, the videos may have operated as a tool for learning; however, data from this study has not demonstrated the nature of this learning.

The videos and their past experiences presented a story of obstetric emergencies. The midwives were connected to the stories. They knew the conditions, circumstances and crucially, the outcome. Yet, they talked about having a gut feeling of what was going on. In the literature, this is referred to as intuition and is a concept that is associated with experienced/expert practitioners. It has been defined as the ability to understand something instinctively without the need for conscious reasoning (Benner & Tanner 1987; Rew & Barrow 2007; Standing 2010, Pearson 2013). Thus, in the context of obstetric emergencies, intuition is about identifying subtle signs of deterioration and making decisions before significant clinical changes become apparent.

An alternative explanation for the above is that the midwives may not have necessarily recognised deterioration, but through experience, mostly from repetitive mandatory training (as obstetric emergencies are rare) developed images of expectations of the different obstetric emergencies (Eraut 1994; 2006, Dreyfus & Dreyfus 1986; Benner & Tanner 1984). These expectations are cognitively represented as scripts. Situated in cognitive psychology, the assumption of this theory is that external experiences are related to internal representations. Expectations within the experience are therefore interrelated (Schank & Ableson 1977; Gabbay & Le May 2004, 2010). Hence, with experience the midwives were able to modify and reconstruct their internal representations in the window to the world. Eraut (1994) asserts that the tempo of intuitive decision making is such that it can only be rationalised retrospectively.

The above is comparable to Meads philosophy of the present (Mead 1932) in which he asserts that the 'past is in the present; and in what we call conscious experience. Its presence is exhibited in memory and in the historical apparatus which

extends memory' (p 17). Thus, it can be argued that the midwives were not only symbolically reconstructing the past in the present, in adjusting their reality they were also adjusting their reputation.

It is therefore proposed that their retrospective assessment and subsequent understanding of these experiences (labelled as the Wisdom of Hindsight) rather than intuition may have resulted in some cognitive reconstruction and modifications of the events within the experience that favours their position as experienced midwives. When we look back in hindsight it is difficult to ignore the knowledge of the outcome and thus which decisions are necessary to arrive at that outcome. This raises questions about the effectiveness of reflection and whether it reflects the incident as it really happened or a biased version of it. Hindsight bias is documented amongst Doctors (Caplan, Posney & Chyney 1991; Labine & Labine 1996; Arkes 2013). It was also found in a seminal study in the reflective practices of nurses (Jones 1995). Twenty seven nurses with varying levels of experience were divided into four hindsight groups and one foresight group. They were asked to read the same constructed clinical vignette that described the patient's clinical presentation with (hindsight group) or without (foresight group) a final statement from a Doctor proposing a possible diagnosis whether it was correct or not. From a list that included the correct diagnosis and a limited number of incorrect diagnoses, the nurses were asked to choose what they consider to be the most likely diagnosis. It was found that those that were in receipt of the Doctor's statement displayed hindsight bias whether or not the diagnosis was correct. A limitation of the study is that the nurses had a range of years of experience. It could be argued that the nurses favoured the diagnosis because it came from a Doctor who they perceived as knowledgeable. This is in contrast to findings from this study where the midwives were experienced. It has been

suggested that experience may increase hindsight bias “because the greater knowledge base of the expert provides greater scope for the biasing of cognitive activity in hindsight, such as favouring evidence, reasons, and explanations which support the reported outcome” (Davies 1987:66 cited in Anderson 2018)

Lastly, the phenomena of hindsight bias as found in this study, could only be located in one other simulation study (Scholes et al 2012). Here, analysis of the video-cued post simulation reflective review found that some students spoke ahead of their performance accounting for what they were going to do rather than what they actually did in the video. Substituting a non-diegetic narrative to correct the perceived error as opposed to accounting for their clinical judgement and decision making in the simulated scenario serves to up-hold their reputation. Consequently, what the midwives described as intuition was in fact a distinct set of decision making based on their experience that enabled them to look back at and reconstruct the events in the videos because of the wisdom of hindsight.

Simulated and real life obstetric emergencies comprises of uncertainty and complexities and any learning should be cognisant of these issues in relation to the clinical judgement, decision making and subsequent management within these contexts. When discussing their experiences of post simulation feedback on their mandatory up-dates in particular, the midwives referred to two issues that could hinder any learning from taking place. The first was in relation to needing to feel safe. Feedback tends to be given by someone in authority, has an emotional element to it and can be interpreted as being judgemental by the recipients (Eraut 2006). The second was that sometimes the feedback was usually positive and given to the group as a whole rather than to individuals. The latter suggests that some

facilitators are deliberately avoiding the costs of negative self-esteem arising from negative feedback. Failure to explicitly acknowledge issues related to decisions and management as they are experienced in the moment or from past experiences by individuals are missed opportunities to address any learning that might be relevant to future practice. If the space outside the representational world is to be used as an interactive space for developing personal wisdom (Mickler & Staudinger 2008), the facilitation of this requires addressing in terms of structure and support.

In summary, the midwives occupied a threshold space referred to as a **window to the world** (outside the representational⁶⁵ world of obstetric emergencies). In this space they watched and reflected on 'self' and 'others.' Consequently, they positioned and re-positioned 'self' in the representational world. The affect from the representational world triggered them to recall and reflect on past experiences. When the midwives were reflecting, they symbolically brought and reconstructed experiences from the past into the present circumstances and context. *Reflective reconstruction* is one of the strategies that the midwives used to **self-regulate** their behaviour thereby preserving and up-holding their image/reputation. The next section will discuss the second self-regulating behaviour that the midwives engaged in.

6.5 Position

As discussed in the Methods Chapter, during concurrent data collection and data analysis the researcher was sensitised to discover how the midwives' seemingly rational and consistent stories was achieved in their narration. This is also consistent with the interpretivist approach that underlies this study. Findings revealed that implicit in their narratives (speech) is the

⁶⁵ Representational World can also be considered a virtual world.

positioning that they adopted to strategically position (metaphorically speaking) themselves, 'others' and objects in their stories to explain, support and excuse specific decisions and actions. It is considered that these defensive actions ameliorated threats to their reputation and was a consequence of the self-guarding process.

In particular, their use of subject pronouns such as 'I,' 'you,' 'we,' 'she,' 'he,' and 'they' demonstrated their attitudes to and relationships with 'others' such as doctors, junior midwives and the Organisation. The positions were therefore mostly relational (Davies & Harré 1999). When they used the word 'I' they demonstrated what Harré (2002) defined as personhood. Connected to personal identity it is demonstrated when a person takes responsibility for an action at a particular moment in time (Phillips & Hayes 2008). The midwives also engaged in intergroup positioning where the pronoun 'we' was used instead, indicating that the group was responsible and accountable for the action (s) and the outcome rather than the midwife (Tan & Moghaddam 2007; Maghaddam & Harré 2010). Another explanation could be that the midwives chose to include 'others' into the outcome that might be related to their responsibility and accountability. Similarly, when the midwives reverted to using the pronoun 'they' and 'she,' they may have been intentionally removing themselves from the outcome that might be related to their responsibility and accountability.

The theory of 'othering' as described by Spivak (1985) offers some insight into the above with respect to how individuals consign other people to subject positions as 'others' and construct them as inferior to 'self'. It has mostly been used in relation to powerful groups who through discursive processes 'affirm the legitimacy and superiority of the powerful' (Jensen

2011: p65) against inferior 'others'. This was not found in this study.

Positioning in conversations however has been associated with positioning theory. This theory helps to locate and focus the findings in relation to self-regulation. A social constructionist approach (Slocum and Van Langenhove 2003), it originated from the work on gender differences by Wendy Holloway in 1984 and was developed by Davies and Harré in 1990 (McVee 2011). Moghaddam and Harré (2010) stated that positioning theory is about "how people use words to locate themselves and others" and that "it is with words that we ascribe rights and claim them for ourselves and place duties on others" (p. 3).

In this study, positioning theory has been extended to include 'others' as objects as well as subjects. The midwives were vehement that being watched, the degree of realism and fidelity issues in simulation impacted on their clinical judgement and decision making. Conceptualised **as performance authenticity**, it is suggested that by placing these objects in a defensive position the midwives were acting defensively to self-guard their reputation. These findings were also reflected in studies by Scholes et al (2012) and McKenna et al (2011), but not directly attributed to defensive behaviour. This is a new contribution to knowledge in this area

The last 2 sections have shown how the midwives used positioning within their reflective re-constructions to self-regulate their knowledge, judgements and decision making. This served to change their perceived self-concept and up-hold their self-esteem (worth and competence) in the social world. The next section will endeavour to bring together the theories within these concepts.

6.6 Self-guarding as a Performance

In this study, the midwives interacted with the videos and the researcher. They chose and adopted the roles during these interactions and displayed behaviours that corresponded to the roles. It is asserted that they were trying to create a favourable *impression* as they socially constructed 'self' in different contexts and circumstances of obstetric emergencies. The way in which the midwives managed their image in the eyes of others parallels Goffman's (1959) theatre metaphor and extends Cooley's looking glass perspective (Cooley 1902). Shaffer (2005) asserts that social interaction as a performance enables actors to manage the impressions of others.

Drawing on aspects of Goffman's the Presentation of Self in everyday life (Goffman 1959), the midwives ascribed meaning to watching self and others in simulations by defining the situation (what is going on here) and explaining their role within that situation and in their stories of past experiences. Van den Berg (2009) argues that the definition of the situation is implicit and only becomes obvious in the choice of role and its ensuing actions. This was true of findings in this study. Whilst most of the midwives chose roles which up-held their self-esteem, one midwife in particular recounted a story where she stepped aside from a baby that required resuscitating. The argument here is that the midwife read the trajectory (defined the situation), panicked and stepped aside to *save face* (protect her reputation). On the other hand, this may have been the first neonatal resuscitation that she had ever seen. In any case, in both possible explanations the midwife was unable to draw on the protocol that she must have rehearsed time and time again to manage the situation.

Van den Berg (2009) further cites Bourdieu's concept of the use of practical knowledge in defining the situation. Practical knowledge 'continuously carries out the checks and corrections intended to ensure the adjustment of practices and expressions to the reactions and expectations of the other agents. It functions like a self-regulating device programmed to redefine courses of action in accordance with information received on the reception of information transmitted and, on the effects, produced by that information' (Bourdieu 1977 cited in van den Berg (2009). Findings from this study affirms that the midwives through experience from emergency based training and past experiences have knowledge which they used to self-regulate their behaviours. More so, each situation contains scripts (guidelines) which governs actions. The guidelines are embedded in Organisational structures and have shared meanings. The guidelines conditioned the midwife's impressions within the different contexts of their reflections.

Goffman (1967) argues that actors do care about the faces that they show to others. In filtering their knowledge, judgement and decision making and managing their impressions through self-regulation within Organisational structures, the midwives were able to self-guard their image/reputations. This phenomenon has not previously been described.

6.7 Reputation Management in a Just Culture

Findings from this study has shown that in simulation, experienced midwives have reputations and act to self-guard their reputation. This has implications for practice and education. Simulation is expensive and resource intensive (Hegland et al 2017). If midwives are busy protecting their reputation, then they are not learning. If they are not learning, they are not addressing patient safety. The midwives recounted distressing and painful

stories yet, they were no fault stories. If this were always the case, then there would be no repeated evidence of poor practice reported through local (e.g. CNST) and national systems (e.g. CMACE). Taking ownership of error is clearly challenging and a natural recommendation would be for midwives to be supported to take ownership of their error. This however is not straightforward.

In clinical practice, the concept of a just culture balances an open and honest reporting environment with a learning environment (Boysen 2013). The recent Hadiza Bawa-Garba case in the United Kingdom has shown what can happen when you own-up to error. As a junior Paediatrician, she was one element in a system that resulted in the death of a six year old child. Her reflections from her portfolio provided as evidence of her learning was used against her in her trial (Cohen 2017) for which she received a 2 year suspended sentence and she is currently suspended from the General Medical Council (GMC) Register. Professor Sir Norman Williams review into Gross Negligence Manslaughter in Healthcare report (2018) stated 'A just culture considers wider systemic issues where things go wrong, enabling professionals and those operating the system to learn without fear of retribution'. The report goes on to say "...generally in a just culture inadvertent human error, freely admitted, is not normally subject to sanction to encourage reporting of safety issues. In a just culture investigators' principally attempt to understand why failings occurred and how the system led to sub-optimal behaviours. However, a just culture also holds people appropriately to account where there is evidence of gross negligence or deliberate acts.' So, owning up to error is not clear cut.

Indeed, it would appear that midwives are practicing in a culture that encourages openness and learning on the one hand and undermines it on the other. A fear of litigation has been

mentioned as a barrier to openness and learning following adverse events and near misses in National Reports (DOH 2000, Kennedy 2001, DoH 2003). The argument here is that practicing in such a culture provides the backdrop for defensive practice and has conditioned midwives to guard their performance when reflecting in simulation. This has implications for patient safety because it could inhibit learning on an individual level, but also at a team level. Consequently, this negates the strength of reflection in learning from mistakes. A recent study exploring how midwives' personal involvement in clinical negligence litigation affects their midwifery practice found that an open non-castigatory culture resulted in midwives owning-up to errors to risk managers (Robertson & Thompson 2016).

Midwives need to feel safe in order to reflect candidly. On the other hand, it could be that individuals do learn through the reconstruction of events. If this is the case, then they need to be made aware that this is what they are doing and supported with their reconstructions. This would include addressing their use of reflective positioning and re-positioning.

NHS Trusts and professional bodies (e.g. RCM, RCN) offer guidelines and a checking service for statement writing for workplace investigations in response to a sudden untoward incident (SUI). Witness statements for civil cases are written by the legal team of the NHS Trust to a specific format. It can be speculated that they may be written in a defensive style to protect the midwife and the Organisation. The argument here is that this further perpetuates the defensive culture.

6.8 Conclusion

In summary, this chapter has offered a substantive theory in which experienced midwives decision making in obstetric

emergencies is through a process of self-guarding. The theory has been discussed within other empirical studies and within the theoretical frameworks of identity, space and position. These theories unite and explain the self-guarding process that the midwives engaged in when narrating their decision making.

It is considered that this work contributes to the theories of hindsight bias, position theory and the prestige element of professional identities. The findings raise questions in relation to the use of reflection by experienced practitioners and the problem of hindsight bias as either a consequence of learning from reflective reconstruction or a barrier to learning. When the midwives were watching 'self' and 'others' they assigned meaning to the scenarios and supplemented a non-diegetic narrative to give more credible accounts of the events in the scenarios. Hindsight bias and positioning self and others was thus motivated by wanting to self-guard their professional identity of experienced midwives and can be considered a barrier to learning.

The final chapter discusses the limitations of this study and the strategies taken to manage these. Implications for practice, education and further research are proposed.

Chapter 7 Reflections, Limitations and Implications

7.1 Introduction

An Interpretivist Case Study design using constant comparative method and analytical strategies that draw from dimensional analysis (Schatzman 1991) were used to generate a substantive theory of experienced midwives' decision making in obstetric emergencies. The benefits, challenges and limitations of this approach are discussed. Finally, implications for practice, education and further research arising from this substantive theory are proposed.

7.2 Benefits of Applying Grounded Theory Methods

Qualitative studies have been criticised for taking numerous accounts or observations of interest and constructing them into a story with no conceptual depth or practical importance (Bryant 2014). Drawing upon the grounded theory analytical process facilitated a consistent and systematic approach to the development of the substantive theory. Purposive and later theoretical sampling were used to enhance the conceptual depth of the substantive theory. In particular, the constant comparative method allowed the researcher to hone the data that were needed and enhance understanding of the phenomenon. Theoretical sampling guided additional interviews and the collection of extant guidelines to corroborate preliminary properties within two dimensions: *Making Credible*, *Demonstrating Personal Agency* and *Performance Contradictions*. The constant comparative method increased awareness of what data required testing (for example, comparing the narratives of the midwives in the simulations to the midwives watching the simulations and looking at pronoun use) created a chain reaction which lead to further data being tested. Thus, it was used to compare data throughout the

different stages of data analysis; from empirical to conceptual. It assisted in theoretical explanation, saturation, verification and collapsing of dimensions and concepts. The second benefit was that it permitted the development of new insights at a higher level of abstraction. A deductive approach may not have allowed the theoretical insights to emerge.

7.3 Limitations

In addition to the benefits of borrowing and using grounded theory methods, there were also some practical and methodological limitations. These will be discussed within the criteria formulated by Glaser (Glaser & Strauss 1967, Glaser 1978) for evaluating the quality of grounded theory studies. The criteria are *fit*, *grab*, *modifiability*, *relevance* and *work*.

7.3.1 Practical Limitations

Whilst the previous section expounded the benefits of using grounded theory methods, the application of its processes was challenging. This was the researcher's first experience of collecting and coding qualitative data. The analytical technique as illustrated in Chapter 4 was an exhaustive and time consuming process which could be considered a practical limitation. Indeed, the researcher simultaneously collected and analysed data over a period of three years. There is the risk of the substantive theory being superseded in the time it has taken to complete the study with the findings yet to be formally disseminated. To hasten and force the process however may have undermined the creativity and conceptual capabilities of the researcher and resulted in a theory that is weak (Holton 2008). In any case, it has been asserted that the process of conceptual construction of a substantive theory should not be considered as a definitive endeavour, but as a continuing and continuous discourse (Bryant 2014). Thus, the substantive theory of this

study should not be considered as fixed and definitive, but as 'modifiable' (Glaser & Strauss 1967, Glaser 1978).

As previously discussed, the researcher considered herself, friend, colleague and researcher to the midwife participants. This had implications during data analysis and the development of the substantive theory. It was considered that the latter relationships made the midwives more relaxed and encouraged them to reflect on and tell their stories. Consequently, the researcher felt loyal to the midwives and wanted to avoid conclusions that were disloyal or unfair to them. During the early stages of data analysis, the researcher through inexperience of using the methods described coupled with a sense of feeling obliged to protect the midwives was simply consigning their narratives with them. It was challenging to be critical of them. Constantly prompted through supervision to 'get beneath the words of the midwives' and 'go conceptual', the researcher eventually came to realise that data analysis was not about being critical of the midwives but was about analysing the meaning of their narratives. The use of reflexivity, memoing, the constant comparative method and the extant literature for theoretical insights were used to disassociate the researcher from their narratives, develop theoretical sensitivity and explain the significance of them.

As self-guarding and self-regulation started to emanate as the theoretical explanation the researcher felt even more protective towards the midwives and their data. This was especially because the researcher was responsible for constructing the dimensions since they did not exist before the process of Dimensionalising. There was concern over how it would be received by the midwives. The model of the theory as presented in chapter 4 was tentatively taken back and explained to the midwives. It was well received by all and some of the data

collected from this exercise was integrated into the findings chapter. The explanation of the model captured the attention of the midwives as they understood and recognised the relationships that existed amongst the abstracted concepts within the data. This was not only in obstetric emergencies, but also in their routine practice. This is referred to as 'grab' and is related to the pragmatist tradition and Dewey's notion of a theory being judged by their usefulness or practicality as opposed to their absolute truthfulness (Bryant 2014). It is anticipated that the findings from this study will also have 'grab' and resonance with readers of this study.

7.3.2 Methodological Limitations

The sample size could be considered narrow and small. It is acknowledged that the sample were not representative of their peers in range of experience. Some of the participants had experience in education and all but one of them were supervisors of midwives. Accordingly, they could be considered as having something to prove and a reputation to up-hold. A larger sample across the different clinical settings may have provided different insights. The small sample size also raises questions about whether theoretical sufficiency and sufficiency of abstraction was achieved. Charmaz (2014) argues that while grounded theory is efficient, a few interviews does not necessarily produce a reputable study whilst having ample data does not assure an original contribution to knowledge. The researcher conducted three substantial (in relation to length of time) interviews with the midwives. They had a broad knowledge and experiential base, having worked or were working across a range of clinical settings. In addition, the varied methods of data collection produced rich data sets and strengthened the study (Charmaz 2014). It is deemed that the diversity of the cases (midwives) does demonstrate the "fit" of the theory across the range of

Trusts (n = 3) and clinical settings. In this context, 'fit' refers to the emergence of properties and dimensions from across the data as opposed to predetermined ones from extant theory (Holton 2008) or from researcher bias (Bryant 2014) and that dimensions resulting from the study 'fit' or is representative of the data (Glaser 1978). It is considered that chapter 4 explains how the salient dimensions were developed. The varied methods of data collection across the sample and the length of time with them were therefore sufficient in looking for and saturating similarities and differences between context, conditions and consequences around key experiences and patterns in the data.

Research studies are often presented as final products with the methodologies clearly outlined. Little attention is paid to the decision making processes that led to the chosen approaches & any changes that had to be made along the way. The research plan for this study was originally approved by the University as a grounded theory study; however, during the process of applying for ethical approval, the method of data collection⁶⁶ was changed forcing the researcher to rethink the methodological approach. The researcher started this study with an idea and a proposed question, but with little understanding of theoretical frameworks and their influence on data collection and analysis. Through learning and support from academic supervisors and fellow doctoral students, she has developed knowledge and skills in the approaches adopted in this study. It is proposed that the philosophical underpinnings of the study contributed to theoretical saturation. First, symbolic interactionism guided data collection. Second, the pragmatist perspective considered context and conditions and how they affected the processes that

⁶⁶ The original method of data collection was simulation followed by video-cued narrative reflection of performance. The limitations of this approach (recruitment, time and resources) have been discussed in chapter 3.

the midwives engaged in. Lastly, clarifying the epistemological perspective of co-construction from the outset enriched data analysis (Charmaz 2014), whilst the ontological perspective of multiple realities influenced the researcher to collect further data to saturate the dimensions (Glaser 1992).

It is further considered that the Central organising perspective (Being Watched) integrated the theory rendering it compact and saturated. Starting with this central perspective, all the other dimensions and properties were sorted as they related to this central perspective. This directed focus thereby limiting analysis. It was verified through saturation, 'relevance' and 'workability'. It implicitly captured the complexity of decision making under different contexts and conditions, had explanatory power and was highly relevant to the practice settings. Lastly, the theoretical memos that emerged from the constant comparative method, the extant literature and sorting verified the dimensions, their integration, fit, relevance and workability of the substantive theory, thereby preventing premature closure around the final theory.

Despite the practical and methodological limitations, Glaser's criteria (Glaser 1978) has demonstrated that the substantive theory is grounded in the data and has explanatory power.

7.4 Implications

The substantive theory of 'self-guarding through a window to the world' offers a new theoretical insight into the decision making of experienced midwives in obstetric emergencies that has not previously been described. Findings suggested that the effect of watching self and others in simulation triggered the midwives to become self-aware of their own behaviour within the simulations and from past experiences. Consequently, the midwives self-

regulated their behaviour through the processes of reflective reconstruction and the construction of two distinct and relational subject positions. These processes involved them positioning themselves relative to others and objects to explain, support and excuse specific decisions and actions. They also became the non-diegetic narrator reflectively reconstructing events in the simulations and from their past experiences. It is proposed that their retrospective assessment and subsequent understanding of these experiences resulting from the wisdom of hindsight may have brought about some cognitive reconstruction and modifications of the events within the experiences that favours their position as experienced midwives. These defensive strategies were used to self-affirm their knowledge, judgement and decision making, thereby self-guarding their reputation as experienced midwives. These findings are novel and make an original contribution to knowledge.

The following sub-sections foregrounds the study's implications for learning, practice and directions for further research.

7.4.1 Implications for Learning and Practice

The primary aim of this theory generating study was to understand the decision making of experienced midwives in obstetric emergencies. This was implicitly achieved through video elicitation and follow-up interviews and provides a model of experienced decision making in obstetric emergencies. Simulation in particular was found to confront midwives and cause anxiety. Consequently, knowledge, judgement and decisions were operationalised through a process of self-guarding. This knowledge is a significant contribution to simulation. A previous study found that performance anxiety as a reaction to being watched in simulation was a reason used by students to account for their evaluation of poor performance

(Scholes et al 2012). This study extends this notion and proposes that anxiety experienced in simulation results from reputational concerns.

An outcome of this process was self-regulation. The midwives reconstructed events in the videos and from past experiences and by positioning themselves relative to others and objects to explain, support and excuse specific decisions and actions. The first implication of the study derives from the theoretical outcome of hindsight bias in simulation based learning and training and its validity in enhancing decision making and care.

Reflection is a well-established concept dating back to the 1930's and the philosopher John Dewey (Dewey 1933); however, the advent of Donald Schon's seminal books on the processes and development of reflective practitioners (Schon 1983, 1987, 1991) brought reflection and reflective practice to prominence. With extensive claims about its benefits, it is seen as an essential component in the education and practice of midwives (NMC 2018, 2019) with a number of models to facilitate the process (Gibbs 1988, Johns 1995, Rolfe et al 2001). There is an abundance of definitions of reflection in the literature, but simply put, reflection is a cognitive activity that involves learning from experience (Dewey 1933). Yet no concrete evidence could be found in this study or in the literature to indicate that reflection on action (Schon 1983) contributes to learning and/or improves decision making. It does seem plausible however because the process of decision making can be influenced.

Watching self and others in the videos triggered the midwives to reflect on past experiences. This was a reconstructive process that involved them choosing and recreating the experiences to be reflected upon, through recall of actions, thoughts and feelings. Over the years, the criticisms levelled at reflection infer

that it is a flawed activity. The psychological literature emphasises the difficulties with remembering incidents (McDermott and Roediger 2019) whilst Jones (1995) suggested a motivational factor involving the preservation of self-esteem and wanting to appear competent. The latter resonates with the findings from this study and has implications for learning and practice. Although practitioners are an 'eyewitness' to their 'own practice' (Newell 1992: 1328), it has been suggested that reflection with 'self-protective bias is like looking at myself and seeing how good I am, rather than looking at the care given to a mother and seeing how she could be cared for better' (Kirkham 1997: 259). If self-guarding professional reputation is at the expense of accounting for error from self, potential for personal learning and change are limited which in turn impacts future practice.

Findings further indicated that post simulation reflective reviews were biased by knowledge of the nature of the scenarios and their outcomes. In other words, the midwives were unable to watch self and others in the scenarios in any other way than that which corresponded with the diagnosis and outcome. Hindsight bias may minimise examination of performance of self and others, resulting in a false sense of confidence in similar future situations (Roese & Vohs 2007). In addition, the midwives were inclined to centre their reflections on self and others. This limitation referred to as attribution bias can also compound hindsight bias. It is where there is a tendency to focus on the practitioner's behaviour at the expense of considering the circumstances and conditions that are present during the event. This can have an impact on future decision making if they fail to recognise the conditions that may or may not favour a particular action (Henriksen & Kaplan 2003; Motavalli & Nestel 2016).

Simulation is advocated as a suitable and safe format in which to teach and rehearse the technical and human factors skills in managing deterioration in the childbearing woman (Knight et al 2014). Despite it being resource intensive and costly (Collins & Draycott 2015) the evidence base on its merits continues to develop. Given the findings on the efficacy of simulation with a group of experienced midwives, consideration should be given to how, when and with whom it is being used otherwise it runs the risk of becoming a one size, tick box approach to meet the governance and risk management strategy of NHS Trusts. Simulation based education and training has a place for midwives at different points in their professional time. Its design should therefore be targeted to give individuals the knowledge and skills they need as they progress along the continuum of novice to expert.

Facilitators have control during debriefing and can therefore influence what midwives focus on and how they evaluate their performance. Creating a safe space where they do not feel victimised might foster a positive reflective attitude and mitigate against future defensive behaviour. Motavalli & Nestel (2016) suggest that facilitators can enhance learning from video assisted debriefing by selecting and replaying certain clips that directs the midwives focus on concurrent issues that were occurring. For example, facilitators can specifically direct attention to the circumstances that existed in the throes of the emergency prior to any errors in clinical judgement and decision making. Furthermore, rather than focusing on the error, facilitators can direct participants to understand why assessments and actions made sense at the time (Henrikson & Kaplan 2003).

Hindsight judgements and decision making can be viewed as a consequence of learning from reflective reconstruction as

opposed to bias. The latter does however need attending to. Motavalli & Nestel (2016) recommend testing for hindsight bias by pausing the video and asking what happened next. Another strategy is reflection in action. This can assess if the right problems are being addressed and can prevent and/or mitigate error (Schmutz, Kolbe & Eppich 2018). Attending to the design of the scenario and the timing of the debrief may also strengthen learning by mitigating hindsight bias. Such strategies could include shifting the focus toward decision making in conditions of uncertainty and away from perceptions of certainty by ending the simulation prior to a momentous deterioration (Motavalli & Nestel 2016).

Although not the intended purpose in this study, developing, validating and filming obstetric simulations has the potential to be used as a tool for facilitated reflective learning. Inviting a non-diegetic narrative from the performers and observers are at the cutting edge of telling a story and learning in different ways; that is from the inside (persons in the simulation) to the outside (persons watching the video of the simulation; furthermore, watching videos creates mood that triggers memories of other events in different times and places thereby creating another opportunity for facilitated reflective learning. Practitioners can learn through comparison and the comparison can help them to identify what they know and what they need to know.

A second important implication related to reflection stems from the findings on how the midwives self-regulated their knowledge, judgements and decision making by reflectively positioning self, others and objects during their interviews. In applying positioning theory, personal accountability was expressed in first person pronouns such as 'I' and was used when talking about success. Part of their defence was to use first person plural ('we') and third person ('they') pronouns. Aligning 'self' to others and removing

'self' from the scenario reflects a strategy that insulates them from exploring their position as the experienced midwife in that story. This has implications for learning, personal development and future practice. An examination of speech acts and positions within reflections can lead to exploring issues of personal agency and accountability implicit in their own positions as experienced midwives in the obstetric emergency as well as that of others thereby developing roles in leadership and teamworking. Such exploration can be threatening and requires careful facilitation and support to help to shape their stories.

7.4.2 Implications for Research

Findings from this study raises a number of opportunities for further research. The influences of hindsight bias on reflective processes in simulation based learning and training is relatively unknown. Aside from the findings of this study there is only one other study that could be found that describes this phenomenon (Scholes et al 2012). This is a gap in the literature. The proposed strategies to mitigate against hindsight and attribution bias in simulation based learning and training can be investigated to extend understanding and further develop these theoretical concepts.

The application of positioning theory to the analysis of reflections can be used to explore the role of self and their relationship with others in obstetric emergencies. Such a study may contribute to understanding the effects of human factors on behaviour and abilities.

Lastly, an integrative review of 11 studies to understand the influence of anxiety on undergraduate health professionals' performance in high fidelity emergency settings found that anxiety in simulation can either augment or impair performance

(Al-Ghareeb et al 2017). A future study could measure the extent to which practitioners become more self-guarded the more threatened they feel. Positioning theory could and should be used to examine the extent of self-guarding in witness statements following sudden untoward incidents.

7.4.3 Conclusion

Despite the practical and methodological limitations, this study has generated a substantive theory of decision making by experienced midwives in obstetric emergencies. It explains how a small group of experienced midwives with reputational concerns operationalised their knowledge, judgement and decisions through a process of self-guarding. Implications for learning, practice and further research have been proposed.

A concern about reputation and the desire for high self-esteem shapes how one behaves. The theory triggered the researcher to reflect on her own experiences of self-guarding. As a practising midwife, scrupulous documentation was used to self-guard from potential allegations of misconduct and a lack of competence; furthermore, her feelings of anxiety in simulation as discussed in the first chapter is reputational. Lastly, the researcher has also become self-aware of how and why she uses position, speech act and storylines to locate herself in her conversations with colleagues and students. Students tell their stories through formal reflective essays and informal conversations. Findings in relation to self-regulation highlight the role of academics in facilitating the shaping of these stories as they develop their professional identities.

At the centre of self-guarding in simulation is its impact on the safety of mother and baby. As more technologies become available to support simulation it is crucial to resist the temptation

to follow the crowd. Given the findings around self-regulation and its impact on learning and training, it is hoped that this theory will prompt those that use simulation to evaluate the efficacy of their current programmes and to carefully consider the value of purchasing any new technologies.

'Self-guarding has gone up and up and up because expectations have gone up and up and up.... we reconstruct to validate ourselves but also to give us the confidence to keep going'
(Daisy – Verification Interview)

Word Count 77,120

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Appendices

Appendix 1 Maternal Mortality Summary of Contributing Factors and Recommendations relevant to this study

Maternal Mortality Summary of Contributing Factors and Recommendations relevant to this study				
Triennium	Maternal Death Rate (per 100,000 maternities)	Contributing Factors	Recommendations	Themes
1952-54 (MoH 1956)	69	<ul style="list-style-type: none"> • 'faulty' antenatal care (ANC) in women with toxemia⁶⁷ • Failure to summon the 'flying squad'⁶⁸ in antepartum haemorrhage (APH) and post-partum haemorrhage (PPH) • Home births and poor ANC in women with cardiac disease • Refusal or neglect of women to follow and/or seek medical advice 	<p>Plan ANC</p> <p>Supervision during pregnancy</p> <p>Prompt follow-up of women who miss AN appointment</p> <p>Routine bloods and treatment of anaemia</p> <p>Better selection of cases for specialist care at hospitals</p> <p>Prompt and effective treatment of haemorrhage through the flying squad</p>	<p>ACCESS to ANC and SURVEILLANCE</p> <p>RISK ASSESSMENT for HOMEBIRTH</p>

⁶⁷ Toxaemia: is another term for pre-eclampsia

⁶⁸ Flying Squad: This came about in the 1930's when most women gave birth at home. Consisting of an on call experienced midwife, obstetrician and anaesthetist, they would attend women having major obstetric complications. The original aim was to manage the complication in the field and transfer to hospital. It was phased out in the late 1980's.

1994-1996 (DoH 1998)	12.1	<ul style="list-style-type: none"> • Failure of junior staff and General Practitioner's (GP's) to escalate • Continuing lack of clear policies for the prevention and treatment of conditions such as pulmonary embolism, eclampsia or massive haemorrhage • Lack of teamwork • Failure of the lead professional to identify diseases or conditions & to seek early advice 	<p>Development and regular updating of local multi-disciplinary (MTD) guidelines for the management of obstetric emergencies</p> <p>Regular 'Fire drills' for cases of massive haemorrhage</p> <p>Midwives (MW's) & GP's to be aware of the signs for sepsis & be prepared for the immediate treatment and referral of any recently delivered woman with a fever and/or offensive vaginal discharge</p>	<p>GUIDELINES</p> <p>SKILLS DRILLS</p> <p>RECOGNITION and MANAGEMENT</p>
1997-99 (CEMD 2001)	11.4	<ul style="list-style-type: none"> • Lack of communication and teamwork • Failure to appreciate the severity of the illness and suboptimal treatment • Failure to escalate to a senior colleague • Inappropriate delegation of responsibility • Lack of clear policies for the prevention and treatment of some conditions • Failure of the lead professional to identify deterioration or to seek early advice 	<p>Lead professional to develop and up-date local multidisciplinary guidelines for the management of obstetric emergencies</p> <p>Regular up-dating of knowledge and skills in line with current research evidence</p> <p>Midwives should not take responsibility for high risk cases</p> <p>Dr's and MW's should be aware of the signs and symptoms of sepsis</p>	<p>GUIDELINES</p> <p>RECOGNITION and MANAGEMENT</p> <p>SKILLS DRILLS</p>

2000-02 (CEMACH 2004)	13.1	<ul style="list-style-type: none"> • Failure to recognise and act • Lack of communication & teamwork • Failure to appreciate the severity of the illness and to escalate • Wrong diagnoses or treatment • Continuing lack of clear policies in some Units • Management of cardiac arrests suboptimal • Vital warning signs missed/misinterpreted 	<p><u>Hypertensive Diseases</u> Clear management protocols Monitoring fluid input/output</p> <p><u>Amniotic Fluid Management</u> Staff trained to a nationally recognised level of life support</p> <p>Regular rehearsing of maternal resuscitation</p> <p><u>Genital Tract Sepsis</u> Regular training about the risk factors, signs, symptoms, investigation and treatment</p>	<p>GUIDELINES</p> <p>SKILLS DRILLS</p> <p>RECOGNITION and MANAGEMENT</p>
2003-2005 (Lewis 2007)	13.95	<ul style="list-style-type: none"> • Poor resuscitation skills • Lack of skills in identifying and managing emergencies • Early warning signs of impending maternal collapse went unrecognised. • Poor/non-existent team working 	<p>Improvement in life support skills</p> <p>Recognise limitations and to escalate</p> <p>Urgent need for the routine uses of a national modified early obstetric warning score (MEOVS)</p> <p>Sepsis Guidelines urgently required</p>	<p>SKILLS DRILLS</p> <p>MEOVS</p> <p>GUIDELINES</p>

2006-2008 (CMACE 2011a)	11.39	<ul style="list-style-type: none"> • Failure to immediately recognise and act on the signs and symptoms of life-threatening conditions • Early warning signs and symptoms of impending maternal collapse went unrecognised 	<p>Regular, written, documented and audited training for the identification and initial management of emerging potential emergencies.</p> <p>Training in early recognition and management of severely ill pregnant women and impending maternal collapse</p> <p>Improvement in life support skills</p> <p>Urgent need for the routine uses of a NATIONAL modified early obstetric warning score (MEOWS)</p> <p>Be aware of the signs and symptoms of sepsis</p> <p>Urgent need for a national sepsis guideline</p>	<p>SKILLS DRILLS</p> <p>MEOWS</p> <p>GUIDELINES</p> <p>RECOGNITION and MANAGEMENT</p>
2009-2012 (Knight et al 2014)	10.12	<ul style="list-style-type: none"> • Absence or incomplete recording of assessments • Sepsis: delay in diagnosis, incomplete assessment, immediate management 	<p>Women with ill health should have a full set of basic observations taken, documented and acted upon</p> <p>Sepsis: timely recognition and escalation</p>	<p>TAKING, DOCUMENTING and ACTING ON BASIC OBSERVATIONS</p> <p>RECOGNITION and ESCALATION</p>

Appendix 2 Studies on Emergency Decision making

Emergency Decision making Studies					
Author/Year Country	Sample	Aim/Approach	Findings	Strengths	Limitations
Danerek & Dykes (2001). Sweden	7 midwives with 9-37 years of experience	To explore the meaning of problem solving in a critical and in the absence of a Dr Descriptive Critical incident method (interviews) using phenomenological method for analysis	Problem solving is multifaceted. Facets include listening, assessing, making fast decisions, having knowledge and experience, using intuition, ability to identify a problem and find a solution, cooperation, engagement, purposefulness, concentration, euphoria, consideration and control	Critical incident method used in previous studies (Flannagan 1954, Benner 1984) 10 incidents were discussed	The researchers were midwives and consequently understood critical situations. Relies on recall of previous experiences which are subject to hindsight bias
Cioffi & Markham (1997) Australia	30 midwives and student midwives with varying levels of experience	Descriptive To examine the process of decision making. Simulation, think aloud strategies and a post experimental report (rating scale for vividness, recency and recall)	Midwives use heuristics from previous clinical experiences to save cognitive effort and make satisfactory decisions	Scenarios were content validated by a panel of experts	Prompted to think aloud. This is not natural. Participant may not be able to articulate their thinking processes Reliance on the post experimental report (rating scale) for identifying the use of the availability heuristic

<p>Tippins (2005) UK</p>	<p>36 Accident & Emergency Nurses with varying levels of experience (Grade D-G)</p>	<p>The aim was to identify how emergency nurses identify and respond to critical illness.</p> <p>Exploratory Two-part questionnaire (biographical & knowledge & skills questionnaire based on 2 patient scenarios) Semi-structured interviews of past experiences</p>	<p>Intuition (from knowing the patient) and pattern recognition (from previous experiences) was behind some of the participants decisions.</p>	<p>Content of the scenarios developed by a panel of experts</p> <p>Questions were adapted from a previous study (Bench 2003)</p>	<p>The researcher worked in the Unit which could have resulted in choice of incidents that the participants chose to discuss. They may not have wished to discuss incidents that the researcher was involved in.</p> <p>Response rate bias (was 64% for the questionnaire & 28% for the interview)</p>
<p>Cioffi (2000)</p>	<p>32 nurses with 5 or more years of experience</p>	<p>Exploratory, Descriptive. Unstructured Interviews To describe experiences of calling the MET to prevent cardiac arrest</p>	<p>Collaborative decision making with other team members was a finding that is relevant to studies on emergency decision making</p>	<p>Findings examined for fittingness by 2 nurse consultants with experience of MET calling</p>	<p>Did not focus on the details of specific MET calls.</p>

<p>Klein (1988) USA</p>	<p>26 experienced Fire Ground Commanders (FGC)</p>	<p>To examine how decisions are made by proficient personnel, under conditions of extreme time pressure, and in environments where the consequences of the decisions could affect lives and property.</p> <p>Descriptive Critical incident review</p> <p>Unstructured interviews</p>	<p>Recognition primed decision (RPD). FGCs used their experience to directly identify the situation as typical of a standard prototype and to identify a course of action as typical for that prototype. In this way, the FGCs handled decision points without any need to consider more than one option.</p>	<p>FGC' described incident without interruption, followed by interviewer probes along the timeline of the incident. This allowed for each decision point to be addressed</p>	<p>Possible Inaccurate recall of events</p>
<p>Flin et al 1996 UK</p>	<p>16 Offshore Installation Manager (OIM) Oil Industry</p>	<p>To examine the decision making in a crisis by the Offshore Installation Manager and their emergency response team on an offshore oil installation.</p> <p>Descriptive Critical Incident review</p>	<p>The following themes with relevance to the RPD approach emerged: experience, mental models, communication, time pressure, emotional response, pre- planning, distributed decision making, and organizational context</p>	<p>Same as in the study by Klien et al</p>	<p>Same as in the study by Klien et al</p>



School of Health Sciences
Faculty of Health and Social Science

Decision Making by Experienced Midwives as the Primary Responders in Obstetric Emergencies



Biographical Questionnaire

Section 1 General Details

All information will be treated in confidence and anonymized.

This section asks for general details about you so that I can understand your **professional experience**.

1. Please enter the date you are completing this questionnaire⁶⁹

2. Your age

18-24 years⁷⁰

4 Years

35-44 years

45-54 years

55-64

65 and over

3. Your professional qualifications

Registered General Nurse

Registered Midwife

Other – Please specify.....

4. The year that you obtained your professional qualifications

Registered General Nurse

Registered Midwife

Other

5. How many years you have practiced in total as a midwife

⁶⁹ It is anticipated that the questionnaire will be completed prior to and thus on the same day as the video review.

⁷⁰ Direct entry midwifery is 3 years in length and students start at age 18 years. The shortened midwifery program is 18 months in length and is open to students who have successfully completed 3 years of a General Nursing Course (also can start at age 18 years).

6. Your Clinical Grade Band⁷¹

Band 5 Band 6 Band 7 Band 8

7. Your current clinical area of work

Delivery Suite Antenatal Postnatal

Community Day Assessment Unit

Antenatal/Postnatal

8. How long you have worked in this area

9. How often do you generally rotate to a new Clinical Area?⁷²

6 weekly 3 monthly 6 monthly

Yearly

Other – Please state.....

⁷¹ Clinical Co-ordinators are usually a Band 7

⁷² Registered midwives rotate through all clinical areas. This will vary from NHS Trust to NHS Trust

Section 2 Background

This section asks about training you may have received in relation to managing obstetric emergencies

10. How much PREVIOUS training around managing obstetric emergencies have you had
Please complete all that apply

	Autumn	Winter	Spring	Summer	Year
Mandatory Up-date	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALSO⁷³ Course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MOET⁷⁴ Course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PROMPT⁷⁵ Course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other – please specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....					

⁷³ ALSO – Advanced Life Support in Obstetrics
⁷⁴ MOET – Managing Obstetric Emergencies and Trauma
⁷⁵ PRompt - Practical Obstetric Multi-Professional Training

11. Did any of this previous training⁷⁶:

Please tick all that apply

- Include information on how to recognise signs of deterioration
- Provide the underpinning knowledge that is necessary to manage obstetric emergencies
- Teach the practical skills and procedures necessary to manage obstetric emergencies
- Provide information about recent research and advances in managing obstetric emergencies
- Use mnemonics in the management of obstetric emergencies
- Use hands on approach in the teaching of the management
- Use a team based, hands on approach in the management
- Include the use of national guidelines/protocols in the management of obstetric emergencies

⁷⁶ The above questions were developed from the aims and objectives of the Courses in Question 10.

12. Did any of this previous training include⁷⁷:

Please tick all that apply

- Simulation with a computerised mannequin
- Simulation with a phantom (like that used for PPH, shoulder dystocia, breech, cord prolapse)
- Simulation with a patient actress
- Other – please specify.....

13. How well do you think that this training has PREPARED you to:

Please TICK the number which best describes **how prepared you feel**

(1 = Not prepared; 2 = Slightly; 3 = Moderately; 4 = fairly well; 5 = Well prepared)

	1	2	3	4	5
Recognise signs of deterioration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manage obstetric emergencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

⁷⁷ The above were developed from the training tools that are used in the Courses in Question 10

Section 3 Practice Issues

This section asks about your practice experience

14. Please tick all the obstetric emergencies you have been clinically involved with

- | | |
|---|--|
| <input type="checkbox"/> APH | <input type="checkbox"/> Cord Prolapse |
| <input type="checkbox"/> Maternal Resus | <input type="checkbox"/> Neonatal Resus |
| <input type="checkbox"/> Shoulder Dystocia Delivery | <input type="checkbox"/> Vaginal Breech |
| <input type="checkbox"/> PPH | <input type="checkbox"/> Sepsis |
| <input type="checkbox"/> Eclampsia | <input type="checkbox"/> Inverted Uterus |
| <input type="checkbox"/> Ruptured Uterus | |

Other.....

15. Which was the most recent obstetric emergency that you have been clinically involved with?

16. What role did you play?

Lead until the arrival of the Obstetric Team

Assisted the Lead Midwife until the arrival of the Obstetric Team

Assisted the Obstetrician

Other – Please specify.....

17. Please indicate how CONFIDENT you feel to:

Please circle the number which best describes **how CONFIDENT you feel** (1 = Not competent; 2 = Slightly; 3 = Moderately; 4 = fairly well; 5 = very competent)

	1	2	3	4	5
Recognise signs of deterioration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manage an obstetric emergency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. What things would you like to see covered in your skills drills mandatory sessions?

Section 4 Thank you

19. If you have any additional comments please use the text box below, or you can email Fawzia Zaidi at f.zaidi2@brighton.ac.uk

Thank you again for your assistance.

Appendix 4 Content Validity and Complexity of Case Simulations



University of Brighton



School of Health Sciences
Faculty of Health and Social Science

September 2014

Dear

Re: Assessing Content Validity and Complexity of Case Simulations

Thank you for agreeing to be part of a panel of experts that will assess the content validity of two case simulations.

As previously discussed, I am planning on filming these simulations using midwife lecturer actresses. These films will be used as a prompt during a study that explores the decision making of experienced midwives as the primary responders during an obstetric emergency.

I would be grateful if you could review the 2 case simulations that I have prepared. Please follow the instructions and complete the survey forms to evaluate whether the case simulations are realistic, authentic and adequately represent the content of the clinical situation and whether relationships among decision making variables can be predicted from the information provided.

Your feedback is much appreciated.

Please let me know if you have any queries.

Please email at: f.zaidi@brighton.ac.uk when you have completed the survey and I will collect it from you.

Kind regards

Fawzia Zaidi

Scenario 1

Antepartum Haemorrhage from a Concealed Placental Abruptio

Section 1: Scenario

On arrival for the night shift, the 2 midwives will be informed that the labour ward is empty bar a newly arrived admission that is waiting to be seen by a midwife. They will be provided with a verbal description of the woman's presenting condition as per below:

Josie is pregnant and un-booked in this Unit but says that she is booked in with the midwives at St Saviour's in Hertfordshire.

She has presented herself to the labour ward with abdominal pain.

She says that she is 39 weeks pregnant. She is unaccompanied.

Further minimal information, that require observations or actions to be performed on the basis of the presenting and developing condition will be provided

If they summon medical aid/2222, they will be informed that help is on its way.

The simulation will run for 8 minutes. Subtle cues indicative of maternal deterioration will be present in the first 4 minutes of the simulation. At 4 minutes, observable and significant maternal deterioration will be present.

Section 2: Questions and Answers Sheet

The below comprises the question/answer series of the data available for collection by the actor midwifery lecturers.

Potential Question	Answer (Only if question posed)
General Particulars	
Have you got your hand held not	No
How old are you?	26 years
Have you got a partner, friend, family that I can contact	I want to see if I'm in labour first

Medical and Surgical History	
Have you got any medical disorders?	No

Family History	
Are there any medical disorders in your family?	I was adopted

Lifestyle	
Do you smoke?	Yes – 15 a day (if asked)
Do you drink alcohol in your pregnancy?	Occasionally
Are you taking any medication legal/illegal	No

Past Obstetric History	
Have you ever been pregnant before?	Yes
Have you got any children?	Yes – 3 (ages 2, 3 & 4 years if asked)
What gestation were they born at	All on time
Have you had any miscarriages	No
Have you had any terminations	No

Present Pregnancy	
Where are you booked in to have your baby?	St Saviour's Hospital
Do you know when your baby is due?	I think in about 1 weeks' time
Have you had an USS?	No – missed the appointment
Have you had antenatal care?	Sort of – I last saw the MW about 6 weeks ago
How has your pregnancy been to date?	Okay I suppose. I've had some (urine) infections

Presenting Condition	
When did the pain start?	A few hours ago,
Where is the pain?	Here, pointing to all over her abdomen
Is the pain constant, or does it come and go	Not sure
Have you got pain in your lower back	Yes
Have your waters gone (membranes ruptured)?	Not sure, my knickers were a bit wet.
How long has this been going on for?	Today

What colour is your waters (liquor)?	Not sure
Are you bleeding?	I don't think so
Is the baby moving well	Has been moving loads

Clinical Assessment: Vaginal Loss

	If the Midwife checks the mother's underwear, findings will be NAD (no abnormalities detected)
--	--

Clinical Assessment: Pain

	During the first 4 minutes, the mother will intermittently complain of abdominal pain and lower back ache. She will move around the bed and get off the bed and bend over
--	---

Clinical Assessment: ABC First 4 Minutes

Readings will be provided (by the researcher) at the point that the cuff is deflated, takes hands off the wrist or if asks for the readings after taking them	Airways Clear Is Breathing. Not cyanosed. BP 100/60, P 110, R 20, T 37. + Blood, Trace protein
---	---

Clinical Assessment: Abdominal Examination (First 4 minutes)

Findings will be provided (by the researcher) as requested by the midwife	Abdomen feels tense (if asked) Symphysis Fundal Height 40 CM Longitudinal Lie Back on Left (BOL) Cephalic Presentation 5/5 palpable Contractions not palpated
---	--

Clinical Assessment: Assessment of Vaginal Loss (First 4 Minutes)

	NAD
--	-----

Clinical Assessment: Fetal Heart (First 4 minutes)

Findings will be provided (by the researcher) as requested by the midwife	If the MW places the mother on the cardiotocography (CTG) a 3 minute reading will be presented (by the researcher) if asked. This will show good baseline variability with early decelerations and no contractions If the MW uses the sonicaid or pinnards stethoscope, the FHR will be presented (by the researcher) at the point that the sonicaid/pinnards is removed or if it is asked for having auscultated. FHR 150 b/m
---	--

Midway through the simulation (at 4 minutes), Josie will become extremely agitated and state that her abdominal pain is worsening

Clinical Assessment: ABC (at/after 4 minutes)	
Findings will be provided (by the researcher) as requested by the midwife	Airways Clear Is Breathing BP 75/40, HR 130 R 26 T 37.8

Clinical Assessment: Abdominal Examination (After 4 minutes)	
Findings will be provided (by the researcher) as requested by midwife	Abdomen – hard (if asked) Difficult to palpate fetal parts and/or contractions

Clinical Assessment: Assessment of Blood loss (After 4 minutes)	
Findings will be provided (by the researcher) as requested by the midwife	NAD

Clinical Assessment: Fetal Heart Rate (After 4 minutes)	
Findings will be provided (by the researcher) as requested by the midwife	If the MW continued with CTG monitoring and/or places the mother on CTG, a reading will be presented (by the researcher) if asked. This will show terminal bradycardia. FHR 60 b/m if auscultated

Clinical Assessment: Maternal ABC (At 8 Minutes)	
	Becoming semi-responsive

End of Scenario

Section 3: Content Validity Rating Survey

Using the guidelines below, please complete the below survey to evaluate whether the case simulation is realistic, clear, authentic and adequately represents the content of the clinical condition

- **Relevance** – is this item relevant to a case simulation of a mother deteriorating from a concealed placental abruption? (1= not relevant; 2=somewhat relevant; 3= quite relevant; 4= highly relevant)
- **Replication** – Does this item replicate/reflect a case type of concealed placental abruption? (1= Strongly disagree; 2= Disagree; 3= Agree; 4= Strongly agree)
- **Clarity** – is this item clear? Is there any uncertainty or ambiguity? (1= not clear; 2= Item need some revision; 3= Clear but need minor revision; 4= Very clear)

Items	Relevance (Please circle one)	Replication (Please circle one)	Clarity (Please circle one)
General Information			
1. Admission History	1 2 3 4	1 2 3 4	1 2 3 4
2. Parity – 3+0	1 2 3 4	1 2 3 4	1 2 3 4
Lifestyle			
3. Smoking (15 a day)	1 2 3 4	1 2 3 4	1 2 3 4
Present Pregnancy			
4. Gestation (39 weeks)	1 2 3 4	1 2 3 4	1 2 3 4
Clinical Assessment Pain			
5. Site, Nature (abdominal and lower back)	1 2 3 4	1 2 3 4	1 2 3 4

Clinical Assessment Vaginal Loss			
6. Colour, amount before 4 minutes (NAD)	1 2 3 4	1 2 3 4	1 2 3 4
7. Colour, amount after 4 minutes (NAD)	1 2 3 4	1 2 3 4	1 2 3 4
Clinical Assessment ABC			
8. BP 100/60, P 110, R 20, T 37.5 before 4 minutes	1 2 3 4	1 2 3 4	1 2 3 4
9. BP 75/40, P 130, R 26, T 37.8 after 4 minutes	1 2 3 4	1 2 3 4	1 2 3 4
10. Semi-responsive at 8 minutes	1 2 3 4	1 2 3 4	1 2 3 4
Items	Relevance (Please circle one)	Replication (Please circle one)	Clarity (Please circle one)
Presenting Features at 4 Minutes			
11. Agitation	1 2 3 4	1 2 3 4	1 2 3 4
12. Worsening abdominal pain	1 2 3 4	1 2 3 4	1 2 3 4
Clinical Assessment: Urine Output			
13. Urinalysis + blood, Trace of protein	1 2 3 4	1 2 3 4	1 2 3 4
Clinical Assessment Abdominal Examination			
14. Tense before 4 minutes	1 2 3 4	1 2 3 4	1 2 3 4
15. Hard after 4 minutes	1 2 3 4	1 2 3 4	1 2 3 4

16. Difficulty in assessing lie and presentation after 4 minutes	1 2 3 4	1 2 3 4	1 2 3 4
Clinical Assessment Fetal Heart			
17. Early decelerations before 4 minutes Or FHR 150 B/M	1 2 3 4	1 2 3 4	1 2 3 4
18. Terminal bradycardia at 8 minutes Or FHR 60 B/M	1 2 3 4	1 2 3 4	1 2 3 4
Clinical Assessment Fetal Movements			
19. Fetal movements felt +++	1 2 3 4	1 2 3 4	1 2 3 4

Please insert any feedback/comments in the box below

Section 4: Predictability of Relationships

Using the guidelines below please complete the below survey to evaluate the Predictability of relationships between KEY decision variables.

For example, if given the Admission History (X), does a prediction of placental abruption (Y) follow; or if given the vital signs does a prediction of deterioration follow (1 – 2 = Easy to Predict; 3 – 4 = Difficult to Predict)

Items Information (X)	Predictability (Y)
General Information	Concealed Abruption (Please circle one only)
1. Admission Information	1 2 3 4
2. Parity	1 2 3 4
3. Smoking	1 2 3 4
Clinical assessment during the first 4 minutes:	Concealed Abruption (Please circle one only)
4. ABC	1 2 3 4
5. Pain	1 2 3 4
6. Abdomen	1 2 3 4
7. Vaginal loss	1 2 3 4
8. FHR/CTG	1 2 3 4

Clinical Assessment after 4 minutes:	Concealed Abruption (Please circle one only)
9. ABC	1 2 3 4
10. Pain	1 2 3 4
11. Abdomen	1 2 3 4
12. Vaginal loss	1 2 3 4
13. FHR/CTG	1 2 3 4
Items Information (X)	Predictability (Y)
ABC	Deterioration (Please circle one only)
14. After 4 minutes	1 2 3 4
15. At 8 minutes	1 2 3 4
Presenting Features at 4 Minutes	Deterioration (Please circle one only)
16. Extreme agitation	1 2 3 4
17. Worsening abdominal pain	1 2 3 4

Please insert any feedback/comments in the box below

Scenario 2

Septic Shock from an Infected Perineum

Section 1.a: Scenario

The midwives will be informed of the following woman when they start their dayshift on the postnatal ward

You have been allocated to care for Jackie on the postnatal ward. She is a primiparous and it is her 3rd postnatal day. She has been having some difficulty with breastfeeding.

Further minimal information, that require observations or actions to be performed on the basis of the presenting and developing condition will be provided

If they summon medical aid/2222, they will be informed that help is on its way.

The simulation will run for 8 minutes. Subtle cues indicative of maternal deterioration will be present in the first 4 minutes of the simulation. At 4 minutes, observable and significant maternal deterioration will be present.

Section 2.b – Maternal Notes, Questions and Answers Sheet

The below comprises the question/answer series of the data available for collection by the actor midwives.

Maternal Notes	
General Particulars	
Age	26 years

Medical and Surgical History	
Medical disorders	None
Medical disorders in family	NAD

Lifestyle	
Smoking	15 a day
Alcohol	Occasionally
Medication (Legal/Illegal)	None

Past Obstetric History	
Gravida	1
Parity	1 (now)

Pregnancy	
LMP	Will equal to 41 weeks
EDD	41 Weeks
Pregnancy	Uncomplicated

Labour and Delivery	
Onset	Spontaneous
Gestation	41 weeks
Delivery	Spontaneous Vaginal Delivery
Length of First Stage of Labour	12 hours
Length of Second Stage of Labour	3 hours
Length of 3 rd Stage of Labour	5 minutes
3 rd Stage	Active Management - Appears Complete
Duration of Ruptured Membranes to Delivery	< 24 hours
Estimated Blood loss	300 mls
Perineum	2 degree tear sutured

Baby	
Sex	Girl
Birth weight	4.2 KG
Apgar's	9/1, 10/5

Postnatal Notes
This will contain documentation in relation to breastfeeding problems and feeling tearful

Postnatal Vital Signs	
TPR, BP	A chart will be provided that shows a recording on postnatal day 1 only: T 36.6, P 82, BP 110/65

Taking over Care	
Jackie is in the bed, she seems restless	
Questions	Answers
General Condition	
How are you feeling?	Tired, can't get baby to breastfeed If the MW asks any further questions, the mother will be in a state of tearfulness and disorientation

Clinical Examination: ABC (First 4 Minutes)	
Readings will be provided (by the researcher) at the point that the cuff is deflated, takes hands off wrist or if asks for the readings after taking them	Airways Clear Is breathing BP 90/60, P 90, R 18, T 35.

Clinical Examination (First 4 minutes)	
Findings will be provided (by the researcher) at the point the MW completes the examination or asks for the information	
Breasts/Nipples	Soft/sore
Uterus	Well contracted, 2 finger breadths below umbilicus
Lochia	Red and moderate
Perineum	Inflamed, gaping, offensive
Skin to touch	Cold & clammy
Urine Output	Not sure when last passed urine. If the M/W requests a sample the mother will be unable to pass urine

Midway through the simulation (at 4 minutes), Jackie will say that she is feeling nauseous with abdominal pain and start to become incoherent

Clinical Examination: ABC (at/after 4 minutes)	
	Airways Clear
	Is breathing
	BP 80/40, P 140, R 30 T 35

Clinical Examination Maternal ABC (At 8 Minutes)	
	Unresponsive

End of Scenario

Section 3.c: Content Validity Rating Survey

Using the guidelines below, please complete the below survey to evaluate whether the case simulation is realistic, clear, authentic and adequately represents the content of the clinical condition

- Relevance – is this item relevant to a case simulation of a mother deteriorating from an infected perineum? (1= not relevant; 2=somewhat relevant; 3= quite relevant; 4= highly relevant)
- Clarity – is this item clear? Is there any uncertainty or ambiguity? (1= not clear; 2= Item need some revision; 3= Clear but need minor revision; 4= Very clear)
- Replication – Does this item replicate/reflect a case type of deterioration from an infected perineum? (1= Strongly disagree; 2= Disagree; 3= Agree; 4= Strongly agree)

Items	Relevance	Replication	Clarity
Labour and Delivery			
1. 2 nd degree tear	1 2 3 4	1 2 3 4	1 2 3 4
Initial Presenting Features			
2. Tired	1 2 3 4	1 2 3 4	1 2 3 4
3. Disorientated	1 2 3 4	1 2 3 4	1 2 3 4
4. Tearful	1 2 3 4	1 2 3 4	1 2 3 4
Clinical Assessment ABC			
5. Before 4 Minutes Airways clear, breathing BP 90/60, P 100, R 18, T 35.	1 2 3 4	1 2 3 4	1 2 3 4

6. After 4 Minutes Airways clear, breathing BP 80/40, P 140, R 30 T 35.	1 2 3 4	1 2 3 4	1 2 3 4
7. At 8 Minutes Unresponsive	1 2 3 4	1 2 3 4	1 2 3 4
Clinical Assessment			
8. Breasts/Nipples Soft/Sore	1 2 3 4	1 2 3 4	1 2 3 4
9. Uterus well contracted	1 2 3 4	1 2 3 4	1 2 3 4
10. Lochia red and moderate	1 2 3 4	1 2 3 4	1 2 3 4
Items	Relevance	Replication	Clarity
11. Perineum inflamed, gaping & offensive	1 2 3 4	1 2 3 4	1 2 3 4
12. Urine Output unknown	1 2 3 4	1 2 3 4	1 2 3 4
13. Skin cold and clammy	1 2 3 4	1 2 3 4	1 2 3 4
Presenting Features at 4 Minutes			
14. Nauseous	1 2 3 4	1 2 3 4	1 2 3 4
15. Abdominal Pain	1 2 3 4	1 2 3 4	1 2 3 4
16. Incoherent	1 2 3 4	1 2 3 4	1 2 3 4

Please insert any feedback/comments in the box below

Section 4.d: Predictability of Relationships

Using the guidelines below please complete the below survey to evaluate the Predictability of relationships between KEY decision variables.

- Predictability of relationships between KEY decision variables. For example, if given the Admission History (X), does a prediction of severe sepsis from an infected perineum (Y) follow; or if given the vital signs does a prediction of deterioration follow (1 – 2 = Easy to Predict; 3 – 4 = Difficult to Predict)

Items Information (X)	Predictability (Y)
General Information/Records	Severe Sepsis (Please circle one only)
1. Handover Information	1 2 3 4
2. Labour and Delivery notes	1 2 3 4
3. Postnatal notes	1 2 3 4
4. TPR chart	1 2 3 4
ABC	Severe sepsis (Please circle one only)
5. During the first 4 minutes	1 2 3 4
6. After 4 Minutes	1 2 3 4
7. At 8 Minutes	1 2 3 4

Initial Presenting Features	Severe Sepsis (Please circle one only)
9. Tiredness	1 2 3 4
10. Restless	1 2 3 4
11. Disorientated	1 2 3 4
12. Cold clammy skin/to touch	1 2 3 4
ABC	Deterioration (Please circle one only)
13. After 4 minutes	1 2 3 4
14. At 8 minutes	1 2 3 4
Presenting Features at 4 Minutes	Deterioration (Please circle one only)
15. Nausea	1 2 3 4
16. Abdominal pain	1 2 3 4
Items Information (X)	Predictability (Y)
Presenting Features at 4 Minutes	Deterioration (Please circle one only)
17. Incoherence	1 2 3 4

Presenting Features at 8 Minutes	Deterioration (Please circle one only)
18. Unresponsive	1 2 3 4

Please insert any feedback/comments in the box below

Thank you

Appendix 5 Placental Abruptio Relevance Scale

Placental Abruptio: Ratings on a 19-item scale by six experts – Items rated 3 or 4 on 4-point Relevance Scale

General Information	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Experts in Agreement	I-CVI
1. Amission History	3	4	3	4	3	1	5	0.83
2. Parity	3	4	3	4	1	1	4	0.67
Lifestyle								
3. Smoking	4	4	4	4	3	3	6	1
Present Pregnancy								
4. Gestation	3	4	3	4	4	4	6	1
Clinical Assessment Pain								
5. Site, Nature	3	4	4	4	4	4	6	1
Clinical Assessment Vaginal Loss								
6. Colour, amount before 4 /60 NAD	4	4	4	4	4	4	6	1
7. Colour, amount after 4 /60 NAD	4	4	4	4	4	4	6	1
Clinical Assessment ABC								
8. BP 100/60 P 110, R 26, T 37.5 before 4/60	4	4	4	4	4	4	6	1
9. BP 75/40 P130 R 26 T 37.8 after 4/60	4	4	4	3	4	4	6	1
10. Semi-responsive at 8/60	4	4	4	4	4	4	6	1
Presenting Features at 4/60								
11. Agitation	3	4	4	4	4	4	6	1
12. Worsening Pain	4	4	4	4	4		5	0.83
Clinical Assessment Urine Output								
13. Urinalysis + blood Trace Protein	1	4	4	4	1	3	4	0.67
Clinical Assessment Abdominal Examination								
14. Tense before 4/60	4	4	4	4	4		5	0.83
15. Couvelaire after 4/60	4		4	4	4	4	5	0.83
16. Difficulty in assessing lie and presentation after 4/60	4	3	4	4	3		5	0.83
Clinical Assessment Fetal Heart								
17. Early Decels before 4/60 or FHR 150B/M	3	3	4	4	2		5	0.83
18. Terminal Bradycardia at 8/60 or FHR 60B/M	4	4	4	4	4		5	0.83
Clinical Assessment Fetal Movements								
19. Fetal Movements +++	4	4	3	4	2	4	5	0.83
S- I-CVI/AVe = 0.93								

Appendix 6 Septic Shock Relevance Scale

Septic Shock: Ratings on a 16-item scale by six experts – Items rated 3 or 4 on 4-point Relevance Scale

Items	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Experts in agreement	ItemCVI
Labour and Delivery								
1. 2nd Degree tear	3	4	4	4	1	4	5	0.83
Initial Presenting Features								
2. Tired	2	3	3	4	1	4	4	0.67
3. Disorientated	2	4	4	4	3	4	5	0.83
4. Tearful	2	3	3	3	1	4	4	0.67
Clinical Assessment ABC								
5. BP 90/60 P 100 R 18 T 35 before 4/60	4	4	3	4	3	4	6	1
6. BP 80/40 P 140 R 30 T 35 after 5-7/60	3	4	4	4	4	4	6	1
7. Unresponsive at 8/60	4	4	4	4	4	4	6	1
Clinical Assessment								
8. Breasts/nipples soft/sore	2	3	1	2	3	3	3	0.5
9. Uterus well contracted	2	4	1	4	3	4	4	0.67
10. Lochia red and moderate	3	3	1	4	3	4	5	0.83
11. Perineum inflamed, gaping and offensive	4	4	4	4	4	4	6	1
12. Urine output unknown	3	4	3	4	4	3	6	1
13 Skin cold and clammy	4	4	4	4	4	4	6	1
Presenting Features at 5-7/60								
14. Nauseous	4	2	4	4	4	2	4	0.67
15. Abdominal pain	4	2	4	1	4	2	3	0.5
16. Incoherent	4	4	4	4	4	3	6	1
S- I-CVI/AVe = 0.82								

Appendix 7 Antepartum Haemorrhage Predictability of Relationship Scale

Antepartum Haemorrhage: Ratings on a 17 Item Scale by 6 Experts Items rated 3 or 4 on a 4 point Predictability of Relationships Scale

Items	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Experts in Agreement	Item CVI
General Information and Predictability for Concealed Abruption								
1. Amission History	3	2	4	4	4	2	2	0.33
2. Parity	4	2	4	3	4	4	1	0.17
3. Smoking	2	1	4	3	4	3	2	0.33
Clinical Assessment during the first 4/60 and Predictability for Concealed Ab								
4. ABC	3	2	2	4	3	2	3	0.5
5. Pain - nature/site	2	2	2	2	2	2	6	1
6. Abdomen	2	2	2	1	2	2	6	1
7. Vaginal Loss	3	4	2	2	3	2	3	0.5
8. FHR/CTG	4	3	2	2	3	3	2	0.3
ABC and Predictability of deterioration								
9. ABC	1	2	2	2	2	1	6	1
10. Pain	1	2	2	3	1	1	6	1
11. Abdomen	1	2	2	2	1	1	6	1
12. Vaginal Loss	2	3	2	2	3	2	4	0.67
13. FHR/CTG	1	1	2	2	1	2	6	1
Presenting features at 4/60 and Predictability for Deterioration								
14. After 4/60	1	2	2	4	1	1	5	0.83
15. At 8/60	1	1	2	1	1	1	6	1
Presenting features at 4/60 and Predictability for Deterioration								
16. Extreme agitation	2	2	2		1	2	5	0.83
17. Worsening abdominal pain	1	2	2		1	2	5	0.83
S- I-CVI/AVe = 0.72								

Appendix 8 Septic Shock Predictability of Relationship Scale

Septic Shock: Ratings on a 17 Item Scale by 6 Experts Items rated 3 or 4 on a 4 point Predictability of Relationships Scale

Items	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Experts in Agreement	Item CVI
General Information/Records & Predictability for Severe Sepsis								
1. Handover Information	4	3	2	4	4	4	1	0.17
2. Labour & Delivery Notes	3	3	2	3	4	4	1	0.17
3. Postnatal Notes	3	3	2	4	4	4	1	0.17
4. Vital Signs Record	3	3	2	4	4	4	1	0.17
ABC & Predictability for Severe Sepsis								
5. During the first 4/60	3	3	1	3	1	3	2	0.3
6. After 5-7/60	3	2	1	2	1	1	5	0.83
7. At 8/60	4	2	1	1	1	1	5	0.83
Initial Presenting Features								
8. Tiredness	3	4	1	3	3	3	1	0.17
9. Restless	3	2	1	1	2	2	5	0.83
10. Disorientated	3	2	1	1	1	2	5	0.83
11. Cold clammy skin to touch	2	2	1	1	1	2	6	1
ABC & Predictability for Severe Sepsis								
12. Between 5-7/60	3	2	1	3	1	2	4	0.67
13. At 8/60	1	2	1	1	1	2	6	1
Presenting Features at 5-7/60								
14. Nausea	3	4	1	2	1	3	3	0.5
15. Abdominal pain		4	1	2		3	2	0.3
16. Incoherence	1	2	1	1	3	2	5	0.83
17. Unresponsive	1	2	1	1	1	2	6	1
							S- I-CVI/AVe = 0.57	

Appendix 9 Ethical Approval – University of Brighton

From:

onbehalfof+J.Scholes+brighton.ac.uk@manuscriptcentral.com
[onbehalfof+J.Scholes+brighton.ac.uk@manuscriptcentral.com]
on behalf of Julie Scholes [J.Scholes@brighton.ac.uk]

Sent: 26 September 2014 09:21

To: Fawzia Zaidi

Subject: Health and Social Science, Science and Engineering
Research Ethics and Governance Committee - Decision on
Manuscript ID FREGC-14-040

26-Sep-2014

Dear Mrs. Zaidi:

It is a pleasure to approve your application entitled "Decision Making by Experienced Midwives as the Primary Responders in Obstetric Emergencies" which has been approved by the Health and Social Science, Science and Engineering Research Ethics and Governance Committee. The comments of the reviewer(s) who reviewed your manuscript are included at the foot of this letter.

Please notify The Chair of FREGC immediately if you experience an adverse incident whilst undertaking the research or if you need to make amendments to the original application.

We shall shortly issue letters of sponsorship and insurance for appropriate external agencies as necessary.

We wish you well with your research. Please remember to send annual updates on the progress of your research or an end of study summary of your research.

Sincerely,

Prof. Julie Scholes

Chair, Health and Social Science, Science and Engineering Research
Ethics and Governance Committee

J.Scholes@brighton.ac.uk

Reviewer(s)' Comments to Author:

Reviewer: 1

Comments to the Applicant


Thank you for this nicely presented and interesting proposal. I have a few small suggested amendments (see below) but I also have one suggestion about the content of the submission. It appears from the passing reference made to asking the participants to volunteer

for future studies, that this is the first part of a programme of research. I think it would help future reviewers if you made this explicit and described how this present study fits into the larger programme. This would help not only with context but also to justify the scope of this work and the sample size etc.

Suggested amendments.

In the participant information sheet, in section entitled 'who has reviewed this study', this needs to be written in a more appropriate way for senior clinicians who will know what an ethics committee is. In the letter of invitation, I think it would be a good idea to warn the recipients of this letter that there is a possibility of reporting to management if training is not up to date. This will prevent anyone turning up to the first appointment and discovering this face to face.

Appendix 10 Research and Design Approval Trust X


Sussex NHS Research Consortium

Research Consortium Office
Worthing Hospital
Lyndhurst Road
Worthing
West Sussex
BN11 2DH
Tel: 01903 285027
Fax: 01903 209884
www.sxrc.nhs.uk

Fawzia Zaidi
University of Brighton
School of Health Sciences
Robert Dodd Building
Darley Road
Eastbourne
BN20 7UR

27/11/2014

Dear Mrs Zaidi,

Our ID: 1599/NOCI/2014
TITLE: Decision Making by Experienced Midwives as the Primary Responders' in Obstetric Emergencies

Thank you for your application to the Sussex NHS Research Consortium for research governance approval of the above named study.

I am pleased to inform you that the study has been approved, and so may proceed. This approval is valid in the following Organisations:

- **Western Sussex Hospitals NHS Foundation Trust**

The final list of documents reviewed and approved is as follows:

- IRAS R&D Form (submission code 156991/682551/14/460 : signed and dated 25/07/2014)
- IRAS SSI Form (submission code 156991/682712/6/871/248464/310201 : signed and dated 25/07/2014)
- Protocol (version 1, dated 21/07/2014)
- Participant Information Sheet (version 1, dated 21/07/2014)
- Participant Consent Form (version 1, dated 21/07/2014)
- Poster (version 1, dated 21/07/2014)
- Letter of Invitation (version 1, dated 21/07/2014)
- Biographical Questionnaire (version 1, dated 21/07/2014)
- Interview Agenda (version 1, dated 21/07/2014)
- Expression of Interest in Further Participation (version 1, dated 21/07/2014)
- CV for Fawzia Zaidi (unsigned and undated)

- Sponsorship Letter (signed and dated 15/10/2014)
- Insurance Certificate (signed and dated 18/07/2014)

Your research governance approval is valid providing you comply with the conditions set out below:

1. You commence your research within one year of the date of this letter. If you do not begin your work within this time, you will be required to resubmit your application.
2. You notify the Consortium Office should you deviate or make changes to the approved documents.



CSP047282

3. You alert the Consortium Office by contacting me, if significant developments occur as the study progresses, whether in relation to the safety of individuals or to scientific direction.
4. You complete and return the standard annual self-report study monitoring form when requested to do so at the end of each financial year. Failure to do this will result in the suspension of research governance approval.
5. You comply fully with the Department of Health Research Governance Framework, and in particular that you ensure that you are aware of and fully discharge your responsibilities in respect to Data Protection, Health and Safety, financial probity, ethics and scientific quality. You should refer in particular to Sections 3.5 and 3.6 of the Research Governance Framework.
6. You ensure that all information regarding patients or staff remains secure and strictly confidential at all times. You ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice, Data Protection Act and Human Rights Act. Unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

Good luck with your work.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'I. Chadbourn', written over a light blue circular stamp.

Ms Indra Chadbourn
Research Governance Officer


Appendix 11 Research and Design Approval Trust Y

R&D OFFICE
Head of R&D: Scott Harfield x7497
Deputy Head of R&D (Delivery): Claire Wellsted x3836

E-mail: R&D.Approvals@bsuh.nhs.uk

15/12/2014

Mrs Fawzia Zaidi
University of Brighton
School of Health Sciences
Robert Dodd Building
Darley Road, Eastbourne
BN20 7UR

Brighton and Sussex 
University Hospitals

NHS Trust

Research & Development Directorate
Clinical Investigation & Research Unit
Royal Sussex County Hospital
Level 5 Thomas Kemp Tower
Eastern Road
Brighton
BN2 5BE

www.bsuh.nhs.uk/research
www.bsms.ac.uk/ciru

Tel: 01273 696955
Fax: 01273 664855

Dear Fawzia

Full Study Title: Decision Making by Experienced Midwives as the Primary Responders' in Obstetric Emergencies
IRAS No. : 156991
Ethics Ref. : FREGC-14-040

I am writing to inform you that you have Trust approval to proceed with the above named project. This letter acknowledges that you have all the necessary internal and external regulatory approvals. Details of your research project and any associated supporting documentation will be stored on an electronic database administered by the R&D Department. The sites covered by this approval include:

- Royal Sussex County Hospital
- Royal Alexandra Children's Hospital

Please refer to the Version Control document for the current document versions.

Please ensure the study team has evidence of training in the current study documentation.

Other documents reviewed for this approval were:

Document	Date
Confirmation of sponsorship	15 October 2014
Evidence of insurance or indemnity	18 July 2014
Other [Approval email from Supervisor of Midwives]	17 October 2014
NHS R&D Form	17 October 2014
SSI Ref 156991/711068/6/293/271962/313870	15 December 2014

Conditions of Approval

The approval covers the period stated in the Research Ethics Committee (REC) application and will be extended in line with any amendments agreed by the REC. Research must commence within 12 months of the issue date of this letter. Any delay beyond this may require a new review of the project resources.

Recruitment deadline

The Department of Health sets targets for the time it takes from R&D approval to the first participant being recruited into the study, and Trusts are now measured against these targets. Failure to meet these targets could lead to reduced funding for BSUHT. It is therefore essential that the first participant is recruited into the study no later than **23rd February 2015**.

Amendments

Project amendment details dated after the issue of this approval letter should be emailed to the R&D Office for formal approval at R&D.Approvals@bsuh.nhs.uk

ICH-GCP Monitoring

The Trust has a duty to ensure that all research is conducted in accordance with the Research Governance Framework and to ICH-GCP standards. In order to ensure compliance the Trust undertakes random audits. If your project is selected you will be given 4 weeks notice to prepare all documentation for inspection.

Pathology Services at BSUH

If you will be using the pathology services at Brighton & Sussex University Hospitals to analyse samples for research purposes only (i.e. not taken to inform standard clinical care), these samples must be booked in for processing by the CIRU laboratory assistants. Please call 01273 696955 extension 7668 for advice.

Imaging services at BSUH

If research participants will undergo imaging investigations that are additional to standard care you are reminded that referrals should be clearly identified with a research sticker. For further advice please contact 01273 696955 ext 7959.

I wish you luck with your project and would be grateful if you could inform me when the project is complete, or due to be closed on this site.

Yours sincerely



Scott Harfield
Head of Research & Development

Appendix 12 Research and Design Approval Trust Z

Mrs Fawzia Zaida
School of Health Sciences
University of Brighton
Robert Dodd Building
Darley Road, Eastbourne
BN20 7UR

Eastbourne District General Hospital
Kings Drive
Eastbourne
East Sussex
BN21 2UD

January 12th 2014

Tel: 01323 417400
Website: www.esht.nhs.uk

Dear Fawzia Zaida

I am writing to inform you that you have R&D approval to proceed with the Study as named below. This letter acknowledges that you have all the necessary internal and external regulatory approvals. The site covered by this approval is: East Sussex Healthcare Trust.

Full Study Title: Decision Making by Experienced Midwives as the Primary Responders' In Obstetric Emergencies

R&D No: TN14-56

REC No: 156991

This is a qualitative study undertaken as an Educational study as part of a PhD in Midwifery.
Educational Establishment: University of Brighton.

Academic Supervisor 1: Professor Julie Scholes.

Academic Supervisor 2: Professor Simon Cooper.

The final list of documents reviewed and approved are:

Document	Version	DATE
Protocol	1	21 st July 2014
Appendix A: Biographical Questionnaire	1	21 st July 2014
Appendix B: Interview Agenda	1	21 st July 2014
Appendix C: Letter of Invitation	Now using 1.1	26 th September 2014
Appendix D: Recruitment Poster	1	21 st July 2014
Appendix E: Participant Information Sheet	1	21 st July 2014

Appendix F: Consent Form	1	21 st July 2014
Appendix G: Expression of interest in further participation	1	21 st July 2014
CV Fawzia Zaidi		2014
Sponsor Letter		15 th October 2014
Insurance Letter		18 th July 2014
Ethics Approval Letter Prof: Julie Scholes		26 th September 2014

Conditions of Approval

The approval covers the period stated in the Research Ethics Committee (REC) application and will be extended in line with any amendments agreed by the REC. Research must commence within 12 months of the issue date of this letter. Any delay beyond this may require a new review of the study resources.

Amendments

Study amendment details dated after the issue of this approval letter should be emailed to the R&D Office for formal approval.

ICH-GCP Monitoring

The Trust has a duty to ensure that all research is conducted in accordance with the Research Governance Framework and to ICH-GCP standards. In order to ensure compliance the Trust undertakes random monitoring. If your study is selected you will be given 4 weeks notice to prepare all documentation for inspection.

I wish you luck with your study and would grateful if you could inform me when the study is complete, or due to be closed on this site.

Yours sincerely

Teresa Baumber

Teresa Baumber
Research Support Manager
Research and Development.
East Sussex Healthcare Trust.
Telephone 01323 417400 Ex 3042
Email: teresa.baumber@esht.nhs.uk



PARTICIPANT INFORMATION SHEET

Title of Project

Decision-making by experienced midwives as the primary responders in obstetric emergencies.

Principal Investigator: Fawzia Zaidi
Ethics Committee Code Number 14-040
Version Number: 1
Date: 21/7/2014

Outline Explanation

You are being invited to take part in a research study. Before you decide, it is important to understand why it is being done and what it will involve. Please take time to read the following information.

Fawzia Zaidi will go through the information sheet with you and answer any questions you have. This would take about 15 minutes.

Part 1 tells you the purpose of this study and what will happen to you if you take part.

Part 2 gives you more detailed information about the conduct of the study

Please ask if there is anything that is not clear.

Part 1

What is the purpose of the study?

In the event of an obstetric emergency experienced midwives as the primary responders have to take the lead, make rapid assessments, timely decisions and initiate immediate interventions in complex, stressful and rapidly changing situations until the arrival of the obstetric team. The decisions that are made by the midwife in the first few minutes are crucial to the prevention of maternal and/or perinatal morbidity and/or mortality. This study will explore how experienced midwives as the primary responders make decisions during an obstetric emergency.

I am conducting this study under the supervision of Professor Julie Scholes (University of Brighton) and Associate Professor Simon Cooper (Monash University, Australia) to be considered for the award of Doctor of Philosophy (PhD).

Why have I been chosen?

All midwives who co-ordinate the clinical areas across East Sussex Healthcare NHS Trust, Brighton Sussex University Hospitals Trust and Worthing have been invited to take part in the study.

Do I have to take part?

It is entirely up to you whether you take part. I will describe the study and go through this information sheet in detail. You may decide at this point that you want to withdraw. If you agree to take part, I will then ask you to sign a consent form to show that you are agreeing to participate in this study. If you decide to take part and later change your mind, you are free to withdraw yourself and/or your data at any time without giving a reason.

It is important that you let me know if you wish to withdraw at any time. At this point, you will have a discussion with me about your choice to remove all the data collected so far from the study, or you may allow me to use the data collected up to this point.

What will happen to me if I take part?

If you agree to take part, you will complete a biographical questionnaire and view x2, 8 minute pre-recorded videos of simulated obstetric emergencies. You will then be interviewed by me (Fawzia Zaidi). The meeting will take place at a mutually agreed upon time and place away from your clinical environment in a quiet room in the Trust library or at the University.

What do I have to do?

Your participation in this study should take about **one hour and 30 minutes** in total.

Biographical Questionnaire: I will ask you to complete a biographical questionnaire. This should take about ten minutes to complete. The questionnaire seeks to understand your professional experience, experience in managing obstetric emergencies. The questionnaire will collect information about your age, professional qualifications, years of service as a midwife, current clinical area of work; year last attended a skills drills up-date and/or Obstetric Life Support Course and the last time you managed an obstetric emergency. This should take about 15 minutes to complete.

Reflective review of a x2 obstetric scenario's: I will show you one of the 8 minute video's (via an iPad). After watching the video in its entirety, You will be interviewed by me. The interview will involve asking questions for example about what is going on in the video and what you would have done/liked to have seen happen. The video will be replayed stopped intermittently when further questions such as what do you think is happening here will be asked. The process will be repeated with the second video. This should take about one and a half hours to complete.

The interview will be audio taped and transcribed by me so that I can accurately reflect on what is discussed. I might contact you to clarify information that we might have discussed, to ensure quality of the final data.

At the moment, this study requires one-off participation; however, after completing the biographical questionnaire, viewing the 2 videos completing the interview, I will ask you if you are willing (at a later date) to participate in a further follow-up telephone interview post a 'real' emergency that you managed, completing another video elicitation interview or participating in a simulation of an obstetric emergency. This will be subject to further ethical approval and informed consent.

What are the possible benefits and risks of taking part?

Participation in this study will provide you with the opportunity for further scenario based training in obstetric emergencies that is extraneous to your annual mandatory up-dates. As registered midwives with the Nursing Midwifery Council, you must be capable of meeting the competencies and essential skills clusters that are within your scope of practice (*Rule 5: NMC 2012). Additional training and support can be provided by me in conjunction with your Supervisor of Midwives if required. By taking part in this study you will be contributing to the

development of an original theory which describes how experienced midwives make decisions in obstetric emergencies.

The videos and the nature of the questions are not sensitive; however, they may provoke memories of your involvement in a past obstetric emergency which might bring about an emotional response. In the event of you becoming distressed, I will stop the videos and/or interviews and provide you with the opportunity for an immediate debrief. You may however, feel that you wish to continue with viewing the videos and/or the interview and I can restart, and we can continue where we left off.

*Nursing Midwifery Council (2012) Midwives Rules and Standards. London: NMC.

Will my taking part in the study be kept confidential?

Yes. I will follow ethical and legal practice and all information about you will be handled in confidence. The details are included in Part 2.

This completes part 1

If the information in Part 1 has interested, you and you are considering participation, please read the additional information in Part 2 before making any decision.

Part 2

What if there is a problem/I am unhappy?

If you have a concern about any aspect of this study, you should ask to speak to Fawzia Zaidi who will do her best to answer your questions. If you remain unhappy and wish to complain formally about the way you have been treated or any possible harm that you have suffered, you can do this to:

Professor Ann Moore
Head of Centre for Health Research
University of Brighton
Faculty of Health and Social Science
Aldro Building
Darley Road
Eastbourne
BN21 7UR

Tele: 01273 643766

Email: a.p.moore@brighton.ac.uk

Will my taking part in this study be kept confidential?

Participation is confidential. Your identity will be kept anonymous by linking together the completed questionnaire and audio tape recordings and assigning a code so that you cannot be matched to your data by your name. Data from the questionnaire will be electronically transferred onto a secure database. As previously stated, your interview data will be collected via a digital recorder and stored on an external hard drive at the University which will password protected, which only I have access to. This conforms to guidelines adhered to by the Data Protection Act (1998). Data held on questionnaires and the audio tape will be shredded and erased once it is transferred onto the secure network drive.

The results of the study, including quotes of what you have said and verified may be published or presented at professional meetings, but your identity will not be revealed. The audio tapes will only be reviewed by me, authorised persons from my PhD thesis panel and by authorised people to check that the study is being carried out correctly. All will have a duty of confidentiality to you as a research participant and will do their best to meet this duty

NHS Trusts have a responsibility to provide mandatory training and to ensure that their staffs attend yearly up-dates. Mandatory training is an organisational requirement to limit risk and maintain safe working practices. I would therefore have a moral responsibility to inform the Trust if you identify on your biographical questionnaire that you are outside of your annual up-dates. This is a limit to confidentiality.

What will happen to the results of the research study?

The results of the study will be published as a PhD thesis which will be available in January 2018. You will not be identified in the thesis or in subsequent publications.

Who is organising and funding the research?

This study is not receiving any funding.

Who has reviewed this study?

This study has been reviewed and given favourable opinion by the Health and Social Science, Science and Engineering Research Ethics and Governance Committee at the University of Brighton

Further information and contact details

Fawzia Zaidi
Senior Lecturer in Midwifery and PhD Student
University of Brighton
School of Nursing and Midwifery
Robert Dodd Building
49 Darley Road
Eastbourne
BN20 7UR

Tele: 07813 853305
Email: f.zaidi2@brighton.ac.uk

**THANK YOU FOR TAKING THE TIME TO READ THIS
INFORMATION SHEET**

Appendix 14 Consent Form


University of Brighton



School of Health Sciences
Faculty of Health and Social Science

Centre Number:

Study Number: **14-040**

Participant Identification Number for this trial:

CONSENT FORM

Title of Project: **Decision-making by experienced midwives as the primary responders in obstetric emergencies.**

Name of Researcher: **Fawzia Zaidi**

Please initial all boxes

1. I confirm that I have read and understand the information sheet dated 21st July 2014 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. This includes withdrawing any unprocessed/analysed data up to that point.
3. I consent to completing a questionnaire, reviewing 2 pre-recorded simulated obstetric scenarios' and to talk through my understanding of the events as they unfold in the film and hypothetically explore how I would have managed the scenarios.
4. I consent to the use of audio tape recording during reflective review of the simulations.
5. I understand that some sections of the audio tape may be reviewed from individuals from the researcher's PhD thesis panel to check that the study is being carried out correctly. I give permission for these individuals to have access to this data.
6. I understand that the researcher will maintain confidentiality and that any information I supply to the researcher will be used only for the purposes of the research; however, I understand that the researcher will notify my Supervisor of Midwives if I am outside of my mandatory up-dates. This is a limit to confidentiality.

7. I understand that all research data will be securely stored and securely destroyed after 7 years

8. I understand that the results of the study including quotes of what I have said and verified will be published, but that I cannot be identified as a participant.

9. I agree to take part in the above study.

Name of Participant

Date

Signature

Name of Person
Taking consent

Date

Signature

Appendix 15: Letter of Invitation



University of Brighton



School of Health Sciences
faculty of Health and Social Science

Sciences

Dear

Re: Research Study: Decision-making by experienced midwives as the primary responders in obstetric emergencies.

My name is Fawzia Zaidi. I am a part-time MPhil/PhD student in the School of Health Sciences at the University of Brighton. I am conducting a research study under the supervision of Professor Julie Scholes and Associate Professor Simon Cooper as part of the requirements of my degree in the Social Sciences and I would like to invite you to participate. This study has been approved by the Health and Social Science, Science and Engineering Research Ethics and Governance Committee at the University of Brighton.

What is the purpose of this study?

The purpose of this study is to explore how experienced midwives as the primary responders make decisions during obstetric emergencies.

Why have I been invited to participate?

You have been invited to participate because if you are not already caring for the woman/baby when the emergency occurs, as the clinical co-ordinating midwife you will be summoned to the emergency on the premise of your experience in managing such situations.

Do I have to take part?

Your decision to participate in this study is entirely voluntary. If you wish to opt into the study, I will arrange to meet with you to talk you through the study in more detail. You may decide at this point that you want to withdraw. If you decide to continue, I will then ask you to sign a consent form, to show that you are agreeing to participate in the study. You are free to withdraw from the study at any time without giving any reason. It is important that you let me know if you wish to withdraw at any time.

What will I be asked to do?

If you decide to participate in this study, you will be asked to complete a biographical questionnaire, view x2 8 minute pre-recorded videos of simulated obstetric emergencies and complete an interview. The biographical questionnaire seeks to understand your professional experience and experience in managing obstetric emergencies. The questionnaire will collect information about your age, professional qualifications, years of service as a midwife, current clinical area of work; year last attended a skill drills up-date and/or Obstetric Life Support Course and the last time you managed an obstetric emergency. NHS Trusts have a responsibility to provide mandatory training and to ensure that their staffs attend yearly up-dates. Mandatory training is an organisational requirement to limit risk and maintain safe working practices. I would therefore have a moral responsibility to inform the Trust if you are outside of your annual up-dates. I would confirm with you that you are outside of your annual up-date, find out if you have one pending and inform you that I will be informing your Supervisor of Midwives

You will then be shown one of the video's (via an iPad). After watching the video in its entirety, you will be interviewed by me. The interview will involve asking questions for example about what is going on in the video and what you would have done/liked to have seen happen. The video will be replayed and stopped intermittently when further questions such as what you think is happening here will be asked. The process will be repeated with the second video. The meeting will take place at a mutually agreed upon time and place (away from your clinical environment) such as a quiet room in the Trust library or at the University and should last about one hour and 45 minutes in total. The interview will be audio taped and transcribed by me so that I can accurately reflect on what is discussed. I might contact you to clarify information that we might have discussed, to ensure quality of the final data.

At the moment, this study requires one-off participation; however, after completing the biographical questionnaire, viewing the 2 videos and completing the interview, I will ask you if you are willing (at a later date) to participate in a further telephone follow-up interview post a 'real' emergency that you managed, another video elicitation interview or participating in a simulation of an obstetric emergency. This will be subject to further ethical approval and informed consent.

Are there any possible benefits from participating in this study?

Participation in this study will provide you with the opportunity for further scenario-based training in obstetric emergencies that is extraneous to your annual mandatory up-dates. As registered midwives with the Nursing Midwifery Council, you must be capable of meeting the competencies and essential skills clusters that are within your scope of practice (Rule 5: NMC 2012). Additional training and support can be provided by me in conjunction with your Supervisor of Midwives if required. By taking part in this study you will be contributing to the development of an original theory which describes how experienced midwives make decisions in obstetric emergencies.

Are there any possible risks from participating in this study?

The videos and the nature of the questions are not sensitive; however, they may provoke memories of your involvement in a past obstetric emergency which might bring about an emotional response. In the event of you becoming distressed, I will stop the videos and/or interviews and provide you with the opportunity for an immediate debrief. You may however feel that you wish to continue with viewing the videos and/or the interview and I can restart, and we can continue where we left off.

Will I be identified by being involved in this study?

Participation is confidential. Your identity will be kept anonymous by linking together the completed questionnaire and audio tape recordings and assigning a code so that you cannot be matched to your data by your name. Data from the questionnaire will be electronically transferred onto a database. As previously stated, your interview data will be collected via a digital recorder and transcribed by me so that I can accurately reflect on what is discussed. I might contact you to clarify information that we might have discussed, to ensure quality of the final data. The data will be stored on an external hard drive at the University which is password protected and which only I have access to. This conforms to guidelines adhered to by the Data Protection Act (1998). Data held on questionnaires and the audio tape will be shredded and erased once it is transferred onto the secure network drive.

The results of the study, including quotes of what you have said may be published or presented at professional meetings, but your identity will not be revealed. The audio tapes will only be reviewed by me, authorised persons from my PhD thesis panel and by authorised people to check that the study is being carried out correctly.

What will happen to the information when this study is over?

The data will be kept until the thesis is submitted and the mark is received; therefore, the data will be kept for 7 years. The data will then be erased using commercial software applications designed to remove all data from the storage device.

What if I change my mind during or after the study?

Taking part in the study is your decision. If you decide to take part and later change your mind, you are free to withdraw yourself and/or your data at any time without giving a reason.

At this point, you will have a discussion with me about your choice to remove all the data collected so far from the study, or you may allow me to use the data collected up to this point.

What if I have questions about this study?

I will be happy to answer any questions you have about the study. You can contact me at f.zaidi2@brighton.ac.uk//07813 853305 or my supervisor Professor Julie Scholes at j.scholes@brighton.ac.uk/01273 641084/65.

For independent advice about taking part in research studies please contact Professor Anne Moore – Head of Centre for Health Research on 01273 [643766](tel:01273643766). Email: a.p.moore@brighton.ac.uk

Thank you for your consideration. If you would like to participate, please contact me on the number/email listed below to discuss participating.

With kind regards,



Fawzia Zaidi
Tele: 07813 853305
Email: f.zaidi2@brighton.ac.uk



PARTICIPANTS NEEDED FOR RESEARCH IN EMERGENCY OBSTETRIC DECISION MAKING

I am an MPhil/PhD student from the University of Brighton looking for **Clinical Co-ordinators** to take part in a study to explore:

How experienced midwives make decisions in obstetric emergencies.
You would be asked to:

- ***Complete a biographical questionnaire***
- ***Review 2 pre-recorded videos of simulated obstetric emergencies via an iPad***
- ***Complete an interview to hypothetically discuss how you would manage the emergencies***

Your participation would involve about **one hour and 30 minutes of your time** at a mutually agreed time and place away from your clinical environment

For more information about this study, or to volunteer for this study,
please contact:

Fawzia Zaidi

Tele: 0781 3853305

Email: f.zaidi2@brighton.ac.uk

This study has received ethical approval through the Health and Social Science, Science and Engineering Research Ethics and Governance Committee of the University of Brighton

Appendix 17: Interview Agenda for the Video Elicitation Interviews

Aims of the Video Elicitation Interview

- To explore how experienced midwives identify and respond to deteriorating women through video elicitation of 2 pre-recorded videos of simulated obstetric emergencies of varying complexity using actress volunteer midwives (scripted, directed and filmed by the researcher) as a stimulus to reflect on past experiences of obstetric emergencies.
- To hypothetically explore how experienced midwives manage a deteriorating woman.

Reflective review

Each video will be shown separately and, in its entirety, and questions will be asked. Each video will then be shown again. Questions will be asked at appropriate stages in the video review (when it will be paused). Some questions may be asked on multiple occasions.

To ensure reciprocity and co-construction of meaning, open ended searching questions that are broad and detailed will be used in a relaxed informal style. The questions below are adapted from Benner, Hooper-Kyriakidis & Stannard (1999).

Introduction

Participants will be reminded that this element of the study is a reflective review of 2 pre-recorded videos of simulated obstetric emergencies using volunteer actress midwifery lecturers and that this aspect of the study will take about 1 hour and 15 minutes in total to complete. After watching the first in its entirety the Researcher will ask:

How do you think it went?

Prior to starting the Video again⁷⁸

Did any Particular previous case come to mind while you were watching the video?

⁷⁸ The videos were only shown once. These questions were asked after the midwives were shown each video in its entirety. See section 4.4, table 4.6.

What were your concerns for the woman?

What were you noticing?

What did you think was wrong with the woman?

What interventions did you think the woman would need and why?

What would you have done in the first instance/immediately and why?

What would you have preferred to see happen and why?

Video Review (The Video will be played again and stopped at appropriate times) ⁷⁹

What do you think is going on here?

What would you have done (at this point) and why?

What would have been your priorities (at this point) and why?

After the Video is completed

In what way is this video different to your clinical practice?

How have you developed your knowledge and skills in the management of obstetric emergencies?

How do you use national/local guidelines/protocols to guide you in the management of obstetric emergencies?

How do you use mnemonics in the management of obstetric emergencies?

If you were going to appoint an experienced midwife, what attributes would you be looking for?

What have you learnt from watching this video?

Closing

I've asked you a lot of questions. Is there anything else that you would like to add?

Would you be interested in being contacted to participate in a follow-up interview?

⁷⁹ This section was omitted – refer to section 4.4, table 4.6.

Appendix 18: Interview Agenda for Round Two

Opening Question

Tell me, how was being in the scenarios/watching the videos different to a memorable experience

Intermediate Questions

How did being in that emergency make you feel?

Can you describe how an emergency unfolds in simulation?

Can you describe how an emergency unfolds in a real emergency?

How did you recognise the emergency?

How is the team leader identified?

How are the roles in the team allocated and by whom?

What prompts you to escalate?

Closing Questions

Is there anything else you think I should know to understand experienced decision making better

Is there anything you would like to ask me?

Appendix 19 Data Extraction Grid – Antepartum Haemorrhage

APH	History	Pain	Baseline Obs	Blood loss	Urine Cath	FHR CTG	Abdo Palp FM	2 nd MW	Left Side	Reg Review 2222	Oxygen	Cannula/ Bloods/ Fluids	Differential Diag
	0.52 1.38	1.10	2.48 BP 100/60 3.10 P 110 4.09 T 37.5 6.40 R 32 Chose to use manual Sphyg even though dynamap available	2.12 3.18 3.44	2.58 7.32 Decision to Catheterise 7.54 2 nd MW locates catheter from trolley	4.38 FH 150 with Decel 4.49 going to pop you on a CTG 6.26 On CTG 7.04 Decel ↓60 over 1 min	4.13 Abdo palp (didn't ask for findings) 4.25 Asks about FM 5.36 Asks how uterus felt from initial palp	4.44 4.52 Asks for 2 nd MW 4.54 2 nd MW arrives	5.14 But? for comfort	5.46 Reg review 5.57 2 nd MW gets Reg & CTG 7.20 Tells mother needs Dr review 8.12 2222	6.42	7.39 tells mother that she will cannulate, take bloods 7.57 says we can put some fluids up as well.	4.44 Fetal Distress (but not considered cause) 6.09 Fetal Distress (but not considering cause) 7.13 Fetal distress
<p>0.52: MW - how are you feeling? Mother: In pain. MW: Specifically, where? Mother: Coming from all over 1.05: MW - How have you been in this pregnancy? Have you been well? 1.10: MW – When did the pain start? Is it intermittent, all of the time, come & goes?</p>													

1.38: 1st MW⁸⁰ - Have you got any one with you? Woman – friend has children. MW- How many children have you got? (? Opportunistic moment to ask about past Obstetric History) Woman – 3 children. MW – Were they all normal deliveries? (Gathering Information)

2.12: MW – Any blood loss any vaginal loss? Woman: No

2.24 Starts taking Takes BP

2.55 Starts taking pulse

2.58: When did you last go to the toilet?

3.18 Asks mother to pop a pad on – Woman says wearing a pad. Asks to check pad

3.32 Says wants to have a feel of you

3.44 woman changes pad & gives to MW – so there’s no bleeding on your pad? – Mother says no.

3.56 Takes temp

4.13 Just going to feel your tummy (BUT DIDN’T ASK FOR FINDINGS AT THIS POINT – Fidelity Issues - GENUINE TOUCH)

4.25 Have you felt your baby move? Mother – it’s moving a lot

4.30 uses sonicaid to auscultate FH

4.38 FH 150 with decal

4.44 Going to get someone else in to give me a hand

4.49 Going to pop you on a CTG to see how you’re doing

4.52 Asks for 2nd MW⁸¹

4.54 2nd MW arrives

5.13 Mother says pain getting worse

5.14 1st MW Why don’t you pop over onto your side (left side) (helps mother onto side)

5.36 (During relaying history & current findings to 2nd MW realises that didn’t ask how the uterus felt) How does the uterus feel - **HARD**

5.42 2nd MW asks do we need to get the CTG. Mw replies yes (Checking Decision to start CTG but also trying to confirm suspicions by undertaking further assessments)

5.46 1st MW says that we also need to get a Reg to review

5.50 1st MW says maybe there’s something going on here (doesn’t specify)

5.57 2nd MW leaves room to get Reg & CTG machine

6.09 1st MW Beginning to wonder if your baby is really happy in there or whether your baby is becoming a bit distressed

6.26 2nd MW Places woman on CTG

6.32 1st MW Your respiration rate looks a bit high – can I have a respiration rate?

6.42 1st MW Says going to pop on mask & give some oxygen

6.49 2nd MW asks what can be seen on the CTG (trace brought into room)

7.04 2nd MW reviews CTG & says ‘nice big decal down to 60 slow recovery over a minute

7.13 1st MW tells mother that your baby is very distressed at the moment.

7.20 1st MW tells the mother that she’s going to get the DR into review her to help the baby (Escalation after reviewing CTG – need hard evidence before escalating).

⁸⁰ First Midwife is Anna

⁸¹ Second Midwife is Becky

7.32 1st MW says we should consider catheterisation (Acting out protocol for APH whilst waiting for obstetric review, but also checking out this idea) 2nd MW goes to get equipment to do this

7.39 1st MW tells mother that she's going to put a cannula into her arm so that we have access to take bloods (Following protocol)

7.54 2nd MW locates the catheter & returns to the mother

7.57 1st MW says that perhaps we can put some fluids up as well (Protocol)

7.59 2nd MW gets a sheet to cover the woman

8.00 woman unresponsive

8.03 1st MW gets equipment together for cannulation & IV fluids

8.07 2nd MW covers woman with a sheet

8.08 2nd MW says 'I think she's fainted'

8.12 1st MW put out a crash call for a 2222

8.15 END OF SCENARIO

Appendix 20 Data Extraction Grid - Sepsis

SEPSIS	History	Baseline Obs	Skin	Rpt Obs	Urine	Pain	Calls 2 nd MW	Abdo Exam	Lochia	Perineum	Dr Review 2222	Oxygen	Cannula/ Bloods/ Fluids	Paracetamol	Meows Chart	Differential Diag
	1.24	3.10 BP 90/60 3.29 T 35 3.47 P 90 5.44 R 30	3.30 ? comfort gesture	9.06 says will do some more 9.26 p 120 9.35 r 30	2.18 Asks if PU	2.59	3.51		4.46 asks 8.20 indicates that will look at pads	5.06 asks	5.27 asks for Reg review 8.56 asks if Dr on his way 9.42 2222	5.49 request ed 6.17 insitu	6.39 says going to take bloods 6.47 says to put up fluids 7.34 FBC, LFT'S, U&E's, Lactate	8.40 requests IV paracet 9.53 given	9.10 1 st obs being doc on MEOWS	2.18? excluding UTI 3.30 Infection 4.46? considering uterine infection 5.10 Considering underlying infection 5.54 Underlying infection 7.34 Infection bloods - lactate 8.09 Underlying infection (need to take some swabs)

1.24 MW – What’s the matter? Woman – I’m so tired. MW is its general tiredness? Do you feel OK? How’s your head? Woman – I’ve had a headache. MW – We need to think of some rest for you. Have you eaten today? Have you had a drink? Woman – I feel a bit sick.

2.06 MW I’ll do some observations on you – gets equipment from the trolley (Would MW’s take obs so quickly with this vague history????)

2.18 MW Have you managed to go to the toilet today? Does it hurt when you have a wee? (Gathering)

2.42 MW starts to put BP cuff on arm

2.59 MW – Does it hurt? Do you have any pain anywhere? Woman – I had some stitches

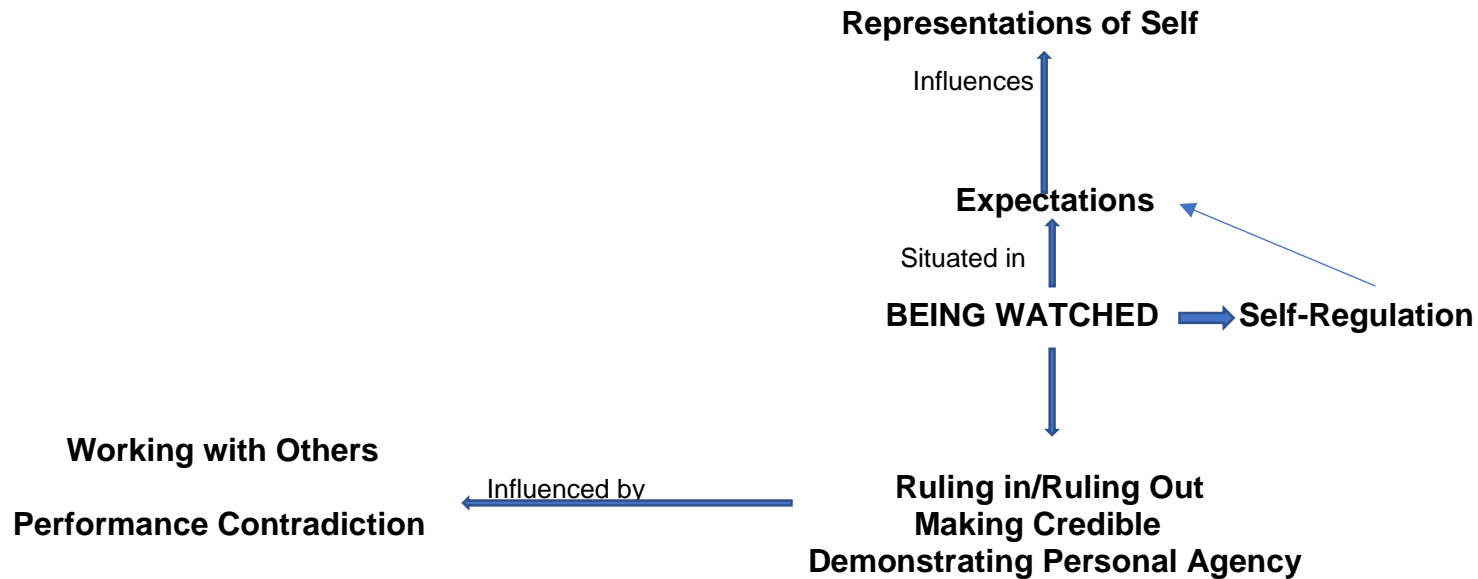
3.10 BP 90/60

3.29 T 35

3.30 MW tells woman that her temp is low. Woman asks what this means. MW replies that she’s probably picked-up an infection (During this conversation, the MW touches the woman’s face -? endearment gesture as does not ask how the skin is feeling)

3.47 P 90
3.51 Asks for 2nd MW to give a hand (Why at this stage? Would you do this in a real situation)
4.01 2nd MW arrives 1st MW relays history to 2nd MW. Tells woman that she wants to pop her into bed so that she's not sitting on the edge of the bed.
4.46 2nd MW asks about any sign of infection & asks what her loss has been like? Woman says that it's been OK – Red & that her pads smell a bit (Gathering)
5.06 1st MW confirms with woman that she had some perineal stitches. Says that she is considering some underlying infection
5.16 Woman starts vomiting – 2nd MW brings vomit bowl
5.27 2nd MW asks if they should get a Reg review – 1st MW says yes (Checking decision to get a Reg)
5.32 1st MW says that we need to consider some things that we can do in the meantime.
5.39 Woman continues to vomit. 1st MW asks for a resp rate
5.44 R 30
5.49 1st MW asks 2nd MW to start some high flow oxygen
5.54 1st MW tells woman that she's going to get a Dr review as she's wondering if she has an underlying infection
6.17 2nd MW puts oxygen mask on (starting to action the protocol for sepsis)
6.18 1st MW goes to equipment trolley & assembles equipment
6.39 1st MW returns to woman asks if Dr is coming. Tells woman that she's going to take some bloods
6.47 1st MW tells 2nd MW that maybe we could draw-up some fluids (checking that this is a good idea)
6.49 1st MW asks 2nd MW to draw-up some fluids & to check to see if the woman has had IV Paracetamol or any Paracetamol
7.00 2nd MW assembling IV fluids
7.34 1st MW says that she's going to take FBC, LFT's, U&E's, Lactate to see if we have some infection here.
7.58 1st MW tells woman that Dr will come & take some further bloods that she can't take – blood cultures
8.09 1st MW tells woman that we need to consider an underlying infection swabbing the woman
8.20 2nd MW at equipment trolley asks if she should bring the swabs over & look at the pads
8.36 1st MW asks 2nd MW if she's had any Paracetamol. 2nd MW says no
8.40 1st MW asks 2nd MW to get some IV Paracetamol for pain – says that she knows her temp is not raised
8.56 1st MW asks if we have a Dr yet
9.06 1st MW says that we can do some more obs
9.10 2nd MW documenting first obs on MEOWS
9.26 P 120
9.35 2nd MW gives IV Paracetamol to 1st MW. R 30
9.42 1st MW asks 2nd MW to fast bleep Dr 2222 rationalises as says that on the MEOWS we must have at least 3 reds – This is the objective information that they have for the 2222
9.47 Woman unresponsive
9.53 1st MW gives IV Paracetamol
9.54 2nd MW goes to put out 2222
END OF SCENARIO

Appendix 21 Diagram of the Explanatory Matrix



The decision making of the midwives is situated in the expectations of the Organisation, Childbirth and Simulation (Context). This was influenced by the Representations of self (Conditions). The decision making process comprised ruling in/ruling out, making credible (the escalation) and demonstrating personal agency (Processes). The Consequences of Being Watched was defensive behaviour, later conceptualised as self-regulation. This feeds back into the context.