UNIVERSITY OF SOUTHAMPTON

FACULTY OF MEDICINE, HEALTH AND LIFE SCIENCES

School of Nursing and Midwifery

A Study of the Influence of Military Culture on Military Nurses when Assessing Post-Operative Pain.

by

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ABSTRACT

FACULTY OF MEDICINE, HEALTH AND LIFE SCIENCES
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A STUDY OF THE INFLUENCE OF MILITARY CULTURE ON MILITARY NURSES WHEN ASSESSING POST-OPERATIVE PAIN.

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Many factors, including cultural background, influence post-operative pain assessment, although no previous research has studied this in relation to military nurses and military culture. This two-stage study explored military cultural influences on military nurses when assessing post-operative pain.

Stage 1, a self-completed questionnaire survey (n=266 nurses), found no statistically significant relationship between military nursing factors (service, rank, military experience) and their post-operative pain assessment, although some contradictory post-operative pain assessment attitudes were highlighted.

Stage 2 explored these contradictory attitudes using ethnomethodological ethnographic interviews (n=29), identifying four themes within two narratives. The first, the civilian nursing narrative, describes military nurses' normal pain assessments (Theme One) as told in a cultural story. However, when military nurses believe that patients over or under rate their pain (Themes Two and Three), they challenge the cultural story through a collective story where they use their common-sense knowledge to account for (explain) these situations.

Military nurses also told a military narrative (Theme Four) regarding the assessment of military patients' pain and associated military cultural influences, particularly stoical attitudes. However, these attitudes are being challenged as military nurses increasingly work within an NHS hospital culture. Newer military nurses more readily accept civilian nursing attitudes following a greater exposure to them during their nurse training, which is now predominantly undertaken in civilian establishments. In contrast, experienced military nurses are reluctant to relinquish their stoical military attitudes.

This study highlights the complexity of post-operative pain assessment by military nurses whose contradictory attitudes develop during their socialisation into both the civilian nursing and military cultures. This thesis adds to the existing literature surrounding cultural attitudes influencing nurses' post-operative pain assessment, but is distinctive as it is the first study to do so from a military perspective, thus contributing to the development of a unique body of knowledge on military nursing.

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Thank you hardly seems sufficient.

ABBREVIATIONS USED

DMS	Defence Medical Services
EN	Enrolled Nurse (General)
JNCO	Junior Non-Commissioned Officer
LREC	Local Research Ethics Committee
MDHU	Ministry of Defence Hospital Unit
NCO	Non-Commissioned Officer
NHS	National Health Service
NKAS	Nurses' Knowledge and Attitudes Survey Regarding Pain
NMC	Nursing and Midwifery Council
NRS	Numerical Rating Scale
PCA	Patient Controlled Analgesia
PCEA	Patient Controlled Epidural Analgesia
PMRAFNS	Princess Mary`s Royal Air Force Nursing Service
QARANC	Queen Alexandra's Royal Army Nursing Corps
QARNNS	Queen Alexandra's Royal Naval Nursing Service
QSR N6 NUD*IST	Non-numerical, Unstructured Data for Indexing, Searching and Theorizing
RAF	Royal Air Force
RCA	Royal College of Anaesthetists
RCDM	Royal Centre for Defence Medicine
RCN	Royal College of Nursing
RCS	Royal College of Surgeons
RGN	Registered General Nurse
RN	Royal Navy
SNCO	Senior Non-Commissioned Officer
UK	United Kingdom

UKCC	United Kingdom Central Council for Nurses, Midwives and Health Visitors
USA	United States of America
VAS	Visual Analogue Scale
<	Less than
>	Greater than
≤	Equal to or less than
≥	Equal to or greater than

CHAPTER 1.   THE PROBLEM AND THE RATIONALE FOR THIS STUDY

Introduction

The following thesis describes a two-stage study exploring the influence of military culture on British military nurses when they assess post-operative pain. This is of particular interest to the researcher, a military nurse since 1985, as no previous studies have been found exploring this influence. While adding to the existing literature related to cultural attitudes and nurses' post-operative pain assessment, the study does so from a military perspective, thus contributing to the development of a unique body of military nursing knowledge.

The researcher first became aware of the potential influence of military culture on pain and its assessment while working on a male surgical/orthopaedic ward shortly after joining the military nursing services. Many patients were young servicemen with injuries sustained during their initial military training (see Sections 2.5 and 9.1). It was soon discovered that when asking military patients how they were, most would say that they were comfortable, even when their non-verbal behaviours were interpreted differently. The researcher believed that military patients were more likely to deny their pain due to the dominant military cultural expectation of stoicism, that is, a willed conquest over pain (Morris 1991) (see Section 2.5.2). Whilst recognising that military culture influenced the pain attitudes held by military patients, it was several years before the researcher began to question if, and how, the military culture influenced military nurses' attitudes to post-operative pain and its assessment. This thesis describes the first study undertaken to explore this specific topic.

This chapter introduces the study, beginning in Section 1.1 with an overview of post-operative pain. It highlights that despite advances in medical and nursing care, patients continue to report ineffective post-operative pain management. Section 1.2 presents the definition of pain adopted for the study, which recognises that pain intensity, that is, the severity of pain (McCaffery and Pasero 1999) is a subjective phenomenon influenced by many factors, including patients' and nurses' cultural backgrounds.

Of specific relevance to this study are the factors that influence military nurses when assessing pain, particularly their military cultural background. Section 1.2 discusses the rationale for this focus, while Section 1.3 describes the development of this two-stage

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study, where Stage 2 logically followed Stage 1. The aims of both stages of the study, along with the methodologies used, are also presented. In addition, Section 1.3.1 describes some major military changes that occurred during the latter part of this study that were unavailable for inclusion in the original literature review. Finally, Section 1.4 details the layout of this thesis.

Section 1.1   The problem

Effective post-operative pain management, including its assessment is important as pain occurs after most surgical procedures (Dodson 1985). An individual's ability to feel pain provides an important safeguard following injury and alerts the sufferer to some damage, for example, a surgical incision (Carr 1997a). Pain acts to limit activity and thus promote healing and recovery (O'Hara 1996), while effective post-operative pain management prevents patients becoming demoralised, fatigued and anxious (The Royal College of Surgeons/The Royal College of Anaesthetists (RCS/RCA) 1990). More importantly, as a result of inappropriate pain management, patients may be reluctant to mobilise and there is an increased likelihood of complications, such as deep vein thrombosis, pressure sores, or respiratory, cardiovascular and gastrointestinal problems (RCS/RCA 1990). Avoiding such complications is essential for good patient care and is cost effective by reducing the number of hospital in-patient days (RCS/RCA 1990, McCaffery 1999). Therefore, effective pain management is an essential aspect of post-operative care, and as stated by the RCS/RCA:

> "Treatment of pain after surgery is central to the care of post-operative patients. Failure to relieve pain is morally and ethically unacceptable"
> (RCS/RCA 1990, p3).

Despite the above statement and advances in pain relief techniques, such as Patient Controlled Analgesia/Patient Controlled Epidural Analgesia (PCA/PCEA), and an enhanced knowledge of analgesic pharmacology, there has been little improvement in the quality of post-operative pain relief (RCS/RCA 1990, Audit Commission 1998), as shown in Table 1.1.

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Table 1.1 Studies identifying poor post-operative pain control	
Author(s)	**% of patients reporting insufficient analgesia or moderate to severe pain (n=total number of patients in study)**
Cohen (1980) USA	75 (n=109)
Weis et al (1983) USA	41 (n= 81)
Owen et al (1990) Australia	65-74 (n=259)
Kuhn et al (1990) UK	39-48 (n=101)
Wilder-Smith and Schuler (1992) Switzerland	45 (n=107)
Bruster et al (1994) UK	87 (n=3157*)
Warfield and Kahn (1995) USA	77 (n=500)
Harmer and Davies (1998) UK – 2 studies	68 (n=1408) 45 (n=1314)
Mackintosh and Bowles (1998) UK	20 (n=240)
Albrecht et al (2000) Germany	36 (n=76)
Svensson et al (2000) Sweden	88 (n=191)
McHugh and Thoms (2002) UK	17 (n=102)
* Includes both medical and surgical patients, which are indistinguishable.	

Table 1.1 identifies studies undertaken between 1980 and 2002 detailing the incidence of patients reporting moderate to severe post-operative pain, that is, pain levels restricting movement and increasing the risk of post-operative complications (Horn and Monafò 1997). Although patient numbers in these studies vary, they do show that post-operative pain management does not appear to have improved over time, with a recent study reporting 88% of patients experiencing moderate to severe pain in the first 24 hours following surgery (Svensson et al 2000).

Within the United Kingdom (UK), the incidence of moderate to severe pain for patients reporting insufficient analgesia varies between 17% (McHugh and Thoms 2002) and 87% (Bruster et al 1994). For example, Bruster et al's (1994) survey of 36 UK hospitals and interviews with 3157 patients following hospital discharge, found that 61% (1926) of patients reported experiencing pain, 33% (1042) said that they were in pain all or most of the time and 87% (2746) reported severe or moderate pain. In another survey of 15 UK hospitals involving 2738 post-operative patients, up to 68% of patients reported moderate to severe pain 24 hours post-operatively (Harmer and Davies 1998). However, Bruster et al's study sample included medical and surgical patients and no distinction is made between the two groups or the types of pain, for example, acute, chronic or cancer. It is known that these types of pain have different aetiologies (Pasero et al 1999b) and so the results should be treated cautiously.

In another study using a questionnaire survey with 190 day case patients following discharge, 79% (151) of patients reported some discomfort following surgery, while 17% (32) stated that they had experienced severe or excruciating pain (Mackintosh and Bowles 1998). Likewise, in a telephone study of 500 adult patients post discharge, 77% (numbers not given) of patients reported postoperative pain with 80% of these experiencing moderate to severe pain (Warfield and Kahn 1995). In another telephone survey of day case surgery patients, 17% (17/102) of patients reported severe pain immediately following surgery, 82% (83/102) were still experiencing pain on discharge and 88% (89/102) suffered pain at home between 2 and 4 days post-operatively (McHugh and Thoms 2002).

In the studies by Bruster et al (1994), Warfield and Kahn (1995) and Mackintosh and Bowles (1998), patients were interviewed or sent questionnaires following discharge. In Bruster et al's study (1994) this was two to four weeks post-discharge, while Warfield and Kahn's (1995) retrospective study was up to 5 years previously. It has been reported that patients may be unable to correctly remember their hospital experiences after a period of time (Walker 1998). However, while different pain incidences are reported, it is still apparent that significant numbers of patients continue to report poor post-operative pain management.

One explanation for varying pain incidences may be changes in surgical techniques, for example, an increase in day case surgery (McHugh and Thoms 2002). The introduction of acute pain services (Mackintosh and Bowles 2000) and changing analgesia practices, such as PCA's and PCEA's, may also affect pain management practices (Thomas and Rose 1993). However, some disadvantages have been reported when using PCA's and PCEA's, for example, Carr and Thomas (1997) found that nurses made the decision to change from PCA to other analgesia according to the length of time the patient had received the PCA. In addition, Schafheutle et al (2001) found a quarter of 179 nurses studied (25.7% = 38/179) did not ask patients with PCA's or PCEA's about their pain, presuming that they would be pain free with these delivery methods. This may explain why some patients report poor pain relief from these methods (Koh and Thomas 1994).

Another explanation for continued poor post-operative pain management is that pain experiences are individual and subjective because they represent a unique experience, characterized by different qualities that vary along a number of sensory and affective

dimensions (Melzack and Wall 1988) (see Section 2.2). Therefore, finding a satisfactory definition of pain is difficult (Melzack and Wall 1988), although the definition used for this study addresses the individuality and subjectivity of pain experiences.

Section 1.2   A working definition of pain

Generally, pain experiences are considered negative and various pain definitions reflect this, for example:

> "An unpleasant sensation which represents a form of suffering and which the individual refers to or equates with his body"
> (Fabrega and Tyma 1976, p324).

> "An unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage"
> (Merskey 1986, pS1).

These definitions, including the latter one by the International Association for the Study of Pain, are appropriate for defining pain in general, and particularly chronic pain. They acknowledge the loose association between pain and injury although they are limiting in that pain is more than 'unpleasant' (Fabrega and Tyma 1976, p324). For this study, the following definition of pain is used:

> "A subjective experience that can only be perceived directly by the sufferer. It is a multidimensional phenomenon that can be described by pain location, intensity, temporal aspects, quality, impact and meaning. Pain does not occur in isolation but in a specific human being in psychosocial, economic, and cultural contexts that influence the meaning, experience, and verbal and non-verbal expression of pain"
> (RCS/RCA 1990, p5).

This definition is appropriate for focusing on post-operative pain following elective surgery as this pain has an easily distinguishable physical cause (a surgical incision) and it normally subsides and resolves once healing has occurred (McCaffery and Beebe 1989). Post-operative pain also has the unique property that the time of onset can be anticipated as it is a direct consequence of a deliberate action (Dodson 1985). Two other pain terms are also used throughout this thesis; pain threshold and pain tolerance. Pain threshold is 'the minimum amount of stimulation that reliably evokes a report of pain' (Gracely 1999, p388), that is, the point at which a person first reports feeling pain to a stimulus, while pain tolerance is 'the time that a continuous stimulus is endured, or the maximally tolerated stimulus sensitivity' (Gracely 1999, p386), that is, the most pain a person can accept at any one time or the highest level of stimulus they will bear.

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The RCS/RCA definition above also acknowledges that pain experiences are subjective and multidimensional since they are influenced by many different factors, including the patients' cultural background, and these all contribute to produce expected, and accepted pain responses (Thomas 1997a) (see Chapter 2). Cultural factors also influence nurses who adopt dominant cultural attitudes and therefore assess pain as they consider is expected by their colleagues (Zalon 1993) (see Section 2.4). However, differing cultural attitudes can result in contrasting attitudes between nurses and patients (see Section 2.7.1) and this may affect how pain is assessed, with the result that patients may receive inappropriate pain management (Calvillo and Flaskerud 1993).

This thesis focuses on the influence of military culture on military nurses' attitudes to post-operative pain assessment. Within the thesis, attitudes are defined as "the evaluations (positive and negative) that we associate with diverse entities, for example, individuals, groups, objects, actions and institutions" (Manis 1996, p39). Thus, attitudes are the particular way we evaluate something and the differences between our likes and dislikes. There is a general correspondence between people's attitudes and whether something is positively or negatively evaluated (Edelmann 2000). Attitudes consist of three elements, an emotional or evaluative component (a feeling which can be either positive or negative), a belief or cognitive component (the thoughts or cognitions we hold), and an action or behavioural component (what is done in relation to the attitude) (Edelmann 2000). The evaluative component is especially pertinent for exploring military cultural influences on nurses' pain assessment. However, it is emphasised that the focus is cultural influences on military nurses' attitudes when assessing post-operative pain, not the actual attitudes themselves.

Section 1.3   Development of the study and its aims

Although studies exploring UK civilian nurses and their pain assessment have been identified (explored in Chapter 2), no studies were found relating to pain assessment undertaken by British military nurses. Therefore, the initial focus was whether military culture influenced military nurses' post-operative pain assessment and if this differed to assessments carried out by civilian nurses. This formed the basis of Stage 1 of the study, the aims being:

1)   To identify whether military culture influenced military nurses when assessing post-operative pain.

2)   To compare military and civilian nurses' post-operative pain assessments.

The most appropriate method to address the aims of Stage 1 was considered to be a questionnaire survey distributed to military and civilian nurses (see Chapters 4-6). The returned questionnaires were statistically analysed to meet these aims. As no previous studies had explored military cultural influences on nurses when assessing post-operative pain, the results could not be predicted, but the results did direct further study to seek explanations for any similarities or differences (see Chapters 7-9).

Chapter 6 reveals that while no statistically significant associations were found between different nurse factors and their pain assessment, several contradictions in military nurses' attitudes to post-operative pain assessment were identified. This led to the development of Stage 2 of the study that focussed on how military culture accounted for these contradictions and why military nurses' pain attitudes appeared to be so ingrained that they were unaware of them. Chapters 7-9 discuss Stage 2, the aims of which were:

1)   To provide explanations for the contradictions in military nurses' attitudes to post-operative pain assessment identified during Stage 1.

2)   To identify the taken-for-granted assumptions military nurses hold regarding post-operative pain assessment.

3)   To identify the common-sense knowledge military nurses use when assessing post-operative pain.

An ethnomethodological ethnography approach was used to explore the aims of Stage 2 (see Chapter 7).

The two stages of the study complemented each other with Stage 2 logically following Stage 1. The questionnaire survey used in Stage 1 permitted a broad investigation of post-operative pain assessment whilst Stage 2 allowed a more in-depth and focussed exploration of how military culture influenced military nurses' attitudes to post-operative pain assessment. For clarity the two stages are presented separately, but they should be seen as two parts of the same study, with Stage 2 exploring the contradictions highlighted during Stage 1.

Emphasising that the two stages were part of one study is important because different methodologies and methods were used for each stage. This is also reflected in the reporting of each stage, for example, the findings and discussion of Stage 1 are presented in separate chapters (Chapters 5 and 6), whereas the findings and discussion

for Stage 2 are integrated together, albeit within two chapters (Chapters 8 and 9). This follows normal conventions of reporting such studies, where statistical results are presented separately to the discussion in quantitative studies as the latter interprets the results as well as the methods, sample characteristics, related research and clinical aspects (Polit and Hungler 1999). In contrast, the findings and the discussion of qualitative studies are usually integrated and this process is necessarily interpretive (Polit and Hungler 1999).

Before the layout of this thesis is detailed (Section 1.4), the following section describes some notable military changes that occurred during the study and influenced the findings, particularly from Stage 2. Chapter 10 explores these further.

Section 1.3.1   Military changes during this study

This study was completed over several years, during which time some important changes occurred within the military, two of which warrant further discussion; military ethos was made more explicit and military nurses became increasingly integrated into civilian health care environments.

Section 2.5.1 discusses military ethos and how this has generally been unwritten. However, during the latter part of this study each military service, that is, the Royal Navy (RN), the Army and the Royal Air Force (RAF), published their own definitions of military ethos (Table 1.2 and below). These were issued in booklets to each service person and detailed the core values of military ethos. They were published in response to major changes in the military role from conflict to humanitarian and peacekeeping duties, changing societal attitudes to discipline, and an increasing collaboration with civilian organisations and public/private partnerships (see below and Chapter 9). Some military personnel saw these changes as the cause of the dilution and erosion of military ethos (Air Force Board Standing Committee 2002).

Table 1.2	Definitions of military ethos
RN	Ethos is about group cohesion within a structured chain of command, enabling the Services to conduct operations across the full spectrum of directed tasks. It centres on the requirement for personnel to willingly subjugate their personal interests to the common good. The values and standards inherent in supporting this ethos place a unique demand upon the individual requiring a high sense of duty, loyalty and self-discipline. Individuals may have to place themselves in danger or work in stressful and unpleasant conditions. They are also subject to an exacting behavioural code and disciplinary arrangements, which require them to forgo some of the individual liberties that exist in the wider community (Knell 2001, p44).
Army	Ethos is that spirit which inspires soldiers to fight. It derives from, and depends upon, high degrees of commitment, self-sacrifice and mutual trust, which together are so essential to maintaining morale (Chief of the General Staff 2000, p5).
RAF	Ethos is the distinctive character, spirit and attitude of the RAF, which together inspire our people to face challenges, and on occasion, danger. It is underpinned by tradition, esprit de corps and a sense of belonging. It encompasses the will to contribute to the delivery of effective air power that arises from a confidence in the chain of command, trust in colleagues and equipment, respect for individuality, sustainment of high professional standards and the courage to subordinate personal needs for the greater good. (RAF 2003, p3).

The core values of military ethos include respect, integrity, service and excellence. Respect includes self-respect where personnel are not expected to behave in ways that discredit themselves or the services. Integrity involves always doing what is right and demonstrating moral courage, as this "forms the bedrock upon which bravery, fighting spirit and success depend" (RAF 2003, p5). Service requires personnel to put professional duties ahead of personal interests and show levels of commitment and self-sacrifice that ensure service needs are put ahead of their own (Knell 2001). This may require personnel to endure extremes of hardship, accept risks, and give faithful service to their colleagues (Mileham 1995). Finally, excellence includes self-discipline and control where self-pity, defeatism and uncontrolled emotions are discouraged. Within excellence is personal excellence where personnel are encouraged to achieve and maintain the highest professional and personal standards, including staying in good physical and mental condition (RAF 2003). The importance of adopting and maintaining the core values inherent within military ethos is instilled immediately on joining the services when all personnel undertake initial military training. Military training, therefore, has a major influence on the military attitudes new members acquire (explored further in Section 2.5).

The second military change that occurred was the increasing integration of military nurses into the National Health Service (NHS). Following the end of the Cold War, the military services were restructured to meet new challenges, including a move from combat readiness towards roles of peacekeeping/peacemaking and humanitarian relief (McCorquodale 1997, Haysman and Lewis 1998). Such challenges also affected the Defence Medical Service (DMS), which was required to change to ensure that their personnel continued to provide effective medical support. These changes included the closure of all UK military hospitals and a greater integration within the NHS through the establishment of Ministry of Defence Hospital Units (MDHU's) and the Royal Centre for Defence Medicine (RCDM) (Surgeon General 2000, 2001).

The four MDHU's are medical units within NHS District General Hospitals that give priority care to sick and wounded service personnel so that they can be promptly returned to duty (Surgeon General 2000). Closer collaboration with the NHS ensures personnel have the requisite clinical skills to fulfil their military roles (Surgeon General 2000). The main arena for developing these skills has been the establishment of the RCDM, which, in conjunction with civilian academic and clinical institutions, is the focal point for training, education and research excellence within the DMS (Munro 2001b). Alongside these changes, management of the tri-service core hospital transferred from the military to the local NHS Trust. This occurred after Stage 1 but before Stage 2 interviews were undertaken and the increased integration with civilian nurses was more apparent during interviews with military nurses from this hospital.

The above changes have resulted in military nurses experiencing significant alterations in their working practices over the past decade. Particularly relevant, as described in Chapter 9, is that increased collaboration with the NHS is having a major impact on military nurses' attitudes to pain.

Section 1.4   Layout of the thesis

This chapter has introduced post-operative pain and outlined the two-stage study exploring military cultural influences on military nurses' attitudes when assessing this pain. The following chapters describe this study in greater detail, beginning in Chapter 2 with a critical review of the relevant literature, including the different factors that influence patients' pain experiences and nurses' pain assessment attitudes (Sections 2.2

and 2.3). Although many studies highlight the importance of culture on pain experience, few studies have explored this in relation to British nurses (see Section 2.3.9).

Section 2.4 describes how distinct groups of people within society, called sub-cultures, develop their own individual cultural attitudes (Helman 1994). For this study, sub-cultures are defined as:

> "A group of people that have something in common with each other which distinguishes them in a significant way from members of other social groups" Thornton (1997, p1)

This definition is emphasised as the term sub-culture is frequently used to refer to subordinate or deviant groups, for example, the 'youth sub-culture' as shown by Thornton (1997), but is used here to differentiate military and civilian nurses. Nurses, as members of the nursing sub-culture, learn to act in accordance with the predominant professional attitudes through socialisation (Bond and Bond 1994). However, specifically relevant is the socialisation process of another sub-culture, the military, and how this influences military nurses' attitudes to pain. This is explored in Section 2.5, while Section 2.6 compares the two sub-cultures of civilian nursing and the military.

The exploration of the civilian nursing and military sub-cultures reveals the important influence of culture on the attitudes held by its members. Of particular relevance for this study are the attitudes held by military nurses relating to post-operative pain assessment. Section 2.7 details how accurate and reliable pain assessment is essential to ensure patients receive effective pain relief (Hunter 1993). While the need for nurses to rely on patients' own pain reports is stressed (Heidrich and Perry 1982, McCaffery and Pasero 1999), nurses do not always accept this (Watt-Watson 1987) and the disparity between the attitudes held by nurses and patients is explored in Section 2.7.1. One explanation for this disparity is their different cultural backgrounds and the influence of a nurse's cultural background on their attitudes to post-operative pain assessment inspired this study. The final Section, Section 2.8 highlights the limitations of the literature review, especially in relation to pain assessment by military nurses and thus, the need for this study.

Following the literature review, Chapter 3 discusses the two methodologies utilised. Stage 1 used a method from the positivistic paradigm, while Stage 2 used a research approach from the interpretive paradigm. In addition, an introduction to rigour and the

ethical issues surrounding the study are presented (Sections 3.2 and 3.3), although these are revisited throughout the thesis as appropriate.

Chapter 4 describes the use of a questionnaire survey for Stage 1, along with the rationale and relevance of this research method. This chapter also describes the research tool, the setting and sample, the appropriate statistical tests and the procedure followed. Chapter 5 presents the results following the analysis of the returned questionnaires, supported by tables and figures, while they are discussed further in Chapter 6. The final section of Chapter 6 highlights that while statistical analysis failed to identify any significant findings, contradictions in military nurses' attitudes to post-operative pain assessment were highlighted. These contradictions led to the development of Stage 2 of the study.

Chapters 7-9 present Stage 2, beginning in Chapter 7 with details of the research design, that is, ethnomethodological ethnography, and its relevance. In addition, the setting and sample, the research tool and how data were collected and analysed are described. The interview findings revealed two narratives and these are presented in Chapters 8 and 9. The first narrative told by military nurses was the civilian nursing narrative, which consists of two stories, cultural and collective stories (Chapter 8). The civilian nursing narrative demonstrates the influence of the general civilian nursing culture on military nurses' attitudes to post-operative pain assessment. However, the second narrative, the military narrative (Chapter 9) is particularly relevant and describes military pain attitudes and the influence of military culture on military nurses when they assess post-operative pain.

The final chapter, Chapter 10, presents the study's conclusions, limitations and implications. It also includes a critical appraisal of the questionnaire survey tool used in Stage 1 and how the new application of an existing theoretical approach (ethnomethodological ethnography) was utilised in Stage 2 in respect of a specific subject, that is, military nursing culture and its influence on pain assessment. As this latter aspect had not been researched previously, the study identifies new facts by highlighting how military nurses' taken-for-granted assumptions regarding pain assessment are influenced by their military culture. The contribution to the research knowledge base surrounding post-operative pain assessment, particularly military

cultural influences on this, is provided, while the final section offers implications for practice and recommendations for further research.

Section 1.5   Summary

Chapter 1 has introduced the problem of poor post-operative pain management and provided the definition of pain used throughout this thesis. The development of the two-stage study has been presented along with the aims of both stages. In addition, details of military changes that occurred during the study, that is, the publication of the core values of military ethos and the increasing integration of military nurses into the NHS, have been highlighted.

The final section has described the layout of this thesis detailing the two-stage study exploring the influence of military culture on military nurses' post-operative pain assessment. Before each stage is discussed, the following chapter presents a detailed critique of appropriate pain literature, including factors influencing patients' pain experiences and nurses when assessing this pain, but with the focus on post-operative pain.

CHAPTER 2.   LITERATURE REVIEW

Introduction

This chapter discusses the pain experience and while briefly exploring the factors influencing patients (Section 2.2), it focuses on the factors influencing nurses (Section 2.3) who assess and manage pain. Emphasis is placed on cultural factors as they have an overriding influence on the development of pain attitudes (Section 2.3.8). This is particularly relevant for exploring the influence of military cultural attitudes as no previous studies have explored this or how it influences military nurses when assessing post-operative pain.

The influence of culture on members' attitudes occurs when personnel within any cultural group, including nurses, undergo a process of socialisation (Bond and Bond 1994). Section 2.4 explores socialisation and its influence on nurses' attitudes to pain assessment, while Section 2.5 discusses socialisation within the military sub-culture. While sharing many similarities, Section 2.6 highlights differences between the socialisation of civilian and military nurses to demonstrate the uniqueness of military nurses.

Section 2.7 discusses pain assessment and how different cultural attitudes can result in discrepancies between nurses and patients when assessing the same pain. The final section summarises the literature and highlights its limitations relating to cultural influences on how nurses, particularly military nurses assess pain. These limitations provided the rationale for undertaking this study.

Section 2.1   Nature of the Literature Review

The literature review was undertaken in two stages. Initially, as detailed in Section 1.3, the aim was to identify if military culture influenced military nurses' post-operative pain assessments. Therefore, this chapter reviews the literature relating to Stage 1. As no previous research was identified relating to military nurses' pain assessments, it was not possible to predict how the study would progress. However, questionnaire analysis determined the direction for Stage 2 and this entailed further literature searches to highlight relevant literature, particularly relating to the methodology (see Chapter 7).

While many books were consulted, the main effort into identifying relevant literature involved searching electronic databases. The main databases searched were the Cumulative Index of Nursing and Allied Health Literature (CINAHL), Medline, PsycINFO, the British Nursing Index, the Applied Social Sciences Index (ASSIAnet) and the International Bibliography of the Social Sciences (IBSS). Searching these databases revealed little literature relating to the British military, so specific Ministry of Defence databases, such as the Army Libraries Information Exploration (ALIX), the Air University Library's Index to Military Periodicals (AULIMP), the Defence Virtual Information Service (DEVISE) and the Aerospace and Defence Resources (AERADE) were also searched. Following increases in pain knowledge over the past 30 years, literature searches were restricted to 1970 onwards, although some key texts prior to this were also explored, notably Linton (1964) and McCaffery (1968). Table 2.1 shows the key search terms used.

Table 2.1 Key terms used for literature search	
Post-operative pain	Pain behaviour
Pain assessment	Factors influencing pain
Analgesia	Attitudes
Culture	Socialisation
Defence	Military
Discipline	Ethos

The key terms in Table 2.1, and their derivatives, formed the basis of the literature review. Unsurprisingly, some terms, such as post-operative pain and pain assessment revealed several thousand related articles. To narrow the search, key terms were combined and this resulted in a more manageable number of 'hits' and appropriate literature. A manual literature search was also undertaken, not only to identify recently published literature, but also to discover any articles missed from the electronic searches. Other data sources included direct communication with personnel who have made important contributions to pain and its assessment, specifically Margo McCaffery and Drs Joel and Lois Davitz, who kindly forwarded further literature. Other relevant information was gained from attending conferences and seminars, and regularly accessing appropriate websites, such as the Royal College of Nursing (RCN)

(particularly the RCN Pain Forum section). Once searches had identified articles, their abstracts were read to confirm relevance. The resulting literature was then obtained from the appropriate library or ordered from the British Library. The following discussions relate to this literature.

Section 2.2   Pain and the pain experience

As Chapter 1 stated, the pain experience is influenced by many factors (Thomas 1997a). Although the focus is the influence of the military sub-culture on nurses when they assess post-operative pain, sub-cultures share many characteristics of the main culture (Helman 1994). Therefore, whilst acknowledging that differences between military and civilian nurses do exist (see Section 2.6), the following literature review was considered appropriate as exploring studies into factors influencing pain experiences in general were considered relevant. This is particularly important as no specific literature was found on British military nurses' post-operative pain assessment.

Pain is a complex phenomenon, consisting of a stimulus and a reaction to this stimulus, the latter being the pain behaviour (Engel 1950). Through pain behaviour a person attempts to communicate their pain experience or express its effects (Jackson 1992). However, the extent of an injury does not always correspond to the amount of pain experienced (Beecher 1956). This is because pain continually changes as it passes through many different and complicated stages of interpretation, such as history, culture and the individual's consciousness (Morris 1991). For example, as the term `pain` is derived from the Latin `poena' for penalty or punishment, throughout history some religious groups have viewed pain as resulting from transgressions (Morris 1991). Such groups gave pain meaning by making it public through flagellation to demonstrate their guilt, penitence, and hope for mercy (Morris 1991). It was believed that experiencing pain led to redemption (Seers 1988) as it mirrored Christ's suffering (Naylor 1980, Moulin 1998).

In addition to religious beliefs, the pain experience has been influenced by dominant paradigms relating to the body. Prior to the nineteenth century, pain was considered to be a signal that the body reacted to in self-defence to protect its mechanical integrity. These reactions were then transmitted to the soul that recognised them as painful (Illich 1976). Thus, both the physical sensation and the distress to the situation influenced the pain experience and were considered equally important. However, with the increasing

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dominance of biomedicine since the nineteenth century, there has been a shift towards accepting physiological changes as explanations for a person's pain (Eccleston 1997). The resulting 'medicalisation' of pain has led to a split between body and mind (Morris 1991, Bendelow and Williams 1995). Thus, when an identifiable organic cause for a person's pain is absent, pain may be considered psychological or unreal (Turk and Okifuji 1999). However, pain levels are also influenced by the release of endogenous opioids, such as endorphins and encephalins (Fine and Ashburn 1998). While recognising the importance of endogenous opioids these are not explored further as the focus is cultural influences on pain, specifically military cultural influences on military nurses when assessing post-operative pain.

Despite advances in pain knowledge, biomedicine has recognised that while scientific knowledge provides an acceptable patho-physiological explanation of how pain is transmitted, it does not explain why similar pain sensations can result in different reactions (Melzack and Wall 1988). Gaining a greater understanding of this requires an exploration of other aspects that influence the pain experience, such as psychological, social, and cultural factors (Horn and Manafò 1997). These factors do not affect the amount of pain felt, but rather its expression (Seers 1988) and this is perhaps another reason why pain management remains poor, despite its importance as described in Section 1.1.

When examining pain management, it is notable that as far back as 1978, the medical profession acknowledged its own failure to provide adequate pain relief:

> "It is an indictment of modern medicine that an apparently simple problem, such as the reliable relief of pain remains largely unsolved"
> (Editorial BMJ 1978, p517).

As discussed in Section 1.1, there has been no marked improvement over time with this situation (RCS/RCA 1990, Audit Commission 1998). This continued failure to satisfactorily control pain may be due to the complexity of the pain experience, particularly the many factors influencing its perception and interpretation. Although an incision site may be visible, the resulting pain is unseen and often difficult to express. Thus, pain is 'unsharable' with others and although for the sufferer it is a certainty, those who cannot see it may doubt its existence (Scarry 1985). This conflict can result in misinterpretation or misunderstanding between patients and professionals, including nurses (Jacox 1979, Carr 1990) (discussed in Section 2.7) and may also explain why

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many hospital patients remain dissatisfied with their pain management (RCS/RCA 1990, Audit Commission 1998).

The following section introduces the many factors influencing pain and this explains why peoples' pain experiences vary. Section 2.2.3 provides an overview of cultural influences on pain behaviour, while Section 2.3 focuses on the different factors influencing nurses when interpreting and assessing pain, particularly cultural factors (see Section 2.3.8), which are central to this study. Sections 2.2.2 and 2.3.7 explore conflicting results in patient and nurse factors respectively.

Section 2.2.1 Factors influencing the pain experience

Table 2.2 shows some of the factors influencing the pain experience. These are not explored in detail as the factors influencing nurses', not patients' assessments are the focus. Table 2.2 also highlights that conflicting results have been reported from studies exploring these different factors and Section 2.2.2 presents some explanations for this. One factor missing from Table 2.2 is culture because this is the overriding factor determining people's pain behaviours in relation to the other factors shown in Table 2.2 (Martin and Belcher 1986, Zalon 1993). Sections 2.2.3 and 2.3.8 discuss cultural influences and how they affect pain behaviour and nurses' assessments of pain as these are particularly relevant.

Table 2.2	Influence of different factors on the pain experience	
Factor	**Studies showing influence**	**Studies showing no influence**
Gender	Woodrow et al (1972) (females>pain than males) Nayman (1979) (females>pain than males) Jacox (1979) (males>pain than females) Cohen (1980) (males>analgesia intake than females) Miller and Shuter (1984) (females>pain than males) Thomas et al (1998) (females>pain than males) Yates et al (1998) (females>pain than males)	Davitz and Pendleton (1969) Streltzer and Wade (1981) Kuhn et al (1990) Lander (1990) Koh and Thomas (1994) Field (1996b) McNeil et al (1998) Fillingim et al (1999) Dahmani et al (2001) Edwards and Fillingim (2001)
Age	Woodrow et al (1972) Miller and Shuter (1984)	Cohen (1980) Holm et al (1989) Choinière et al (1990) Kuhn et al (1990) Calvillo and Flaskerud (1993) Zalon (1993) Edwards and Fillingim (2001)
Personality	Taenzer et al (1986)	Buxton and Perrin (1992) Thomas et al (1998)
Religion		Calvillo and Flaskerud (1993)
Previous experience	Wallace (1985) French (1989) Carr (1990) Dar et al (1995)	Calvillo and Flaskerud (1993)
Anxiety	Egbert et al (1964) Calvillo and Flaskerud (1993)	
Context	Beecher (1946, 1956) Armenian et al (1981)	

Section 2.2.2   Reasons for conflicting results – patient factors

Several explanations may account for the conflicting results shown in Table 2.2. For example, some studies explored experimentally induced pain (Woodrow et al 1972, Fillingim et al 1999, Edwards and Fillingim 2001) and others clinical pain (Calvillo and Flaskerud 1993, Dar et al 1995, Thomas et al 1998, Yates et al 1998). In addition, Riley et al's (1998) meta-analysis of 22 experimental studies highlighted that studies were not carried out uniformly as various research designs were used. For example, different tools were used to measure pain, such as the Present Pain Intensity tool (see Calvillo and Flaskerud 1993, Thomas et al 1998) or Visual Analogue Scales as discussed by Choinière et al (1990), Thomas et al (1998) and Yates et al (1998) (also explored in Section 4.4.2).

The conflicting results may also have occurred due to different types of data used. For example, while several studies involved patients directly (Lander 1990, Calvillo and Flaskerud 1993, Thomas et al 1998) others collected data by examining patient records (Ng et al 1996a, 1996b) or used patient vignettes (Cohen 1980), that is, 'a brief description of an event, person, or situation to which respondents are asked to react' (Polit and Hungler 1993, p449) (explored further in Section 4.4.1). The results of studies examining patient records should be interpreted carefully as it has been reported that patients' pain assessment documentation is frequently poorly maintained (Kuhn et al 1990, Ferrell et al 1991, Carr 1997b). Finally, studies involving patients included those undergoing various surgical and orthopaedic procedures that may be associated with different pain reactions (Thomas 1997a). All these aspects make direct comparison between studies difficult.

The conflicting results presented in Table 2.2 highlight how pain is a complex, multi-factorial experience (Fillingim et al 1999). While many studies concentrated on one aspect, it is acknowledged that many factors overlap and there is an integration of physiological, social, psychological and cultural factors, that is, a biocultural model (Bates 1987). While recognising the importance of the first three factors, the fourth factor is particularly relevant, particularly as many of the above studies emphasised the importance of cultural background on pain experience (Woodrow et al 1972, Dar et al 1995, Riley et al 1998 and Fillingim et al 1999).

Cultural background is important as it is through culture that members learn to interpret pain and it's meaning as they continually experience pain and its positive, negative and contextual associations (Anand and Craig 1996). Cultural systems provide the link between pain as a physiological process and how it is experienced, that is, it provides "the established script for ritual behaviour that transform an individual's affliction into a sanctified symbolic form for the group" (Kleinman 1988, p26).

Section 2.2.3   Culture and pain

For this study, culture is defined as:

> "Systems of shared ideas, concepts and the rules and meanings that underlie, and are expressed in, the ways that human beings live"
> (Keesing 1981, p518).

Thus, culture is a set of guidelines, implicit and explicit, that guide its members' thinking, decisions and actions (Suominen et al 1997), including those surrounding pain. These cultural attitudes are learnt and reinforced by families, friends, colleagues, through observing other peoples' reactions to pain, watching television and films, or reading newspapers or novels (Helman 1994). Hence, members learn how much pain is permitted, where and when it is acceptable to express it and for what reasons (Zborowski 1952, Morris 1991).

Extreme examples of how cultural learning influences pain tolerance can be seen in the annual 'hook hanging' ritual performed in India or the widespread practice of trepanation in East Africa. During hook hanging, two steel hooks are placed under the skin and muscles of a man's back. He is then suspended from a cart that moves between villages while he blesses children and crops. Rather than being in pain, the man appears to be in a "state of exultation" (Melzack and Wall 1988, p17).

Trepanation involves cutting the scalp and underlying muscles to expose the skull, which is then scraped and the resulting blood loss collected. All this is carried out without anaesthesia and those undergoing the procedure remain still and in no apparent discomfort (Melzack and Wall 1988). Both these examples illustrate the influence of cultural attitudes on whether procedures are considered painful or not.

Linked to cultural influences is the context in which pain is experienced. Expressing pain in certain settings may be interpreted as a sign of weakness, a lack of courage or cowardice (Weis et al 1983), for example, soldiers on a battlefield (Morris 1991). This occurs as pain behaviour is closely related to how and where it fits within a society's values, the social context in which this behaviour occurs and how it is perceived and understood (Craig 1978). Pain behaviour may be suppressed when cultural stereotypes are created, such as the British 'stiff upper lip' and the stoical Irish. These people, especially males, are seen to grit their teeth and stay silent when in pain (Morris 1991). However, pain expression also depends on the context; for example, it is accepted, if not expected, for players to roll around when tackled on a football pitch (Skevington 1995). The importance of context on pain behaviour, particularly relating to military personnel is discussed further in Chapter 9.

One of the earliest studies into cultural pain reactions explored different pain behaviours and attitudes among four different ethno-cultural groups in a New York hospital; Jewish, Irish, Italian and 'Old Americans' (Zborowski 1952). Although similar reactions to pain were found there were also significant differences among the groups regarding their pain attitudes and experiences. Zborowski found that although Italian and Jewish patients freely expressed their pain emotions without embarrassment, they had different pain attitudes, partly determined by their cultural upbringing (Zborowski 1952). In contrast, Old Americans were stoical and believed that "there is no point complaining, because it won't help anybody" (Zborowski 1952, p24). Certain patterns within each group were identifiable, but there were also individual variations depending upon the patient's condition, their personality, socio-economic background, educational level and religious beliefs (Zborowski 1952).

Zborowski concentrated on grouping patients into cultural categories. As a result, his work has been criticised for creating ethnic stereotypes and, as his study only included a few participants (n=103), the findings may not truly represent each cultural group (Wolff and Langley 1977, Kleinman et al 1992). It has been reported that there is more variability within cultural groups than between them (French 1989), although it has also been argued that stereotyping is inevitable if one considers that attitudes and pain experiences are a socio-cultural creation (Morris 1991).

Other studies exploring cultural influences on pain experiences have reported different results. For example, Zalon's (1993) study of 119 abdominal surgical patients using a Visual Analogue Scale (see Section 4.4.2) found that ethnicity was unrelated to the patients' pain scores, although the patients' actual cultural background is not given. McNeill et al (1998) reported similar findings and found no significant differences in pain intensity between the 157 patients from three different cultural backgrounds. However, this latter study only included small numbers of patients in some groups, for example, only 8 Hispanic and 27 African-American patients, whilst the majority of patients (78% = 122) were Caucasian.

In contrast to the above, Hiscock and Kadawatage (1999) reported cultural differences in their descriptive comparative study of 30 Sri Lankan and 30 English patients. Using a self-administered questionnaire, differences in patients' attitudes to their pain experience revealed that 78% (22/30) of Sri Lankan patients said that they would not

report their pain to a staff member compared to 33% (10/30) of UK patients. In addition, 80% (24/30) of Sri Lankan patients preferred to be alone when in pain compared to 20% (6/30) of UK patients. Although only involving a small number of patients (60), this study clearly shows differences in cultural attitudes to pain experiences. However, while the researchers were from the same cultural background as the patients, the study did not discuss if, or how this influenced the data collected.

Studies have also reported that analgesic use is related to cultural influences on pain expression. For example, a study of 149 patients undergoing various surgical procedures, found that ethnicity was a predictive factor for the amount of analgesia required, with Caucasian patients (93/149) requiring significantly more analgesia than African or Asian patients (56/149) (p<0.001) (Dahmani et al 2001). In an earlier study, Streltzer and Wade (1981) found that Hawaiians and Caucasians received significantly more analgesia post-operatively compared to Chinese, Japanese and Filipino patients. Ng et al (1996a) also reported similar results in their study of 250 patients following orthopaedic surgery, where White patients (Ng et al's term) received the highest dose of narcotics, followed by Black patients (Ng et al's term) and then Hispanics (p<0.002). However, as with McNeill et al's study, patient groups were not equal, as White patients made up the majority of the study group (114/250) and there were only 36 Black patients.

Whilst recognising that cultural influences may determine if patients require more analgesia than others, it was not clear from the above studies whether there was a general difference in patients' analgesia requests or whether nurses administered different analgesia according to their own expectations of how patients from these different groups would react to pain. For example, in another study by Ng et al (1996b), a retrospective examination of 454 patient records found that although there were no significant differences in the analgesia used with PCA's, higher amounts of analgesia were prescribed to White patients than Hispanics, and to Blacks than Hispanics and Asians (p<0.05) (Ng et al 1996b). Once again, caution has to be exercised due to unequal numbers of patients, for example, records of White patients dominated (314), followed by Hispanics (73), Asians (37) and Blacks (30). While acknowledging these limitations, Ng et al's study (1996b) demonstrates that there appears to be different expectations among health care personnel of how patients from different cultures

respond to pain. Section 2.3 explores cultural influences on nurses' attitudes to pain in more detail.

A criticism of many studies into cultural influences on pain is that they are often based on anecdotal observations of small groups and have used different pain measures, thus making generalisations difficult (Ng et al 1996a). Ng et al's criticism followed an analysis of over 200 articles published over 40 years exploring the relationship between pain and culture in hospital patients. Similar to Riley et al (1998) (Section 2.2.2 above), Ng et al believe that the inconsistent study methods explains why varied results were found and the lack of a clear relationship between pain and culture (Ng et al 1996a).

Although criticisms have been raised about studies into culture and pain experiences, including those by Zborowski, such studies have opened the subject of cultural influences on pain to further exploration (Encandela 1993). In addition, it is recognised that "the cultural elaboration of pain involves categories, idioms and greatly diverse modes of experience" (Kleinman et al 1992, p1).

Section 2.2 has presented an overview of the different factors influencing patients' pain experiences, including culture. Nurses, too, are influenced by many different factors and these are explored in the following section.

Section 2.3   Factors influencing nurses' pain attitudes

As Table 2.3 shows, many factors influence nurses when assessing pain. These factors are discussed below and are not presented in any order of priority. However, while they are in separate sections, they should not be seen as occurring in isolation. Similar to studies into patient factors influencing pain experiences above, conflicting results have also been found when exploring nurse factors.

Table 2.3	Factors influencing nurses' attitudes to pain	
Factor	**Studies showing influence**	**Studies showing no influence**
Patient gender, age and social class	Davitz and Pendleton (1969) Davitz and Davitz (1975) Davitz et al (1977a, 1977b) Cohen (1980) Mason (1981) Martin and Belcher (1986) McCaffery and Ferrell (1991a, 1992a) Calvillo and Flaskerud (1993) McDonald (1994)	Dudley and Holm (1984) Holm et al (1989) Zalon (1993)
Nurses' gender		Davitz and Pendleton (1969) Cohen (1980) Dudley and Holm (1984) Halfens et al (1990)
Nurses' age		Cohen (1980) Mason (1981) Dudley and Holm (1984) Holm et al (1989) Calvillo and Flaskerud (1993)
Clinical experience	Baer et al (1970) Lenburg et al (1970) Mason (1981) Iafrati (1986) Dalton (1989) Choinière et al (1990) McKinley and Botti (1991) Zalon (1993) Mackintosh (1994) Nielsen et al (1994) de Rond et al (1999) Mackintosh and Bowles (2000) Sjöström et al (2000)	Cohen (1980) Walkenstein (1982) Dudley and Holm (1984) Watt-Watson (1987) Halfens et al (1990) Hamilton and Edgar (1992) Calvillo and Flaskerud (1993) Thorn (1997)
Physical pathology and autonomic changes	Davitz and Pendleton (1969) Davitz et al (1977a) Taylor et al (1984) Halfens et al (1990) McCaffery and Ferrell (1992a) Hunt (1995) Thorn (1997) Chuk (1999) Nash et al (1999)	Dudley and Holm (1984) McKinley and Botti (1991)
Relationship with patient	McCaffery and Ferrell (1997a) Holm et al (1989)	
Addiction risk	Cohen (1980) Weis et al (1983) Saxey (1986) Watt-Watson (1987) Seers (1987) Kuhn et al (1990) Hamilton and Edgar (1992) McCaffery et al (1992) Hunt (1995) Mackintosh and Bowles (2000)	Lloyd (1994)

Section 2.3.1   Patient characteristics - gender, age and social class

Generally, nurses consider that females experience greater pain than males. For example, Davitz et al (1977a, 1977b) found that out of 544 nurses from six different cultural backgrounds (USA, Japan, Puerto Rico, Korea, Thailand and Taiwan), females were seen to experience greater physical pain than males. Davitz et al devised a questionnaire consisting of 60 brief vignettes of patients with different illnesses, injuries, ages and both genders. Previous tests of this questionnaire, the Standard Measure of the Inference of Suffering, had shown a correlation for physical pain of 0.96 and test-retest correlation for physical pain of 0.89 (Davitz et al 1977b). (Correlation coefficients are described in Section 4.4.2).

In another study involving 362 nurses, differences in pain sensitivity between genders were reported, with 27% (98) of nurses believing males were more sensitive than women, whereas only 10% (37) of nurses considered women were more sensitive than men (McCaffery and Ferrell 1992b). These findings are surprising as generally within Western cultures stoicism dominates (Morris 1991). These results may have occurred as the majority of nurses were female and may have considered that women were more likely to have had previous pain experience, for example, following childbirth, and so were less sensitive to pain. Martin and Belcher (1986) also found that Zulu nurses believed males suffered more pain than females, as traditionally males were the hunters and gatherers and thus were more likely to experience pain. This highlights how the roles adopted within a culture influences how people are expected to react and behave when in pain (discussed in relation to the military in Section 2.5).

Conflicting results have also been reported from studies into the influence of the patient's age on pain. For example, Davitz and Pendleton (1969) and Mason (1981) found that nurses considered younger patients suffered more pain than elderly patients. In contrast, McCaffery and Ferrell (1991a) presented 359 nurses with two patient vignettes where the only difference was the patient's age. While 83% (149) of nurses agreed with the score given to the younger patient (aged 30), more nurses agreed with the elderly patient's (aged 75) pain score (92% = 165). In addition, 17% (30) of nurses considered that the younger patient had less pain than they were scoring, compared to only 6% (11) for the elderly patient. Finally, Davitz et al (1977a) reported that Japanese, Korean, Thai and Taiwanese nurses inferred greatest pain among children, while American nurses considered the elderly suffered greater pain (Davitz et al 1977a). This

latter study and the one by Davitz and Pendleton (1969) also demonstrate the important influence of the nurses' cultural backgrounds on pain attitudes and assessment.

Some of the contradictions highlighted above may have resulted from the use of different research methods. For example, Davitz and Pendleton and Mason used general questionnaires including many different vignettes to obtain nurses' pain attitudes, while McCaffery and Ferrell used two vignettes and nurses were asked to rate the patient's pain within these. Thus, the different research methods used makes direct comparison difficult.

Social class is a form of social stratification that is adopted to maintain social order. Within western cultures social class is closely related to the training and education required for particular occupations and economic positions (Bond and Bond 1994). Studies into the influence of a patient's social class on nurses' pain expectations have shown that patients from lower or middle-classes are considered to experience more pain than patients classified as upper class (Davitz and Pendleton 1969). This was supported in another study where nurses believed that lower class women reported more pain than lower class men, while upper class women experienced less pain than upper class men (Davitz and Davitz 1975).

In a later study, Calvillo and Flaskerud (1993) found a significant relationship between nurses' pain assessments and the patient's socio-economic status, with nurses judging patients from blue collar and professional occupations as having more severe pain than unskilled or non-working housewives (p<0.01). An associated problem with social class is that language may differ and this can lead to communication problems that will also influence pain assessment (Walding 1991). Meinhart and McCaffery (1983) believe that nurses may be more sympathetic to patients from the same social class (Major Group 3 – Associate professional and technical occupations) (Bond and Bond 1994) as they share similar attitudes and expectations.

Section 2.3.2   Nurses' gender and age

Studies have failed to find a significant relationship between the nurse's gender and their pain assessment, for example, Davitz and Pendleton's (1969) study of 130 nurses (32 Korean, 30 Thai, 23 Puerto Rican, 20 American Negro and 25 American White nurses), Dudley and Holm's (1984) study of 50 nurses and Halfens et al's (1990) study

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of 136 Dutch student nurses. However, these results should be treated cautiously as only 5 out of 50 subjects in Dudley and Holm's study (1984) were male, while Davitz and Pendleton (1969) and Halfens et al (1990) do not state the number of male nurses in their studies. However, the numbers are expected to be low as nursing is predominantly a female profession, for example, only 7.8% (38 918/499 546) of UK registered general nurses are male (Nursing and Midwifery Council (NMC) 2004). Similar to studies on nurse gender, no correlations between the nurse's age and their pain assessment have been found (Cohen 1980, Mason 1981, Dudley and Holm 1984).

Section 2.3.3   Clinical experience

Baer et al (1970) reported that with experience some nurses grow accustomed to seeing patients in pain. They become so overwhelmed that they deny the existence of pain as a coping mechanism and they become 'blind to the patients' pain' (Baer et al 1970, p390). Iafrati (1986) supported these findings and found that newly registered nurses were more likely to correctly score or over estimate patients' pain levels, compared to nurses qualified over four years, who were more likely to underestimate pain. Similarly, McKinley and Botti (1991) reported that the quality of pain assessment deteriorated the longer nurses were qualified. Likewise, Choinière et al (1990) reported that experienced burns nurses significantly under estimated patients' pain. Like Baer et al (1970), these authors believed that repeated exposure to patients' pain resulted in nurses developing a defence mechanism to these pain complaints.

In contrast, Zalon (1993) found that nurses with 6-10 years experience were more accurate in assessing pain than nurses who had been qualified < a year or between 1-5 years, although they were less accurate than nurses with >10 years experience. Zalon's study supported Dalton (1989) who reported that the longer nurses were qualified, the more likely they were to agree with patients' self-reports of pain. Dalton attributed this to experienced nurses having an increased awareness of the different factors influencing pain (Dalton 1989). Finally, some studies have not found a link between the length of nursing experience and pain assessment (Walkenstein 1982 (8 Burns and Plastics nurses), Dudley and Holm 1984 (50 nurses), and Watt-Watson 1987 (207 nurses), Halfens et al 1990 (216 nurses), Hamilton and Edgar 1992 (318 nurses)).

The conflicting results above highlight the complexity of the pain experience and may reflect different pain knowledge levels among nurses according to their clinical environment. As nurses gain experience caring for patients with similar conditions they learn 'normal' pain levels associated with those conditions. For example, Mackintosh (1994) found 28% (17/61) of surgical nurses in a Yorkshire hospital believed that they could tell how much post-operative pain patients were experiencing from their previous surgical knowledge. However, when this study was repeated several years later only 14% (8/63) of nurses still held this view (Mackintosh and Bowles 2000). The authors consider this change may have resulted from an increased knowledge amongst nurses of the many factors influencing pain that make it a subjective, individual experience (Mackintosh and Bowles 2000).

Other studies have also reported a link between nurses' clinical experience and their pain inferences, for example, Nielsen et al's (1994) qualitative study (8 Danish nurses), de Rond et al (1999) (227 Dutch nurses), and Sjöström et al's (2000) qualitative study (30 critical care nurses), particularly when a visible cause and changes in patient observations are present (see Section 2.3.4 below). However, Thorn (1997) found that nurses do not believe that they can determine patients' pain levels from their surgical knowledge, although this was only a small study of 20 nurses. The influence of changing patient observations is now explored.

Section 2.3.4   Physical pathology and autonomic changes

As Section 2.2 stated, pain is unseen and this invisibility has resulted in occasions when nurses doubt its existence (Sutton 1995, Browne 1996). When an underlying organic cause for pain is not apparent or visible, nurses consider that patients suffer less pain. For example, in Davitz and Pendleton's (1969) study (introduced in Section 2.3.2), the 130 nurses used a seven-point scale for a number of fictitious patients with different clinical conditions to indicate suffering. The authors found that patients with burns were scored significantly higher than patients with non-visible conditions (diabetes and leukaemia). Similarly, 133 Dutch student nurses who completed a questionnaire involving a hypothetical patient attributed significantly less pain when physical pathology was absent ($p < 0.001$) (Halfens et al 1990). In contrast, McKinley and Botti's (1991) study with 115 nurses, found that when assessing pain, the presence of physical pathology was the second least important factor after information received from other staff.

Nurses may believe that patients have higher pain levels when there is a physical cause present due to the continuing dominance of biomedicine that favours a visible, acceptable physical cause, whereas if this is absent, the existence of the pain is denied, or is considered unimportant or unreal (Turk and Okifuji 1999) (see Section 2.2 above). Nurses may be more likely to believe patients' self-reports of post-operative pain because an identified cause (surgical wound) is present (McCaffery and Pasero 1999).

As pain is invisible, nurses have to rely on patients' self-reports and this may signify a lack of control over the pain for some nurses (Hiscock and Kadawatage 1999). To regain control, nurses may demand other evidence, particularly physiological signs, such as changes in patients' autonomic responses (vital signs), that is, increased heart rates and blood pressure, rapid respirations and dilated pupils, to confirm patients' pain reports (Gould and Thomas 1997). However, physiological changes do not always occur in post-operative pain due to compensatory measures (Dodson 1985), or from underlying medical conditions, for example, hypothyroidism, or following dehydration from pre-operative fasting, or opiate administration (McCaffery and Pasero 1999).

Some nurses erroneously believe patients' vital signs will always alter when they have acute pain and use this to verify the pain (McCaffery and Ferrell 1992a). One small study (26 Australian Intensive Care nurses completing a patient vignette) found that 15% (4) of nurses underscored the patients' pain when vital signs were elevated compared to 38% (10) who underscored patients' pain when vital signs were within normal range, and these results were significant ($p<0.01$) (Chuk 1999). Similarly, Nash et al (1999) found that nurses continually relied on physical assessment, including vital signs, rather than patients' subjective pain measures. However, Thorn (1997) found that 30% (6/20) of orthopaedic nurses were unsure or opposed the view that not all pain can be detected by physiological signs.

Section 2.3.5   Relationship with patients

McCaffery and Ferrell explored nurse/patient relationships with 607 American nurses who completed a vignette, either adopting the role of the nurse or the patient's relative (McCaffery and Ferrell 1997a). McCaffery and Ferrell found that nurses in the relative's role were more inclined to believe that nurses should agree with patients' pain scores (86% = 263/607), compared to 63% (189/607) who adopted the nurse's role (McCaffery and Ferrell 1997a). The authors suggested a greater level of personal

involvement and sensitivity to patients' pain occurred when nurses assumed the relative's role, whereas when there was little involvement nurses distanced themselves from patients and were less sensitive to their needs (McCaffery and Ferrell 1997a). This is another coping mechanism similar to that described in Section 2.3.3 above.

Section 2.3.6   Addiction risk

While opiates are a necessary part of post-operative pain management, there is a long held fear (albeit small) of addiction (Friedman 1990), although the actual incidence has been reported as 1 in 3000, that is, 0.03% (RCS/RCA 1990). A fear of addiction has resulted in some nurses being reluctant to give patients post-operative analgesia, particularly morphine (Cohen 1980, Kuhn et al 1990). Studies have consistently shown that nurses overestimate the addiction risk, for example, Seers (1987) found 85% (24/28) of UK nurses overestimated the addiction risk from controlled drugs, although in a later study this had reduced to 54% (19/35) (Hunt 1995). Poor pharmacological knowledge is one reason for this continued overestimation (Saxey 1986, Weis et al 1983, Watt-Watson 1987, RCS/RCA 1990, Hamilton and Edgar 1992).

More recently, McCaffery and Ferrell found that 63% of American nurses (335/537) correctly identified the addiction risk to be less than 1% (McCaffery and Ferrell 1997b). In the UK, Mackintosh and Bowles (2000) reported that while their 1993 study found 33% (20/61) of nurses agreed or were unsure with the statement that care should be taken when giving controlled drugs post-operatively as patients can easily become addicted, this had reduced to 19% (12/63) in 1997. Although these changes were not statistically significant (p=0.122), the authors highlight that in the latter study fewer nurses completed the question as they stated that they required more information before answering it. This change may have resulted from increased analgesic knowledge or questionnaire familiarity.

Another factor influencing nurses' attitudes to addiction risk is the patient's lifestyle. For instance, McCaffery et al (1992) found that out of 452 nurses completing a patient vignette where the only difference was the patient's lifestyle (one was an unemployed construction worker, the other a businessman), 37% (167/452) expressed concern that the unemployed patient could become addicted to morphine, compared to only 20% (90/452) for the businessman. This once again highlights the important influence of cultural attitudes on pain and is explored further in Section 2.3.8.

Section 2.3.7 Reasons for conflicting results – nurse factors

Several reasons may account for the conflicting results presented above, such as the use of different tools to measure nurses' pain management knowledge and attitudes (Bell 2000). In addition, many studies only involved small numbers of nurses, they were carried out in different countries and they used different research methodologies, both quantitative and qualitative, and thus the data analysis varied. In addition, as Section 2.3.4 described, the continuing dominance of biomedicine requires physical signs, such as physiological changes in patients' vital signs, to confirm the existence of pain. However, with increasing nursing knowledge there is less reliance on biomedicine (Wakefield 1995, McCaffery and Pasero 1999), although as nurses are exposed to both biomedical and nursing attitudes these may conflict.

Section 2.2 described the interaction of many factors that influence the pain experience and these also affect nurses differently. Culture, in particular, has a major influence on group attitudes (see Section 2.4 below), including expected pain behaviours according to gender, age, and lifestyle. The importance of a nurse's cultural background and its influence on all aspects of their attitudes to pain may override their formal education or clinical experience (Martin and Belcher 1986). As cultural influences on nurses' pain assessment are central to this study they are now explored in detail.

Section 2.3.8 Cultural factors and nurses' pain interpretations

Nurses, as well as patients, belong to their own culture, and this influences how they assess pain. For example, Davitz and Pendleton's (1969) series of studies (see Section 2.3.2) found statistically significant differences between the cultural groups, particularly the Korean and American Negro nurses ($p<0.01$), Thai and American nurses ($p<0.01$), Puerto Rican and American Negro nurses ($p<0.01$), American Negro and American White nurses ($p<0.01$), and Puerto Rican and American White nurses ($p<0.05$) when inferring pain in a patient vignette. Davitz and Pendleton believed that these differences occurred as nurses belonged to a wider culture where pain attitudes and expected behaviours are learnt from an early age, for example, Puerto Ricans were emotional people while American Negroes had high pain thresholds (Davitz and Pendleton 1969). Similar findings were found in a later study of 544 nurses where nurses from Korea and Japan inferred greatest pain followed by nurses from Taiwan, Thailand, Puerto Rico and the USA (Davitz et al 1977a, 1977b).

In another study, 152 nurses (76 Caucasian and 76 Afro-American) completed a questionnaire containing different patient vignettes (Davitz and Davitz 1978). Half of each group were given a questionnaire where all patients were Caucasian while the other half had vignettes with Afro-American patients. No significant differences were found between the pain inferences made between the two groups of nurses, regardless of the patient's cultural status (Davitz and Davitz 1978). Davitz and Davitz gave no explanations as to why these results differed to previous studies. The authors did not identify if the Afro-American patients and nurses were immigrant or had been born within the local community, as it is known that there is increasing acculturation of people from different ethnic backgrounds within the same environment (Helman 1994). This also highlights how cultures are not static and they continually change and adapt (Keesing 1981) (discussed further in Chapter 9).

As a result of nurses' cultural attitudes, they may stereotype patients from different cultural backgrounds and expect pain to be expressed in a pre-determined way. For example, within the UK, there is a dominant attitude that stoical behaviour demonstrates courage and endurance and when post-operative patients display such behaviour, it is admired and even rewarded (Thomas 1997a). Expected stoicism is an important aspect that is revisited in later chapters.

Another influence of culture is on how pain is expressed. For example, Martin and Belcher (1986) found that American nurses considered patients who screamed were in the most pain while South African English nurses stated quietness indicated pain. In an early study, nurses inferred greater pain if patients verbalised their pain rather than remaining stoical (Baer et al 1970), that is, they were uncomplaining. Therefore, if patients express their pain in a way that is consistent with the nurses' expectations they are more likely to be believed and receive sympathy and treatment (Helman 1994). However, if patients try to behave as they consider is expected by nurses (McCaffery 1979) and adapt their pain behaviour and become stoic, nurses may be unaware of the patients' actual pain (Eccleston 1997, McCaffery and Pasero 1999).

Section 2.3.9 Summary of Sections 2.2 and 2.3

The above sections have highlighted the complexity of pain that is influenced by many factors and this may explain the conflicting results of the studies discussed (see Sections 2.2.2 and 2.3.7). Of specific relevance is the nurses' and patients' cultural background,

which can sometimes differ, and the resulting incongruence can impair the nurse/patient relationship and may lead to unnecessary or inappropriate pain management (Molzahn and Northcott 1989, Allcock 1996). This is particularly important, as it is nurses who normally have the responsibility for managing patients' pain (Cohen 1980, Bell 2000).

The significance of cultural influences on nurses' pain assessment attitudes cannot be underestimated and it may be that the decisions nurses make regarding a patient's pain are influenced more by their cultural attitudes than by other factors such as patient age, gender or operation type (Zalon 1993). However, it is also recognised that a nurse's cultural background influences their attitudes to these factors and they need to be aware of these attitudes so that they can provide unbiased care (Abdullah 1995).

Previous sections have discussed various studies into factors affecting nurses when assessing pain. Many studies were undertaken in other countries, for example, the USA (Davitz and Pendleton 1969, Davitz et al 1977b, Mason 1981, Dudley and Holm 1984), the Netherlands (Halfens et al 1990), Sweden (Sjöström et al 2000) and Australia (Ferguson et al 1997). There have been limited studies within the UK specifically exploring nurse factors influencing pain assessment, the exceptions being Saxey (1986), Carr (1990, 1997b), Scott (1992), Hunt (1995), Field (1996b), Thorn (1997) and Couling (2005). However, these studies only involved small numbers of nurses (19 in Saxey's study, 20 in Thorn's study, 35 in Hunt's study, 49 in Couling's study and 56 in Field's study) and they did not explore cultural influences in depth.

As Section 2.2.3 described, members learn accepted attitudes, including those surrounding pain through their culture, and particularly the socialisation process where they learn to conform to the groups' cultural norms, including language, customs and conventions (Bond and Bond 1994). In this way, members learn their expected roles and acquire the cultural attitudes necessary for group acceptance (Joseph 1994, Kelly and Joel 1999). However, like other societies, British culture is not homogenous and there are distinct groups of people who, while sharing many aspects of the larger culture, develop their own attitudes (Helman 1994). These are referred to as sub-cultures (Bond and Bond 1994). Within Western society, one such sub-culture is nursing with its own system of attitudes and behaviours that influence how their members act, so that they do so in an acceptable way.

Socialisation into the nursing profession also influences nurses' pain assessment attitudes and shapes their predispositions to respond in a generally favourable or unfavourable way to their patients' pain (Molzahn and Northcott 1989). Exploring socialisation within the nursing profession is important as many military nurses undertake their nurse training within civilian nursing environments. Socialisation within nursing is explored in the following section. However, military nurses are also members of the military sub-culture and Section 2.5 describes the socialisation of military personnel into this sub-culture. Finally, Section 2.6 compares the socialisation of these two sub-cultures.

Section 2.4   Nursing socialisation

Socialisation is the process whereby new members, such as nurses, learn to behave in an acceptable way as they strive to enhance their status and become accepted by other group members (Smith 1981, Bond and Bond 1994). Initially, new members bring attitudes to the social group learnt through primary (early childhood) and secondary (their life careers) socialisation (Birchenall 1998). Professional socialisation then occurs over time following continued contact with other group members. This moulds the new members' attitudes and as these become internalised and match the institutional philosophy, new members learn their role (Béphage 1997, Doheny et al 1997). In this way, new members learn the rules that guide them to behave in an expected manner and this enables them to survive in the new and strange environment (Ford and Walsh 1994, Gray and Smith, 1999).

Experienced nurses have a major influence on how and what new members learn and they act as role models by providing instruction of what is important to be professional nurses (Olsson and Gullberg 1987, Anderson 1991, Campbell et al 1994, Fitzpatrick et al 1996). Through role models, new members "learn how to act like a nurse" (Windsor 1987, p151) by observing what other members do and internalising the new social norms (du Toit 1995, Doheny et al 1997, Howkins and Ewens 1999, Gray and Smith 1999, Philpin 1999). As these skills and behaviours are practised, new nurses gain the approval of the experienced nurses and they develop confidence and a conviction that they have become legitimate practitioners (Bond and Bond 1994).

Socialisation into nursing also occurs within the context of organisational constraints, particularly the hierarchical structure where student nurses commence at the foot of the status ladder. The hierarchical structure becomes evident to new nurses through the recognition of different uniforms, status emblems and titles. Such symbols originated as nursing evolved during the Victorian era and from military and religious influences, for example, the use of terms 'Sister' and 'Matron' (Ford and Walsh 1994). In addition, the military changed the character of nurses during World War Two where anything associated with the military and masculinity was afforded a higher status and access to power than anything feminine, such as sympathy, tenderness and compassion (Starns 1998). Feminine traits were discouraged and the traditional image of a nurse as "an angel of mercy shifted to that of an unfeeling battleaxe" (Starns 2000, p44).

The socialisation process also continues in the nurses' accommodation. Traditionally, those commencing nurse training were segregated, and due to low wages, nurses often spent most of their off duty time in their residences, which were frequently attached to the hospital (Littlewood 1991). There were strict rules regarding behaviour, nurses were segregated according to their status, and visits by members of the opposite sex were strictly controlled (Littlewood 1991). However, nurse training has now moved from hospital control into higher education, and many student nurses now reside in university or private accommodation, where there is less segregation (Ford and Walsh 1994).

The British armed forces, hereafter referred to as the military, is another British sub-culture. As members of this sub-culture, military nurses are socialised in the same way as other military personnel. The socialisation process within the military is now described.

Section 2.5   Military socialisation

The military consists of three separate services, the Royal Navy (RN), the Army and Royal Air Force (RAF), and each service is broken down into distinct groups according to the role they fulfil, for example, Corps and Squadrons. Although the roles of each service differ, they all share a common aim, that is:

> "To maintain the freedom and territorial integrity of the United Kingdom and its Dependent Territories, and the ability to pursue its legitimate interests at home and abroad"
> (Chief of the General Staff 1996, p2-1).

Military socialisation starts when new members undertake initial military training where they are exposed to the military culture through more experienced members (instructors). Socialisation commences once recruits enter training establishments (separated and protected by wire fencing and guards) and continues as they all wear similar uniforms and learn to behave in an acceptable, military way. Recruits are kept active at all times and they are subjected to rigorous physical activity (Ross and Woodward 1994). One of the aims of initial basic training is to rid recruits of their civilian attitudes and replace them with those appropriate to the military (Hockey 1986). Thus, initial military training is a rite of passage (van Gennep 1960) facilitating the transition of new recruits from "outsiders" to "insiders", so that they can become legitimate members (Brown 1995). Recruits leave their familiar world behind and return once they have undergone the initiation rituals (training) as changed personnel (Bloch 1992). Successful completion of initial military training is demonstrated by the recruits' 'passing out' parade where they display their newly learnt military behaviour through precise drill movements on the parade square in their impeccably smart uniforms (Hockey 1986, McManners 1994).

Another important aspect of initial military training that continues once members move to their respective units is the development and maintenance of military ethos, that is, the overall attitudes and behaviours expected of military personnel.

Section 2.5.1 Military ethos

In order for military personnel to carry out their roles it is important that they maintain high standards and this is achieved through continued training and the development of military ethos, the latter of which has generally been unwritten (Mileham 1995, Beaumont 1997) (but see Section 1.3.1). The concept of military ethos includes such aspects as military values and beliefs, integrity and honour, a serviceman's conscience, military professionalism, loyalty or 'esprit de corps', commitment and cohesion, volunteer spirit, discipline, and obedience (Mileham 1995). Military ethos is renowned throughout the services but until recently it has not been codified or written in official training manuals (Knell 2001) (see Section 1.3.1). It has been reported that military personnel feel uncomfortable talking about ethos, believing that it is defined in their actions and so does not need to be made explicit (Frost 1998).

Military ethos is instilled during initial military training and continues throughout a person's military service through the norms (the unwritten rules of behaviour or expectations of behaviour, for example, bravery in battle) and values (what is regarded as important) (Richardson 1978, Chapman 1995). The norms and values are largely instilled through military, and more importantly, regimental or squadron history and tradition (Coker 1998). Great emphasis is placed on loyalty to a particular regiment, ship or squadron, members are told of their unit's previous accomplishments, and they follow military traditions faithfully and wear the unit's uniform, badge or title with great pride (Chapman 1995). Many such groups and units are renowned for their bravery and courage, for example, the Special Air Service (SAS), Bomber Command in World War Two and the Royal Marine Commandos (Naylor 1980). However, despite differences between each service and specific ships, units or squadrons, military personnel all share a common aim that what they believe in is worth fighting for (Andrzejewski 1954). Personnel know their duty may involve taking risks and they show a sense of patriotism and self-sacrifice and they are willing to lay down their lives for their group when threatened with harm or death (Hinde 1991, O'Bierne 1998).

Military nurses are also influenced by the military culture as they undertake the same initial military training as other members and are subject to the same rules and regulations (Haston 1999). Therefore, they experience the same socialisation process that aims to reduce diversity and produce collective thinking (Starns 2000). However, more recently, on completion of initial military training, there has been an increased emphasis on integrating military personnel, including the medical services, with civilians and a growing partnership with civilian organisations (see Section 9.1.3). For example, following the restructuring of the medical services in the mid 1990's, military hospital units, such as MDHU's and the RCDM (see Section 1.3), are now integrated within NHS Trusts (Surgeon General 2000). Therefore, military nurses are now increasingly working with civilian nurses and are exposed to the prevailing NHS attitudes (Wills 1997). Chapter 9 examines the consequence of this on military nurses' attitudes to post-operative pain.

Military ethos is an important factor of military socialisation that governs all the expected and accepted attitudes and behaviours. Pertinent to this study is how this influences the way military personnel express and interpret pain.

Section 2.5.2   Military pain behaviour

Military training emphasises the need to suppress emotions and to remain silent when injured as this shows that "they are real men" (Zborowski 1969, p51). This is believed to demonstrate great strength and instructors tell personnel about previous members who have shown such fortitude. Such examples include the injured British soldier who during the Battle of Waterloo, and without showing any emotion, held his own arm while it was being amputated. Similarly, Lord Uxbridge's only comment while having his leg amputated was about the knife's bluntness (Richardson 1978). These examples also demonstrate, as previously discussed in Section 2.2.3, the importance of context on pain behaviour. Additionally, suffering was a normal part of military life during the nineteenth century where there were few volunteers and personnel were press-ganged or joined the military in preference to going to jail. Military discipline was harsh and punishment reminded personnel that they were not angels but, as described by Wellington, the scum of the earth (Richardson 1978).

Many military personnel consider that discipline and punishment are necessary to ensure that they are tough enough to endure the horrors of war and therefore stoicism is encouraged (Richardson 1978, Frost 1998). However, military discipline is not as tough as it was previously where displaying courage during war or following injury was how men demonstrated their virility, with pain being seen as a womanly trait (Skevington 1995). Today, many military personnel use jokes and humorous language to hide their pain and use other activities, such as sport or adventurous training, to demonstrate their virility (Richardson 1978, McManners 1994). These changes also partly reflect changing societal attitudes to discipline and pain (see Chapter 9).

Sections 2.4 and 2.5 have explored the socialisation processes within nursing and the military. Although nursing and the military are two distinct sub-cultures they share some similarities and differences. These are now discussed.

Section 2.6   Comparison of civilian and military nurses

The socialisation process for both civilian and military nurses follows the same general principles and has many similarities. This is not surprising since the military influenced the development of the nursing sub-culture (Walsh and Ford 1989, Wurzbach 1999). For example, as nursing evolved it followed many military practices, such as the

wearing of uniforms, stripes on sleeves to distinguish rank, and nurses were inspected daily by their matrons, as though they were soldiers on parade (Starns 1998).

Within both sub-cultures, socialisation commences when new members enter their respective group, although the level of segregation differs. Military nurses begin their socialisation during initial military training where they are completely isolated and subject to military discipline. Section 2.4 stated that civilian nurses are also segregated but this is not to the same degree, particularly in relation to accommodation and initial training. While at university, civilian nurses are also in contact with people from many different professional backgrounds. One major difference between the two sub-cultures is the various environments military nurses can work in, for instance, field medical facilities during conflict, although nursing care remains similar (Alderman 1996). This requires military nurses to be flexible and adaptable to meet any new challenges (Lancaster 2000, Mace 2000, Smyth 2000).

New members to both nursing and the military are influenced by experienced colleagues and learn to accept the group's attitudes. Both groups are also characterised by a hierarchical structure (Walsh and Ford 1989) and although this varies between different civilian hospitals and the three military nursing services, all personnel soon learn the importance of the hierarchy. However, the hierarchical structure and use of discipline is more evident and powerful within the military.

The above sections have described how members of any group, including nurses, learn to behave in socially acceptable ways (Bond and Bond 1994). Of particular relevance for this study is that nurses learn the socially accepted way to assess pain (Willson 2000), which is seen to be the most important part of their role when caring for patients in pain (Carroll 1993). Although many pain assessment tools are available, there is always a degree of subjectivity when nurses assess pain (Seers 1988) and this develops during their professional socialisation, irrespective of whether this is as a civilian or a military nurse. Pain assessment, including its importance and the disparities that can occur between nurses and patients, is now described.

Section 2.7   Pain assessment

> "In order to improve the management of acute pain we must first be able to
> reliably assess patients' pain"
> (Hunter 1993, p36).

The above quote emphasises the necessity of accurately assessing pain to ensure that it is managed effectively. However, Sections 2.2 and 2.3 discussed the complexity of the pain experience, including the many different factors influencing its expression and interpretation by both patients and nurses, so that it is a highly personal and subjective experience (Pasero et al 1999b). Therefore, to ensure pain assessment is accurate, it is necessary to involve patients, as it is their pain and only they know its intensity (National Institute of Health 1987). However, because pain is unseen, its assessment is frequently dictated by personal opinion and patients are not always involved in the process, resulting in frequent discrepancies between nurses' and patients' pain assessments (McCaffery 1999).

Section 2.7.1   Discrepancies between nurses' and patients' pain assessments

As detailed above, pain is subjective and unseen and therefore, nurses are required to rely on patients' self-reported pain levels. The importance of this is demonstrated in the following quote about pain assessment:

> "All pain is real regardless of its cause, pain is whatever the person experiencing
> it says it is and exists where he says it does"
> (McCaffery 1968, p95).

This quote is taken from a lecture on bodily pain contained within a clinical nursing course written by McCaffery to explore theories related to bodily pain (McCaffery 1968). The quote is provided as a simple definition at the beginning of the lecture before presenting a detailed examination of pain and its assessment and the complexity of pain that is influenced by many factors. However, McCaffery also acknowledges later in the lecture that occasions may occur when patients deny having pain despite an adequate stimulus being identified. In these situations, McCaffery stresses that nurses should always believe patients unless they can identify other behaviours or psychological and cultural influences that would lead the patients to deny their pain (McCaffery 1968). This is explored further in Chapter 8.

McCaffery's quote is frequently used to indicate the uniqueness of an individual's pain experience and the difficulty when trying to interpret this pain. This may explain the reported disagreements between patient's self-reports and nurses' assessments of the same pain (Camp and Sullivan 1987). In addition, if nurses believe patients over rate their pain, this may explain why post-operative pain management remains poor (see Section 1.1).

Even when nurses use patients' self reports, they often plan patients' pain relief according to their own attitudes rather than their patients' self-reports (McCaffery and Pasero 1999). The discrepancies between nurses' and patients' post-operative pain assessments are highlighted in Table 2.4.

Table 2.4	Differences between nurses' and patients' pain assessments		
Author(s)/Date	**Number of patients**	**Number of Nurses**	**Significant Results**
Seers (1987)	80 (abdominal surgery)	28	Nurses over estimated 13% of the time, and under-estimated 54% of the time
McKinley and Botti (1991)	115 (medical and surgical)	115	Nurses assessed 84% (97) patients as being in pain, only 65% (72) patients reported being in pain. Significant difference (p<0.001).
Zalon (1993)	119 (abdominal surgery)	119	Nurses correctly assessed pain in 35% (41) patients, under-assessed pain in 45% (54) patients and over-assessed pain in 20% (24) of patients.
Sjöström et al (1997)	180 (general surgery, orthopaedic and gynaecology)	30	70% (21) nurses underestimated patient's pain
Klopfenstein et al (2000)	40 (abdominal surgery)	8	Nurses significantly under-estimated pain at rest but only at 48 and 72 hours (p<0.01)
de Rond et al (2000)	703 (56% undergoing surgery) – 467 assessments	216	44%-68 % (109-147) of nurses correctly assessed pain, 18%-34% (40-86) over-assessed and 14%-22% (30-55) of nurses under-assessed. Results not statistically significant

Table 2.4 shows various studies that demonstrate differences between nurses and patients when assessing the same pain. For example, Seers showed that for more than two thirds of the time, nurses and patients did not agree on pain levels, with nurses over rating patients' pain 13% of the time and under rating the pain 54% of the time (Seers 1987). Pain intensity is also significant and nurses have under assessed severe pain while over assessing mild pain (Zalon 1993). Although some of these studies only included small numbers, they do show that nurses consistently under estimate patients' post-operative pain, and it is concerning that even in de Rond et al's study (2000), where results were not statistically significant, a fifth of nurses were found to under estimate their patients' pain.

The lack of consensus between nurses and patients is not surprising considering the different factors influencing both patients and nurses (see Sections 2.2 and 2.3). In addition, as previously mentioned (Section 2.3.7), direct comparison is difficult as studies have used different tools to measure nurses' pain management knowledge and attitudes (Bell 2000), as well as including patients from different clinical environments, for example, oncology (Camp 1988), burns and plastics (Walkenstein 1982, Iafrati 1986, Choinière et al 1990), and medicine (Graffham 1981, Thompson et al 1994 (CCU), Krivo and Reidenberg 1996).

Although nurses often stress the importance of patients' self reports, few studies have found that this is the most frequently used method to assess pain (see Field 1996b). Many nurses prefer to use their own subjective judgements and this may also explain disparities between nurses' and patients' pain reports. For example, while Ferrell et al (1991) found that the most frequently used method to assess pain intensity was asking patients (91% = 48/53 nurses), only 45% (22/53) considered that this was the most influential factor. Thus, over half the nurses deemed other factors as more important than patients' self reports, including observing patient activity (87% = 46/53) and patient behaviour (81% = 43/53). Chapters 6 and 8 examine this further.

Section 2.3.4 described how nurses often believe that it is necessary to verify patients' pain by observing facial expressions or changes in vital signs (Meinhart and McCaffery 1983). This may also explain the discrepancies between patients and nurses. For example, Saxey (1986) found that 69% (13/19) of nurses relied on non-verbal cues as the major criteria to assess patients' pain, while McCaffery and Ferrell found patient

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behaviour had a greater influence on the nurses' pain assessment than the patient's self report (McCaffrey and Ferrell 1994). The reliance on other factors rather than patients' self reports as the primary means of pain assessment is concerning since there is no research indicating that these are better indicators of pain intensity than patients' own verbal reports (McCaffery and Ferrell 1997b). Once again this may reflect biomedical dominance and the reliance on physiological changes, that is, observable signs and symptoms (see Sections 2.2 and 2.3.4).

Section 2.7.2   Some explanations for discrepancies between nurses' and patients' pain assessments

One explanation for the above discrepancies is that patients' verbal pain reports may not accurately reflect what they actually feel. This is particularly evident in cultures where pain is a private experience, such as western cultures, where pain may be concealed from nurses (Jacox 1979) and they may only report what they believe nurses expect them to (Hosking and Welchew 1985, French 1989). As Section 2.3.1 highlighted, if nurses and patients belong to different socio-cultural groups, their pain attitudes could differ, resulting in nurses inaccurately assessing their patients' pain (Jacox 1979). In addition, nurses may not ask patients about their pain if they feel powerless to reduce it (Briggs 1995) or if they believe that they know when their patients have pain (de Rond et al 1999).

Overall, pain assessment studies have demonstrated how nurses do not consider that their patients are the best judges of pain, despite many nurses stating the opposite and acknowledging the importance of patient involvement in this assessment (Watt-Watson 1987). The incongruence between patients and nurses may also result from the socialisation of nurses into their profession, during which time they learn accepted pain attitudes (see Section 2.4) and expected pain behaviours. Thus, differences between patients' and nurses' pain assessments may occur if the patients' behaviour is different to what nurses expect.

Accurate pain assessment is necessary to ensure that nurses appropriately manage their patients' pain, although as detailed above pain assessment remains poor. While the use of a standardised approach to pain assessment has been recommended (RCS/RCA 1990, Audit Commission 1998), nurses rarely use such approaches. For example, Watt-Watson (1987) reported that only 3% (7/207) of nurses used any standardised approach to pain assessment and the lack of a standardised approach has also been confirmed in

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later studies, for example, see Carr (1997b). The importance of accurate pain assessment, including the benefits of using a pain assessment tool, is now examined.

Section 2.7.3   Accurate pain assessment

It has been recommended that adopting a standardised pain assessment tool will provide an objective appreciation of the subjectivity of the pain experience (RCS/RCA 1990, Audit Commission 1998). Using such a tool has been shown to accurately indicate patients' pain levels (de Rond et al 1999), although to be effective, nurses also need a comprehensive knowledge and understanding of pain management and the importance of keeping accurate assessment records (Carr 1997b). However, studies have shown that such records are frequently poorly maintained (Donovan et al 1987, Ferrell et al 1991, Carr 1997b) and when patients do report pain, nurses frequently rephrase this for inclusion in the patients' records (Fox 1982, Carey et al 1997). This can occur if nurses and patients are not from the same cultural background (see Section 2.3.1) and they may use different terminologies which can be misinterpreted or nurses may consider that they know best (see Section 2.3.3). Poor documentation may also occur if nurses consider that pain is sufficiently unimportant to warrant a complete assessment (Camp and Sullivan 1987, Camp 1988).

Various pain assessment tools have been devised and one common tool for measuring pain intensity (see Chapter 1) is the Numerical Rating Scale (NRS). Although several tools have been designed to assess pain, for example the McGill Pain Questionnaire (Melzack and Torgerson 1971), NRS's are simple to administer and they have demonstrated reliability and validity for the unidimensional measure of pain (intensity) (Sim and Waterfield 1997). In addition, using a NRS promotes consistent communication between patients and nurses and this may reduce any misunderstandings (Malek and Olivieri 1996). Section 4.4.3 describes NRS's further and provides a rationale for its use in this study.

Section 2.8   Current state of relevant nursing research and this study's aims

This chapter has explored pain and its assessment and has shown that pain is a complex phenomenon. As Tables 2.2 and 2.3 show, various factors influence pain and its assessment. These tables also demonstrate that many studies have concentrated on exploring just one factor influencing pain and its assessment, although these factors do

not occur in isolation and they all inter-relate. As Sections 2.2.2 and 2.3.7 highlight, this may explain why studies exploring the same factor have reported conflicting results.

As a result of the combination of the above influences, pain expressions and interpretations vary and, thus nurses are subject to many biases when they assess pain (McCaffery 1999). Sections 2.2.3 and 2.3.8 highlighted the importance of culture that influences both patients' and nurses' attitudes to pain as they are socialised into their respective cultural groups. Sections 2.4 and 2.5 discussed the socialisation process in relation to two British sub-cultures; nursing and the military. However, as Section 2.6 revealed, military nurses belong to both the nursing and the military sub-cultures and while there are many similarities, there are also some differences and these were explored in this study.

Nurses increasingly care for patients from varied cultural backgrounds who may hold different attitudes to pain and this may explain why many studies continue to find discrepancies between nurses' and patients' pain assessments. This heterogeneity may also explain why patients' self-reports of pain are not used as the primary means of assessing pain (see Section 2.7). Nurses prefer to use other methods, such as patients' observations and behaviours (Meinhart and McCaffery 1983, Saxey 1986) and they believe that they know best (de Rond et al 1999). This highlights the dominance of biomedicine and the importance of clinical experience and knowledge on nurses' attitudes. This was also explored in this study.

Section 2.5 examined how the military culture encourages stoicism and this may also influence military nurses' pain attitudes. However, to date no research has studied the influence of military culture on UK military nurses when assessing post-operative pain and this was the main rationale for undertaking the study. In addition, if pain is accurately assessed it will ensure that patients receive effective pain management, thus reducing in-patient times, the risk of complications and improving patients' welfare and psychological well being (RCS/RCA 1990). While a reduced hospital stay can be measured in financial terms, the benefit for patients is immeasurable (RCS/RCA 1990).

Although no previous studies into military cultural influences on military nurses when they assess post-operative pain have been identified, many studies with civilian nurses have shown that cultural background does influence how they assess pain. This study

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commenced with the assumption that military culture would influence nurses' post-operative pain assessments, and particularly the military expectation that personnel would be stoical (see Section 2.5) would be present. It was anticipated that military nurses would also expect patients, especially military patients, to be stoic. However, it is also acknowledged that data were gathered within the context of the military nurses' normal working environments. Context has an important influence on pain behaviours and nurses when assessing this pain (see Section 2.2.3). Chapter 10 revisits this important aspect but the implications of contextual background need to be considered throughout the thesis.

As military personnel are not a homogenous group, the initial part of the study explored whether different military factors, for example, service affiliation, length of military service or rank, influenced how military nurses assessed post-operative pain. Thus, the aims of Stage 1, first introduced in Section 1.3, were:

1)   To identify whether military culture influenced military nurses when assessing post-operative pain.

2)   To compare civilian and nurses' post-operative pain assessments.

Before Stage 1 is discussed in more detail, the following chapter provides an overview of the research methodologies chosen and a rationale for using both positivistic (quantitative) and interpretive (qualitative) methodologies.

CHAPTER 3. METHODOLOGY

Introduction

This chapter briefly introduces the methodologies utilised to meet the study's aim of exploring the influence of military culture on military nurses when they assess post-operative pain. The study was undertaken in two stages and used methodologies from the positivistic and interpretivist paradigms to explore different aspects of the same phenomenon (Parahoo 1997), that is, post-operative pain assessment. These two paradigms, or worldviews, are compared along with their relevance for this study. Sections 3.2 and 3.3 introduce the importance of maintaining rigour and addressing ethical considerations to ensure that research is undertaken robustly.

Section 3.1   Methodology

The approach chosen for any research study depends upon the main philosophical assumptions underlying the research and for many years the two main assumptions related to the paradigms of positivism (Section 3.1.1) and interpretivism (Section 3.1.2) (Bryman 2001). The term paradigm refers to the agreed attitudes, techniques and values that are held at a given time and which significantly affect the epistemological (the study of knowledge) and ontological (the nature of reality) stance chosen by a researcher (Rees 1998). The epistemological and ontological positions directly influence how research is carried out, including the research approach taken, the types of questions asked, and how data is collected and analysed (Polit and Hungler 1993).

Positivism and interpretivism have often been described as two separate and contrasting paradigms (see Hammersley and Atkinson 1995) that are linked to distinctive epistemological and ontological assumptions, although these are not fixed and their associated research methods are seen as compatible (Bryman 2001). However, more recently the distinctions between these two approaches are considered less apparent (Bryman 2001) (see Section 3.1.3). The main aspects of these two paradigms and their relevance to each stage of the study are now discussed, beginning with positivism.

Section 3.1.1   Positivism

Positivism developed in the eighteenth and nineteenth centuries and is the dominant paradigm within the natural sciences where there is the belief that universal laws can be explained through scientific description following observation and reasoning (Harper

and Hartman 1997). Positivistic research is hypothetico-deductive, that is, hypotheses are formulated and tested, generally through quantitative methods. These methods gather large amounts of data for statistical analysis in order to seek causal relationships from which generalisations can be extrapolated from the sample to the whole population (Polit and Hungler 1999).

Section 1.3 highlighted that no previous research exploring pain assessment by British military nurses had been found. Therefore, the initial aims for Stage 1 (see Section 1.3) were to identify whether military culture influenced military nurses when assessing post-operative pain and to compare civilian and military nurses' post-operative pain assessments, that is, to seek associative relationships and test hypotheses. Thus, there was an underlying assumption of an objective reality that could be measured and understood and which was context free and independent of human observation (Polit and Hungler 1999). A structured questionnaire survey collected data for statistical analysis, and this helped the researcher to maintain a neutral role and so prevent bias (Hammersley and Atkinson 1995). Stage 1 best fitted the ontological assumptions underlying the positivistic paradigm (see Table 3.1) and is presented in Chapters 4-6.

Some social scientists have criticised positivism for its mechanistic and reductionistic approach that ignores the complexity of human behaviour, the social context, and the human capacity for interpreting and reflecting on experience (Cohen and Manion 1989). It has also been argued that reducing human behaviour to quantitative and statistical analysis provides an empty description rather than any clear understanding or meaningful interpretation (Henry and Pashley 1984). The growing discern with the positivistic paradigm led to a paradigm shift in the mid-twentieth century as some sociologists began to see the world as socially constructed and defined, and thus a new paradigm, interpretivism, developed (Holloway and Wheeler 1996).

Section 3.1.2   Interpretivism
The roots of interpretivism lie within philosophy and the human sciences, particularly anthropology (Harper and Hartman 1997). This paradigm moved away from the natural sciences and their methods of investigation towards interpretation and meaning and peoples' subjective experiences. Interpretivism's ontological position is that reality is mentally constructed within a person's social and cultural environment and knowledge is constructed in a social context (Harper and Hartman 1997).

Weber, a German sociologist, named this focus on interpretation and meaning 'Verstehen' (meaning empathy) (Frankfort-Nachmias and Nachmias 2000). Verstehen focuses on the importance of context for understanding and interpreting other peoples' actions. Proponents of Verstehen believe that different research methods are needed to understand people's behaviour and the subjectivity of human experience (Frankfort-Nachmias and Nachmias 2000). Thus, the major difference between positivism and interpretivism is that the latter is concerned with qualitative issues through observing and listening to people rather than the statistical and numerical measurements used in quantitative research (Holloway and Wheeler 1996). Interpretivism considers that experiences are inextricably linked with time, location and the person's mind at the time and all these influence the research process. As people have different experiences, their ontological perspectives differ (Rees 1998). As a result, interpretivists consider that objectivity and neutrality are not achievable, but rather that the attitudes held by both the participants and the researchers are integral to the research and need to be considered (Hammersley and Atkinson 1995) (discussed further in Section 10.2.5).

Research methodologies within interpretivism focus on describing and understanding human behaviour through exploring thoughts, feelings and attitudes. Thus, small sample sizes can be used as the concern is not statistical comparisons or generalisations but gaining insights and understandings (Rees 1998). Interpretivist research is inductive as data is collected through qualitative methods such as interviews or observation from which theories can then be generated (Rees 1998).

Section 1.3 described how Stage 1 of the study revealed some contradictions in the post-operative pain assessment attitudes of military nurses and the aim of Stage 2 (presented in Section 1.3) was to provide explanations for these. Of particular interest was how the military culture influenced military nurses' attitudes and the taken-for-granted assumptions and common-sense methods used when assessing post-operative pain. As the focus was military nurses' subjective understandings and interpretations of their post-operative pain assessment, data were obtained through in-depth ethnomethodological ethnographic interviews. The researcher's direct involvement revealed how military nurses made sense of their everyday activity of pain assessment so that they behaved in a socially acceptable way. The underlying ontological and epistemological assumptions for Stage 2 were related to the interpretive paradigm (see Table 3.1). Stage 2 is described in Chapters 7-9.

Section 3.1.3   Comparison between positivism and interpretivism

The above sections briefly introduced the two research paradigms of positivism and interpretivism. Table 3.1 summarises the main differences between these two paradigms and these differences help to inform and direct how research is undertaken.

Table 3.1 Differences between positivism and interpretivism		
	Positivism	**Interpretivism**
Aim	Search for causal explanations Testing for hypothesis, prediction	Exploration of participants' meaning Understanding
Approach	Context-free, often artificial setting	Context-bound, mostly natural setting Getting close to the data
Data Collection	Questionnaire interview Tightly structured observation	In-depth interviews Observation/fieldwork
Analysis	Statistical	Thematic Ethnographic
Outcome	Measurable results	Story, ethnography, theory
Relationships	Limited involvement of researcher Research relationship distant	Direct involvement of researcher Research relationship close
Validity	Internal/external validity, reliability	Trustworthiness
(adapted from Holloway and Wheeler 1996)		

Positivism remains dominant within the wider scientific community and research within this paradigm may be more highly valued by other health care professionals (Rees 1998). Some traditional positivists consider that qualitative methods are a soft option, as they lack rigour in the absence of a systematic analytic procedure, and the researcher's closeness to the subjects biases the results (Barker 1999). However, if the research focus is generating knowledge from understanding and interpreting attitudes (as in Stage 2 of this study), an interpretive perspective is more appropriate (Barker 1999). Interpretive research also allows an exploration of processes that go beyond surface appearances to discover the impact of social and cultural contexts (Holloway and Wheeler 1996). This is also particularly relevant for Stage 2 that explored military cultural influences on military nurses' attitudes to pain assessment. However, as Section 3.1 noted, the distinctions and debates surrounding positivism and interpretivism are now less important and there is an increasing recognition of their interaction and overlap (Bryman 2001). Neither positivism nor interpretivism should be considered superior to

the other, but as different approaches, dependent upon the researcher's goals and intentions (Hammersley and Atkinson 1995). Several authors have criticised the divisions created between these two paradigms where they are seen as polar research approaches (see Hammersley 1992, Hammersley and Atkinson 1995, Grbich 1999, Silverman 2000a).

Utilising both positivistic and interpretivistic research strategies is increasing in popularity as it is believed that this captures the best of both quantitative and qualitative approaches and any biases inherent in one method can neutralise or cancel those of other methods (Creswell 2003). This is known as a mixed methods approach where it is recognised that research practices lie on a continuum between quantitative and qualitative research (Creswell 2003). Within the mixed methods approach, strategies are used that involve collecting data simultaneously or sequentially as it is considered that collecting diverse types of data can best provide an understanding of the research problem (Creswell 2003). For example, sequential procedures involve expanding the findings of one method with another method, such as undertaking a survey with a large number of individuals followed by a more detailed exploration with a few interviews (Creswell 2003), that is, as used in this two-stage study exploring the influence of military culture on military nurses when assessing post-operative pain using a questionnaire survey (Stage 1) prior to in-depth ethnomethodological ethnographic interviews (Stage 2).

However, of fundamental importance is not the methodological perspective adopted, but that the research is credible and methods from either paradigm can be utilised according to the research questions or topic being investigated. This was appropriate for the different aims of each Stage as detailed in Sections 3.1.1 and 3.1.2 above. In addition, methods from both paradigms can be combined within one study, (as with this study), providing that rigour is maintained and ethical issues addressed (Rees 1998). These two issues are now introduced.

Section 3.2   Rigour

Reliability and validity are important when undertaking any research, as these are the criteria used to judge the study's veracity and credibility (Carter and Porter 2000). Reliability is concerned with consistency and replicability, while validity is the extent to which a research method measures what it purports to (Smith and Hunt 1997).

However, as Table 3.1 shows, there are different purposes and goals within the positivistic and interpretive paradigms so the criteria for reliability and validity vary. For example, positivistic research focuses "on the measuring tool used or its ability to assess the degree of consistency or accuracy with which it measures an attribute" (Clamp et al 2004, p98). This applied to the questionnaire survey used in Stage 1 and is addressed in Section 4.7. In contrast, interpretative research focuses "on identifying and documenting features and phenomena in similar and different contexts" (Clamp et al 2004, p98). As interpretive research gathers subjective data, different criteria evaluate its trustworthiness and this was applied to the interviews used in Stage 2 (see Section 7.6) to ensure the data represented reality (Grbich 1999).

Section 3.3   Ethical considerations

Ethical considerations concern the quality of the research procedures so that they adhere to professional, legal and the subject's social obligations (Polit and Hungler 1993). This means that subjects take priority, their rights and interests should always be safeguarded, they should not be exploited for personal gain and their privacy should be protected (Spradley 1979, Polit and Hungler 1999).

Various ethical considerations need to be addressed, the first of which applies before any study commences. This involves the rationale for the proposed study and its potential contribution to the body of knowledge surrounding the researched topic (Lyon and Walker 1997). As no previous studies have explored military cultural influences on military nurses when they assess post-operative pain, it was considered that this study would contribute to this knowledge. This ethical consideration is important for any research, be it with patients, clients or other health care professionals, as there is always some cost to these individuals (Hale et al 1998). This may involve asking participants to give up a few minutes to complete a questionnaire (as with Stage 1), but can involve more time, such as being interviewed (Stage 2). The Royal College of Nursing (RCN) regularly publishes ethical principles underlying any research and these apply irrespective of the level of involvement or intrusion (RCN Research Society 2003). However, all those participating in a study are vulnerable to the risk of potential harm, be it physical or psychological. To ensure participants are protected during research three important ethical principles should be adhered to; beneficence, non-maleficence and respect for autonomy (Hale et al 1998). These principles are now introduced.

Section 3.3.1 Beneficence

Beneficence refers to doing or promoting good (Lyon and Walker 1997) and research is one means of determining that nurses provide appropriate patient care. However, research does not always directly benefit those involved and it is only later when results are published and disseminated that practical benefits may be utilised (RCN Research Society 2003). The benefits of identifying factors influencing military nurses when they assess post-operative pain assessment were only apparent following the study's completion. However, some nurses reported that completing questionnaires and being interviewed prompted them to reflect on their pain assessment attitudes.

Section 3.3.2 Non-maleficence

The principle of non-maleficence encompasses the maxim: 'Above all, do no harm' (Polit and Hungler 1999, p134), that is, no harm should come to anybody involved in a research project (RCN Research Society 2003). This is especially important when discussing sensitive issues or those likely to cause members concern (Lyon and Walker 1997). This principle was particularly important during interviews and is addressed in Section 7.7.

Section 3.3.3 Autonomy

Another important ethical consideration is autonomy where those participating in research are able to make reasoned decisions about issues that affect them so that they have a free choice of whether to participate or not. Therefore, they should be given all the relevant information to allow them to make this choice (RCN Research Society 2003), including written materials detailing the research and potential risks or consequences (Lyon and Walker 1997, McHaffie 2000). Nobody should be pressurized into participating and it should be clear that refusing to take part or withdrawing at any stage will have no adverse consequences (Polit and Hungler 1999). Sections 4.8 and 6.1 describe this important aspect for Stage 1 and Section 7.7 details this for Stage 2.

An essential aspect of autonomy is confidentiality to ensure that participants' identities are protected and are not linked to any data (Polit and Hungler 1993). All those who agree to participate need assurances that confidentiality will be maintained and if not, the extent to which confidentiality will apply. The procedures implemented to maintain confidentiality are discussed in Sections 4.8 (Stage 1) and 7.7 (Stage 2).

To ensure that ethical considerations are addressed and adhered to, research studies are required to gain ethical clearance. This is now briefly described.

Section 3.3.4 Ethical clearance

Ethics Committees have been formed to externally review proposed research studies to ensure ethical considerations are adhered to (McHaffie 2000, RCN Research Society 2003). Such a review will assess the ethical implications of all stages of the research to establish that researchers are suitably qualified and supervised, the methodology and research methods are appropriate, and that results will be accurately analysed, interpreted, and disseminated to broaden knowledge and improve practice (Lyon and Walker 1997). Ethical clearance was obtained from the Local Research Ethics Committee (Appendix A) to distribute questionnaires to civilian nurses and from the Ministry of Defence (Appendix B) to distribute questionnaires and interview military nurses (see Section 4.8).

Section 3.4 Summary

This chapter has introduced the two research paradigms utilised for this study and presented the rationale for utilising research methods from both paradigms to answer different questions relating to the study's aims surrounding post-operative pain assessment by military nurses. Irrespective of the methodologies used, research needs to be rigorous and follow ethical principles to protect participants and to ensure that the research is valid and reliable. Rigour and ethical considerations were introduced and are incorporated in the thesis when appropriate.

The remainder of this thesis describes the study in more detail, commencing in the following 3 chapters with Stage 1, a self-completed questionnaire survey, while Chapters 7-9 present Stage 2, ethnomethodological ethnographic interviews.

CHAPTER 4.   STAGE 1 OF THE STUDY (QUESTIONNAIRE SURVEY)

Introduction

This chapter describes the design for Stage 1 of the study (Section 4.1), including the choice and development of the questionnaire (Sections 4.1.1, 4.4 and 4.5), the setting and samples (Sections 4.2 and 4.3), and the statistical tests used for questionnaire analysis (Section 4.6). Section 4.7 discusses the specific issues relating to rigour for Stage 1, while the final section (Section 4.8) details the procedure followed for this Stage of the study. Chapters 5 and 6 present the findings and the discussion from Stage 1 respectively. Throughout the following three chapters, the term pain is used to refer to post-operative pain, the focus of the study, unless otherwise indicated.

Section 4.1   Design overview

The method chosen for Stage 1 was a factorial, analytical survey (Oppenheim 1992) as this allowed an exploration of how different variables (factors) were related to each other (analytical), rather than just identifying the numbers of each variable (descriptive) (Oppenheim 1992). This involved exploring the interrelationship between military nursing culture, including nurses' rank and which service they belonged to (RN, Army or RAF), and the assessment of a fictitious patient's pain. Some descriptive statistics are presented (Section 5.1) to provide background information and to put the study results into context, although the main analysis concentrated on associations between the different variables (Atkinson 2000). To identify if these variables were specific to military nurses, a similar sample of civilian nurses was identified for comparison. This questionnaire survey addressed the aims of Stage 1 detailed in Section 1.3, that is:

1)   To identify whether military culture influenced military nurses when assessing post-operative pain.

2)   To compare military and civilian nurses' post-operative pain assessments.

Null hypotheses were formulated to meet these aims and to identify specific cultural factors influencing military nurses' pain assessments (Table 4.1). Hypotheses are statements about populations that data collection and analysis seek to validate through testing (Donnan 2000b). They are normally expressed as null hypotheses that state there are no relationships between the different variables (Jordan et al 1998).

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Although no previous studies have explored military cultural influences on military nurses' pain assessments, it was considered that similar to other studies, military nurses' cultural background would influence this assessment. However, as this was the first study to specifically focus on military cultural influences on this assessment, the actual findings could not be predicted. Therefore, null hypotheses that would identify any relationships between the different variables and the nurses' pain assessments were appropriate, rather than research hypotheses, which are definite statements that there are relationships between variables (Salkind 2004). Hypotheses can be one-tailed (non-directional) that state there are differences between groups but does not state the direction of these, or two-tailed (directional) that state there are differences between groups and specify the direction of these (Salkind 2004). While research hypotheses could be tested in future studies, null hypotheses were appropriate for this first study to identify any relationships between different nurse factors and their pain assessment. Table 4.1 details the null hypotheses, normally abbreviated as H_o (Salkind 2004).

Table 4.1	Null hypotheses (H_o) for Stage 1 of the study
H_o 1	There is no relationship between military nurses' gender and their post-operative pain assessment.
H_o 2	There is no relationship between military nurses' service orientation and their post-operative pain assessment.
H_o 3	There is no relationship between military nurses' rank and their post-operative pain assessment.
H_o 4	There is no relationship between military nurses' number of years qualified and their post-operative pain assessment.
H_o 5	There is no relationship between civilian nurses' gender and their post-operative pain assessment.
H_o 6	There is no relationship between the civilian nurses' grade and their post-operative pain assessment.
H_o 7	There is no relationship between civilian nurses' number of years qualified and their post-operative pain assessment.
H_o 8	There is no difference between military and civilian nurses' post-operative pain assessments.

Data were collected through the distribution and analysis of a self-completed questionnaire survey. A questionnaire was appropriate as they have been used extensively to study the assessment of different types of pain by nurses and thus their theoretical basis is well established (see Davitz and Davitz 1975, 1978, McCaffery and Ferrell 1991a, 1991b, 1992a, 1992b, 1994, Ferrell and McCaffery 1998a). Questionnaires are explored in the following section.

Section 4.1.1   Questionnaire

Questionnaires are important tools for measuring knowledge and attitudes of specific topics (Oppenheim 1992). They collect quantifiable data through pre-determined, structured and standardised questions (Parahoo 1997) and analysis can be undertaken using computers for their speed, accuracy and flexibility (Polit and Hungler 1999). A key characteristic of questionnaires is that respondents complete them individually in written format (Jack and Clarke 1998). Questionnaires consist of a series of questions and/or attitude statements designed to elicit responses that can be converted into measures of the variables under investigation (Parahoo 1997). The variables were the pain scores nurses gave to patients and the influence of military and civilian nursing factors on this assessment. Qualitative data can also be obtained if space is included for comments (Parahoo 1997) and this feature was included in the questionnaire (see Section 4.5).

Questionnaires provide a quick way to collect large amounts of data, relatively cheaply, from vast numbers of people, especially if they are scattered over a large geographical area (Parahoo 1997). This was particularly beneficial as it allowed all military nurses working within established military surgical or orthopaedic environments (n=309 nurses) in both the UK and overseas to be included. As the researcher was senior in rank to all the respondents, anonymity was essential to reduce any potential influence from this rank difference and to increase the likelihood of completion and return. Anonymity also ensures studies conform to ethical principles (introduced in Section 3.3) and this increases the likelihood of respondents completing questionnaires truthfully.

The way questionnaires are distributed also needs to be considered to optimise response rates (Oppenheim 1992). As military personnel were widely scattered around the UK and overseas (see Section 4.2), questionnaires were posted. However, Table 4.2 lists some advantages and disadvantages of using postal questionnaires.

Table 4.2 Advantages and disadvantages of postal questionnaires	
Advantages	**Disadvantages**
Suitable for large samples	Low return rate
Offer complete anonymity	Unsuitable for respondents with poor literacy skills
Low cost of data collection	No opportunity to correct misunderstandings or to probe
Low cost of processing	No control over order in which questions are answered
Avoids interview bias	No check on incomplete answers, incomplete questionnaires or passing questionnaire on to others
Able to reach respondents who live at widely dispersed addresses or abroad	No opportunity for assessment based on observations
(adapted from Oppenheim 1992, Polit and Hungler 1993)	

Any study proposing to use postal questionnaires should consider the above advantages and disadvantages to ensure that this is the most appropriate method (Oppenheim 1992). It was considered that the advantages outweighed the disadvantages for this study, although the latter were considered and addressed when possible.

Response rates can be increased if a covering letter accompanies the questionnaires. This should be printed on good quality headed notepaper and structured to give a professional image (Oppenheim 1992). Response rates can also be increased if questionnaires are no more than 2-4 pages long (Sudman and Bradburn 1983). A long questionnaire may have resulted in a low response rate, as nurses, who already have little spare time, may have been reluctant to complete and return questionnaires.

Completing questionnaires has a cost in terms of time for the respondents and this has ethical implications as introduced in Section 3.3. The questionnaire was only three pages long (see Appendices C and D) and completion was not expected to take more than a few minutes. It was believed that this only posed a small risk to respondents. Literacy was not a problem as personnel wishing to become military nurses are required to attain a minimum literacy and academic level, currently the equivalent of five GCSE's at Grade C or above including English (Central Office of Information 1998, Army Recruiting Group 2000, Directorate of Naval Recruiting 2000). Civilian nurses are also required to have a certain level of academic skills and literacy.

It has been reported that adopting the above measures can increase postal questionnaire response rates from 40 to 80 per cent (Flaskerud 1979, Taylor et al 1984, Cohen and Manion 1989). Achieving the highest response rate possible helps ensure returns received are representative, thus reducing the effect of biases held by non-respondents that can distort the results (Bell 1993). Another aspect of maintaining rigour entails identifying and clearly defining the study's setting and sample and ensuring that respondents know what information is required to complete the questionnaire (Czaja and Blair 1996).

Section 4.2   Setting

Stage 1 was undertaken with registered nurses working in acute surgical or orthopaedic settings within similar military and civilian environments. Military nurses were employed in various military settings (Table 4.3), including the tri-service core hospital (the only UK military hospital (200 beds)) (but see Section 1.3.1), MDHU's (described in Section 1.3.1), field hospitals (deployable military health facilities with a surgical capability), and established overseas military hospitals. Clinical environments within the tri-service hospital included general surgery, urology, ear, nose and throat, colorectal and orthopaedics. At the time of Stage 1, there were four MDHU's and three Army field hospitals in the UK. Deployable field hospitals are mobile medical facilities where nurses can fulfil their operational role of providing emergency and routine treatment to service personnel during conflict, peacekeeping or humanitarian duties (Army Recruiting Group 2000, Surgeon General 2000). Nurses are allocated to field hospitals from other military units (usually for three to six months) (see Section 4.3.2), although some permanent staff are allocated to these units when they are not deployed.

Although the MDHU's and the tri-service core hospital are military units, nearly ninety per cent of in-patients are civilians (information obtained from ward admission records). The high percentage of civilian patients reflects the younger and fitter military population (aged between 16 and 55 years). However, military hospitals in Northern Ireland, Gibraltar and Cyprus (accounting for 16% – 50/309 of military surgical/orthopaedic nurses) mainly care for service patients and their families and so these nurses have more pain assessment experience with military patients than with civilian patients. As military nurses predominantly assess pain in civilian patients, it was anticipated that when completing the questionnaire, military nurses would generally relate this to civilian patients (see Appendices C and D).

A comparative sample of civilian nurses was also identified (see Section 4.3.3). These nurses were employed in general surgical and orthopaedic wards within a large teaching hospital in Southern England. The aim was to ensure that the two sample groups matched each other as closely as possible to allow comparison (Parahoo 1997). Table 4.3 shows the military and civilian settings.

Table 4.3 Military and civilian settings	
Military Units as at March 1999	**Civilian NHS Trust**
Tri-Service Hospital	Teaching Hospital
Ministry of Defence Hospital Unit (MDHU) (North of England)	
MDHU (East Anglia)	
MDHU (South-West)	
MDHU (South East)	
Military Hospital – Northern Ireland	
Military Hospital – Cyprus	
Military Hospital – Gibraltar	
UK based Army Field Hospitals (x 3)	

Section 4.3   Sample

A sample is the proportion of the defined population (the entire class of cases to which the researcher wishes to generalise their results) who are selected to participate (Porter and Carter 2000). A sample is chosen because it is not always practical to include the whole population (Moseley and Mead 2004). A sample is intended to reflect all the characteristics of the study population, so that results can be inferred to all members of that population (Porter and Carter 2000).

Section 4.3.1   Study population

Table 4.4 shows that at the time Stage 1 was undertaken, there were 961 registered nurses employed within the three military nursing branches, that is, the QARNNS, the QARANC, and the PMRAFNS, in the UK and overseas.

Table 4.4 Study population for Stage 1					Civilian Nurses – NHS Trust
Military Nurses					**Civilian Nurses – NHS Trust**
QARNNS – Officers – NCO	63 126	189	Gender		Total Number of Registered Nurses
QARANC – Officers – NCO	274 171	445	Male	Females	
PMRAFNS – Officers – NCO	118 209	327	291	670	
TOTAL		**961**			**2246**

Legend: QARNNS - Queen Alexandra's Royal Naval Nursing Service
                QARANC - Queen Alexandra's Royal Army Nursing Corps
                PMRAFNS - Princess Mary's Royal Air Force Nursing Service
                NCO – Non-Commissioned Officer (see below)

A military nurse was defined as any Registered Nurse employed in one of the three military nursing branches. Commissioned nurses are registered nurses with at least two years post-registration experience and preferably holding a second relevant qualification, for example, intensive care or trauma. Nurses holding non-commissioned officer status are recently qualified registered nurses or those lacking experience to fill junior Ward Sister/Charge Nurse posts (Central Office of Information 1998, Army Recruiting Group 2000, Directorate of Naval Recruiting 2000).

There were two thousand, two hundred and forty-six (2246) whole time equivalent registered nurses employed within the civilian NHS Trust (Table 4.4). A civilian nurse was any Registered Nurse employed full or part-time within that Trust.

Section 4.3.2   Sample - military nurses

Thirty-two per cent (309/961) of military nurses were employed within surgical or orthopaedic environments and all were included. This was a total population sample as all nurses came from the study population (surgical/orthopaedic nurses) (Parahoo 1997). The sample was representative of all military nurses who generally move every two to three years. These moves may be to different clinical environments to ensure that nurses have a wide range of nursing skills so that they can adapt to any situation should the need arise (Central Office of Information 1998, Army Recruiting Group 2000, Directorate of Naval Recruiting 2000). Surgical/orthopaedic nurses were appropriate for Stage 1 as they frequently assess pain. Table 4.5 shows the breakdown of these nurses per military unit.

Table 4.5	Study samples of military and civilian nurses		
Military Units	Number of Surgical/Orthopaedic Nurses in each unit	Civilian NHS Trust	Number of Nurses
Tri-Service Hospital	124	General Surgery	151
Ministry of Defence Hospital Unit (MDHU) (North of England)	36	Trauma and Orthopaedics	88
MDHU (East Anglia)	19		
MDHU (South-West)	22		
MDHU (South-East)	43		
Military Hospital – Northern Ireland	14		
Military Hospital – Cyprus	19		
Military Hospital – Gibraltar	17		
Army Field Hospitals (x3)	15		
TOTAL	309		239

The sample excluded nurses on deployment but included nurses permanently employed within the UK Army Field Hospitals. As nurses are usually deployed for 3-6 months, distributing and returning questionnaires would have been problematic due to the sporadic postal services to many of these locations. In addition, at the time of Stage 1, nurses were deployed to many different and dangerous locations and they may not have considered completion and return of questionnaires a priority. Finally, as the first study into the influence of military culture on military nurses when assessing post-operative pain, the focus was the normal working environments of military nurses as irrespective of their location, they were similar to each other as well as to those of civilian nurses, thus allowing a reliable comparison. Sections 2.2.3 and 2.8 highlighted the important influence of context, such as deployment, on military nurses when assessing pain and this is revisited in Chapters 8-10.

Section 4.3.3   Sample – civilian nurses

Table 4.5 shows that 239 nurses were employed in the surgical and orthopaedic directorates of the Civilian NHS Trust. This represented 10.6% (239/2246) of the total number of nurses employed within the Trust. This was a lower percentage than within the military (32%) and reflects the need for military nurses to have acute trauma and surgical skills for their operational role. In addition, the NHS Trust employs nurses in non-acute areas such as elderly care, as well as regional specialist units, for example,

neurosurgery, and transplant centres, whereas the military do not have these clinical areas.

All registered nurses employed within the general surgical and orthopaedic directorates of the NHS Trust were included. Civilian nurses were believed to be representative of nurses working within similar environments in other teaching hospitals. Their inclusion was appropriate as they shared the same registration status as military nurses and worked in similar environments, thus allowing a reliable comparison.

Section 4.4   Tool used - Questionnaire

The questionnaire used in Stage 1 was based on those used in previous studies exploring different nurse characteristics, including culture, that influence nurses when assessing various types of pain. Particularly notable were the questionnaires designed by Davitz and Davitz (1975, 1978), Davitz et al (1977a, 1977b), McCaffery and Ferrell (1991a, 1991b, 1992a, 1992b, 1994) and Ferrell and McCaffery (1995b, 1998a). A pain management vignette was included (see Section 4.5.1), as these have also been used to explore different influences on pain assessment (Ferrell and McCaffery 1995b).

Section 4.4.1   Patient vignette

A vignette is 'a brief description of an event, person, or situation to which respondents are asked to react' (Polit and Hungler 1993, p449). Patient vignettes have been used successfully in many disciplines, for example, social sciences, anthropology and psychology, to measure attitudes and beliefs of broad concepts (Flaskerud 1979, Finch 1987). They have also been used to study how the attitudes of health care professionals, including nurses, influences how they assess many different types of pain (Davitz and Davitz 1975, 1978, McCaffery and Ferrell 1991a, 1991b, 1992a, 1992b, 1994).

Vignettes should be a simulation of a real situation so that they are realistic to respondents (Lanza and Carifio 1990). They allow a situational context to be presented so that respondents can react in a more realistic way, rather than in a vacuum (Finch 1987). While questions relating to vignettes are frequently closed, space can be included to explore the rationale for respondents' answers (Abbott and Sapsford 1993). Variables within the vignette can also be manipulated (for example, the patient's gender) to provide a sophisticated methodology (Gould 1996). Another advantage is that all respondents are subjected to the same standardised instrument (Lanza 1990).

Some disadvantages exist when using vignettes. For example, they may be considered artificial as nurses have more time to make decisions when completing them than they would have in clinical settings (Harrison 1991). In addition, nurses do not usually make decisions about patients with the limited information contained within a vignette. In clinical situations, nurses respond to cues such as the patient's voice, facial expressions and body posture when assessing pain (see Sections 2.3.4, 6.3.2, 8.3.1 and 8.4.1 in relation to this study), whereas vignettes only allow nurses to assess the cues provided (Harrison 1991). Therefore, irrespective of how realistic vignettes are, respondents are not under the same pressure because the outcomes of their decision have no real costs to patients (Abbott and Sapsford 1998).

In real situations, nurses may also react differently and this represents differences between intended and observed behaviours (Westcott and Dunn 1998). Therefore, questionnaire responses may not reflect what nurses actually think or would do (Sheahan 1984, Lanza 1990, Abbott and Sapsford 1993, McDonald 1994, Westcott and Dunn 1998). While aware of this potential problem, the focus of Stage 1 was to identify different factors influencing military and civilian nurses when assessing pain. It is acknowledged that investigating differences between what nurses say and what they do would provide an interesting study, but this was outside this study's remit.

The vignette in this study (see Section 4.5.1) contained a patient scenario and asked nurses to mark on a pain scale what they considered was the patient's pain level. Pain scales are now discussed.

Section 4.4.2   Visual Analogue Pain Scales

Nurses frequently use Visual Analogue Scales (VAS) when assessing pain intensity in different clinical environments (McDowell and Newall 1987, Baillie 1993, Sim and Waterfield 1997). These scales are generally straight lines, usually 10 centre metres long, and can be vertical or horizontal (Huskisson 1974, Scott and Huskisson 1979, Huskisson 1982) (Figure 4.1).

Figure 4.1   Visual Analogue Scales

Worst Pain Imaginable

No Pain — Worst Pain Imaginable

No Pain
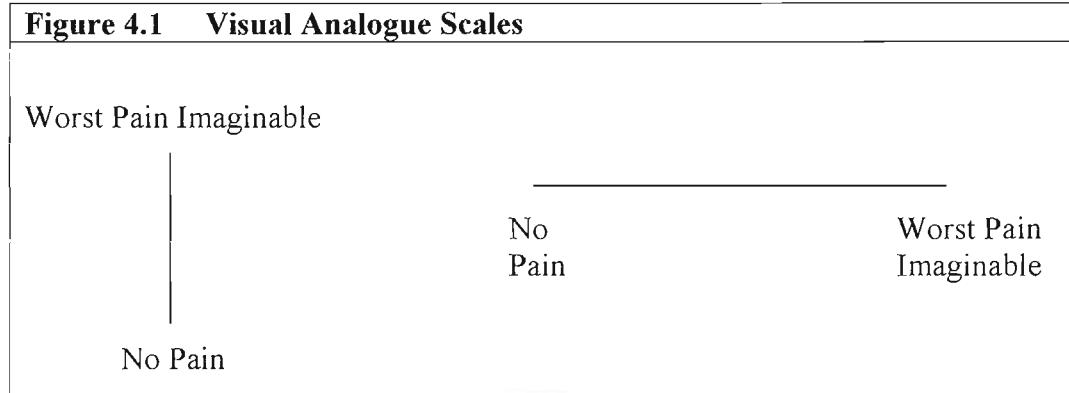
Huskisson (1974) reported that VAS's provided patients with a robust, sensitive and reproducible method where they could express their own pain intensity. VAS's have been refined over the past thirty years and lines of different lengths and with descriptive terms, such as severe, moderate or mild, have been used (Scott and Huskisson 1976). The reliability of pain scales has been tested using correlation coefficients that determine both the tool's internal consistency (for example, Cronbach's Alpha), and the strength of reliability between different tools (Polit and Hungler 1999). The normal range of a co-efficient is between .00 and +1.00 and the higher the number the greater the correlation (Polit and Hungler 1999).

In tests using both vertical and horizontal VAS's, Downie et al (1978) reported correlation coefficients ranging from 0.71-0.78 between the two types of scale, while (Scott and Huskisson 1979) found a correlation coefficient of 0.99. In other tests using a VAS, Scott and Huskisson (1976) reported a correlation of 0.76 between a vertical VAS and a 4-point descriptor (slight, moderate, severe, agonising), while Elton et al (1979) found correlations of 0.60-0.63 between a VAS and the McGill Pain Questionnaire. More recently, Carey et al's study (1997) with 267 patients found a reliability coefficient of 0.88 between a VAS of 100mm, a VAS with six faces depicting graduated levels of distress, and a Numerical Rating Scale.

Scott and Huskisson found that scales without adjectives along their length provided the most valid results as scales with adjectives had their responses clustered around these (Scott and Huskisson 1976). In addition, a VAS may be more difficult for some post-operative patients due to residual anaesthesia, blurred vision or nausea (DeLoach et al 1998), therefore, numbers can be included to increase clarity (Downie et al 1978). A numbered scale was adopted for this study's vignette (Question 1, Appendices C and

D). A numbered scale is called a Numerical Rating Scale and an example, as used in this study, is shown in Figure 4.2.

Figure 4.2   Numerical Rating Scale

0	1	2	3	4	5	6	7	8	9	10

No Pain/
Discomfort

Worst Pain/
Discomfort
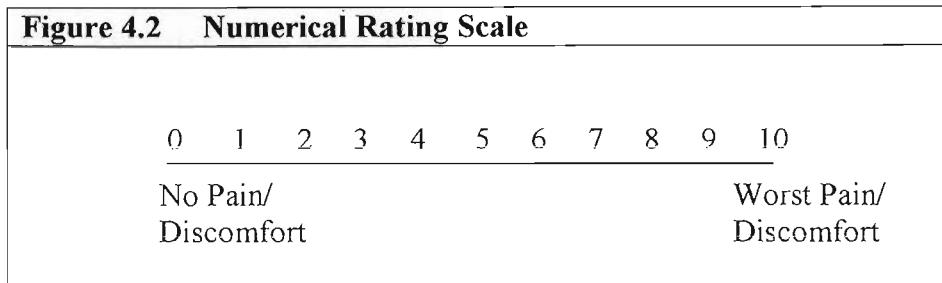
The main disadvantage of NRS's is that they only measure one aspect of pain, its intensity, and exclude pain's affective (the emotional distress) or evaluative (how it is interpreted) aspects (Melzack and Wall 1988, Carey et al 1997), which other tools measure, for example, the Initial Pain Assessment Tool, the Brief Pain Inventory (McCaffery and Pasero 1999) and the McGill Pain Questionnaire (Melzack and Torgerson 1971). It has also been reported that some patients find it hard to conceptualise pain on a NRS (Thompson 1989). In addition, a NRS only asks one general question about a pain level and this does not encourage patients to talk openly about their pain, thus obtaining any meaningful information is unlikely (Carr 2002). While recognising the importance of pain's affective or evaluative aspects, NRS's have been shown to be simple to administer and have demonstrated reliability and validity for the unidimensional measure of pain intensity (McCaffery and Ferrell 1994, Clarke et al 1996, Heath 1998, Cason et al 1999, van Niekerk and Martin 2001).

The internal validity of NRS's has been reported by several authors (for example, see Huskisson 1974, 1982, Scott and Huskisson 1976, 1979, Downie et al 1978, Elton et al 1979, Saxey 1986), while DeLoach et al (1998) and Thomas et al (1998) found that there was a good correlation between the use of NRS's and VAS's (correlation coefficients between 0.91 and 0.95). In addition, a NRS was most frequently used clinically by nurses in this study and therefore, it was considered appropriate to use in the questionnaire. Due to the potential for misunderstanding, Downie et al (1978) favoured the use of a 10-point numerical scale and this also avoids the potential measurement error from using a VAS with its confusingly wide range of choices (Saxey 1986). Finally, a review by Williamson and Hoggart (2005) of the Visual Analogue Scale, the Verbal Rating Scale and the Numerical Rating Scale identified that all three were valid and reliable, although the NRS was found to be the easiest to administer and

record and was the scale preferred by patients (Williamson and Hoggart 2005). A 10-point numerical scale was used in this study.

Section 4.5   Questionnaire construction for this study

The questionnaire, incorporating a patient vignette was adapted from Ferrell and McCaffery's (1998a) Nurses' Knowledge and Attitudes Survey (NKAS) Regarding Pain (Appendix E). The NKAS was developed to explore nurses' knowledge and attitudes to all types of pain, including post-operative, chronic and cancer pain, as well as different age groups, including children and the elderly. The NKAS has been used for over ten years and follows pain management standards from organisations such as the American Pain Society, the World Health Organisation, and the Agency for Health Care Policy and Research (Ferrell and McCaffery 1998a). The tool has been revised to reflect updated practices and guidelines issued by the American Pain Society and it has since been tested on more than eight hundred nurses (McCaffery and Ferrell 1998a, 1998b).

Other authors using McCaffery and Ferrell's survey have confirmed its reliability. For example, Clarke et al (1996) with 120 American nurses, Heath (1998) with 90 Australian nurses, Cason et al (1999) with 217 American nurses and Tafas et al (2002), using a Greek version of the NKAS, with 46 Greek nurses. Cason et al (1999) reported a correlation coefficient (discussed in Section 4.4.2) of 0.75, while Tafas et al (2002) recorded a pre test Cronbach's Alpha of 0.72 and a post test Cronbach's Alpha of 0.88, thus supporting the tool's internal consistency.

As the questionnaire was originally designed for the USA, it was adapted for use with British and military nurses. The resulting questionnaire (Appendices C and D) consisted of a patient vignette and ten further questions. These adaptations are now discussed.

Section 4.5.1   Patient vignette

The vignette incorporated into the questionnaire was adapted from Question 36 of the NKAS (Appendix E). McCaffery and Ferrell have used many vignettes to test nurses' pain knowledge and attitudes and to highlight the influence of different variables on pain assessment, such as the patient's age, gender, pain behaviour, lifestyle and vital signs (McCaffery and Ferrell 1991a, 1991b, 1992a, 1992b, 1994, 1997a and McCaffery et al 1992). Ferrell and McCaffery believe using vignettes produces a more valid measure of the nurses' actual decisions (Ferrell and McCaffery 1995a, 1995b).

Pain management experts established the validity of the vignettes through feedback on content clarity (how easy the vignette was to understand) and content validity (whether the vignette measured what it was intended to). Each vignette was pilot tested with at least 100 subjects, and they have been used many times since to confirm their validity and reliability (Ferrell and McCaffery 1995a, 1995b). The patient vignette formed Question 1 (Appendices C and D and Table 4.6) and respondents were asked to indicate on a NRS what they considered was the patient's pain score.

A problem with using vignettes in questionnaires is that respondents may be anxious if they think that they have given wrong answers (Finch 1987). To overcome this, questions were carefully worded and an accompanying letter stressed that there were no right or wrong answers. This also addressed the ethical issue of non-maleficence (Section 3.3) by removing a potential stressor for respondents who may have had difficulty answering some questions.

Section 4.5.2   Other questions

The remaining questions in the questionnaire were also adapted from Ferrell and McCaffery's NKAS (1998a, 1998b) (see Appendix E and Table 4.6). Questions relating to pain assessment in children and the elderly, non post-operative pain, or pain management were excluded, as these were not appropriate. The remaining questions, some "True, False or Unsure", others closed-ended, helped to identify factors influencing military and civilian nurses' pain assessments (see Table 4.6 on the following page).

Table 4.6 Adapted and original NKAS questions in the questionnaire	
Adapted question	**Original question – NKAS**
Q1) This is Andrew Simpson's first day following abdominal surgery. Your assessment of his vital signs yield the following information: BP = 120/80, HR = 80, R = 18. On a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort), Andrew rates his pain as 8. On Andrew's chart you must mark his pain using the scale below. Circle the number that <u>YOU THINK</u> represents Andrew's pain	Q36) <u>Patient A:</u> Andrew is **25 years old** and this is his first day following abdominal surgery. **As you enter his room, he smiles at you and continues talking and joking with his visitor.** Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8. On the patient's record you must mark his pain on the scale below. Circle the number that represents your assessment of Andrew's pain
Q2) Andrew should be encouraged to endure as much pain as possible before resorting to a pain relief measure – True/False/**Unsure**	Q16) The patient with pain should be encouraged to endure as much pain as possible before resorting to a pain relief measure – True/False
Q3) Comparable stimuli in different people produce the same intensity of pain – True/False/**Unsure**	Q5) Comparable stimuli in different people produce the same intensity of pain – True or False
Q4) Based on Andrew's **cultural** beliefs he may think pain and suffering is necessary – True/False/**Unsure**	Q18) Based on one's **religious** beliefs a patient may think that pain and suffering is necessary – True/False
Q5) Andrew is likely to over report the level of pain he is experiencing – True/False/Unsure	
Q6) If Andrew can be distracted from his pain it means that he does NOT have as high an intensity of pain as he indicates – True/False/**Unsure**	Q3) If the patient can be distracted from his pain this usually means he does NOT have high pain intensity – True/False
Q7) Observable signs in Andrew's vital signs or **behavioural expressions** of pain will be present if he is in severe pain – True/False/Unsure	Q1) Observable changes in vital signs must be relied upon to verify a patient's statement that he is in severe pain – True/False
Q8) The <u>most likely</u> explanation why Andrew might request increased doses of pain medication is a) he is experiencing increased pain; b) he is experiencing increased anxiety; c) he is requesting more staff attention; d) other (please specify)	Q30) The <u>most likely</u> explanation for why a patient with pain would request increased doses of pain medication is: a) The patient is experiencing increased pain; b) The patient is experiencing increased anxiety **or depression**; c) The patient is requesting more staff attention; d) **The patient's requests are related to addiction**
Q9) The most accurate judge of the intensity of Andrew's pain is: a) the **anaesthetist**; b) you, as Andrew's primary nurse; c) Andrew, d) Andrew's spouse or family	Q32) The most accurate judge of the intensity of the patient's pain is: a) **the treating physician**; b) the patient's primary nurse; c) the patient; d) **the pharmacist**; e) the patient's spouse or family
Q10) Do you think Andrew will report his pain willingly? – a) Yes; b) No	
Q11) Do you think Andrew is likely to exaggerate his pain? – a) Yes; b) No	

Initially, the questions were phrased exactly as detailed in the NKAS. However, following feedback from pain experts and the pilot test (see Section 4.7) some alterations were made to ensure the questionnaire was valid for British nurses and the focus on cultural influences. Table 4.6 shows the main changes (highlighted in bold) that included changing Question 4 to cultural beliefs (religious beliefs in Questions 18, NKAS), removing references to depression and addiction in Question 8 (Question 30, NKAS) and replacing physician with anaesthetist and removing pharmacist from Question 9 (Question 32, NKAS). Questions 36 and 37 in the NKAS focused on the influence of patient age and behaviour on nurses' assessments. These were only two aspects of interest when exploring military nurses' pain assessments and so this information was omitted from the adapted questionnaire, although behavioural expressions were included in Question 7. In addition, following the review of the questionnaire (see Section 4.7), many nurses said stoicism was important and so questions relating to this were included (Questions 5, 10 and 11).

The closed-ended questions presented a number of choices and respondents 'ticked' what they considered was the appropriate answer, that is, multi-choice questions (Parahoo 1997). These fixed alternative questions have a high degree of structure and were chosen to ensure comparability of answers and to facilitate analysis (Polit and Hungler 1993). The questionnaire also included space for respondents to include reasons for their answers and any additional comments they wished to make. Including space for comments can be criticised for making comparison more difficult (Finch 1987), although comments provided valuable qualitative data that directed the development of Stage 2 (discussed in Chapter 6).

To enable a comparison between military and civilian nurses, questionnaires were identical except for the general information section to reflect respondent's military or civilian status (Appendices C and D). In addition, half the questionnaires delivered to each setting had a male patient in the vignette, and the other half a female patient to avoid possible gender stereotyping (McDonald and Bridge 1991). No age, service affiliation or rank was given to the patients in the questionnaire vignette to reduce any biases military nurses may have had to these demographic factors (see Section 2.3.1). It was believed that these changes increased the questionnaire's clarity and ensured it would obtain the data required to meet the aims of Stage 1 as detailed in Section 4.1.

Section 4.6   Data analysis

Descriptive and inferential statistics were used to address the study's aims. Descriptive statistics provided nurses' demographic details, such as rank/grade, service, and gender. It also allowed the number of questionnaires returned and the frequencies of the answers given to each question to be determined. A computer statistical package, Genstat 5, Release 4.1 (Lawes Agricultural Trust 1998) was used to undertake more complex statistical tests, in particular, logistic regression (see below) to establish any association between different variables (gender, years qualified, rank, service affiliation) and the answers given. A computer package was used since logistic regression calculations are very intensive (Bland 1995). The level of significance, (the alpha (α) value) was set at 0.05, that is, the probability of rejecting any of the hypotheses when they are in fact true (Fink 1995). A significance level of 5% implies that once in every 20 occasions the null hypothesis will be rejected when in fact it is true (Jordan et al 1998).

Section 4.6.1   Logistic regression

Logistic regression, an advanced statistical test, was used to determine whether a relationship existed between various independent variables and the probability of an event occurring (Garb 1996). The independent variables were the nurses' rank/grade (Commissioned or Non-commissioned for military nurses, Grades E, F, G or H for civilian nurses), gender (Male or Female), service affiliation (RN, Army or RAF), and years qualified (0-4 years, 5-10 years, or >10 years) and these were explored in relation to the pain scores given to patients (Question 1). Logistic regression is appropriate when there are more than two categorical independent variables and the influence of these on a categorical dependent variable (in this study the pain score) is being explored (Pett 1997). Logistic regression controls the effects of all independent variables at once to give an adjusted estimate of the difference between each of these study groups and then tests whether this is statistically significant (Garb 1996). It was thus possible to identify any associations between the different nurse factors and the nurses' pain assessments and to compare military and civilian nurses' assessments of this pain. Logistical regression was especially relevant as it concentrated on the factors that influence nurses' attitudes to pain assessment; the focus of this study, rather than the actual attitudes themselves.

Logistic regression requires the outcome (dependent variable) to be a dichotomous value (Garb 1996). Although respondents were asked to rate the patient's pain on a scale of 0 to 10, the scores were categorised into two groups; pain scores between 0-7 and those of 8 and above. As the patient scored their pain score as 8, it was considered that any nurse scoring 8 or above was correct while those scoring 7 or below was incorrect. This is examined further in Chapter 6.

Comments included on the questionnaires were explored to ascertain whether they supported or contradicted the answers given. The data were particularly useful as whilst the questionnaire revealed respondents' attitudes to pain assessment, their comments clarified why they answered as they did. Chapter 5 presents the results from the questionnaire analysis, but the following section discusses how the adapted questionnaire's validity and reliability were determined prior to distribution.

Section 4.7 Rigour

Rigour in research is necessary to ensure that the results are valid and reliable and for quantitative studies this necessitates a consideration of the data collection tools (instruments) (Oppenheim 1992). It is necessary to test a tool's validity and reliability before use (Flaskerud 1979) and this was particularly important following adaptation of the questionnaire from McCaffery and Ferrell's patient vignettes and NKAS. It was essential that the survey tool provided data identifying any factors influencing military nurses' pain assessment. Although it was based on a previously used tool (described in Section 4.5), it could not be assumed that it would be appropriate within a different environment or for a different population (Oppenheim 1992), that is, for UK civilian and military nurses. Sections 4.7.1, 4.7.2 and 4.7.3 discuss the questionnaire's validity, reliability and the pilot study.

Section 4.7.1 Validity

Validity refers to "the extent to which an instrument does what it purports to do" (Porter and Carter 2000, p26). There are different aspects of validity, such as internal validity relating to how well tools measure what they are supposed to (Oppenheim 1992). An important feature of internal validity is content validity, that is, whether the tools and the items they contain represent the domains being studied (Woods 1988). This is often determined by face validation where experts judge the tool's adequacy for measuring the area of interest (Woods 1988).

Eleven civilian and military medical personnel, including a consultant anaesthetist from a pain clinic, clinical nurse pain specialists, nurse teachers and clinical nurses, established content validity through face validation. Their comments ensured the tool was realistic, understandable and without ambiguity (Bell 1993).

Section 4.7.2 Reliability

It is also necessary to ensure that the tools used are reliable. Reliability refers to "the extent to which an instrument, when used more than once, will produce the same results" (Holloway and Wheeler 1996, p162). A number of measures determine a tool's reliability, such as a test-retest where the same test is repeated at a later stage and if similar results are obtained this indicates the tool's reliability (Bell 1993). However, test-retests can be problematic if those completing the test remember their previous responses or their knowledge increases between tests (Woods 1988). A test-retest was not used as military nurses frequently move around the country and the world and it would have been difficult to carry out a re-test involving all the original staff, particularly as questionnaires were returned anonymously and it was not possible to identify the respondents. Additionally, as military nurses gain further experience and knowledge this may have affected how they completed a second questionnaire. Finally, as this was the first time this adapted questionnaire had been used, it could not be compared with previous studies. However, future studies with this questionnaire will enable its reliability to be determined.

Many studies establish validity and reliability through pilot studies to test key elements such as the tool's appropriateness (Oppenheim 1992). A small-scale pilot study allows the research tool to be tested in a similar way to the main study (Henry and Pashley 1990), thus allowing any weaknesses to be addressed prior to the main study (Sheahan 1984). A pilot study also helps identify how easily respondents understand the tool and any accompanying instructions, written or verbal (Sheahan 1984). Personnel chosen for the pilot study should closely resemble those who will be included in the main research to ensure the pilot study's results are meaningful (Oppenheim 1992).

Section 4.7.3 Pilot Study

Feedback from the questionnaire's review indicated that the format was clear and unambiguous. This was important to ensure every respondent would understand the questions in the same way (Harris and Inayat 1997). Prior to sending out pilot

questionnaires ethical approval was sought from the Local Research Ethics Committee (LREC) (for civilian nurses) (Appendix A) and the scientific and ethical sub-committees of the Defence Medical Services Clinical Research Committee (for military nurses) (Appendix B).

Both committees gave ethical approval with only two minor changes required by the LREC. The first related to questionnaire distribution to civilian nurses, which originally were going to be attached to payslips but it was considered that this would be burdensome for administrative staff. Therefore, the researcher personally delivered questionnaires to all the ward managers in the appropriate clinical areas for distribution to their staff. The second change involved making it clear that questionnaire completion was voluntary and so a separate sentence highlighting this was included in the accompanying letter before the pilot questionnaires were distributed (see Appendices F and G).

To match the respondents of the pilot study to those in the main study, 15 reservist nurses were chosen. These nurses have similar military experience to full-time military nurses and all had undertaken military training and so had been exposed to military culture. Additionally, many medical services reservists have previous full-time military experience. Appropriate permission was obtained to distribute questionnaires to five nurses employed within each of the reserve services; the Royal Naval Reserve, the Territorial Army and the Royal Auxiliary Air Force. Questionnaires were also sent to 15 civilian nurses employed in surgical areas that were not included in Stage 1, although they were from the same NHS Trust. Sending thirty questionnaires (Garb 1996) or choosing 5% of the population (Aiken 1997) is considered adequate for a pilot study, particularly if respondents are similar to the actual sample to be studied (Aiken 1997), as in this study. Five per cent of this study's population was 27 (out of 548) and so sending 30 questionnaires was appropriate.

An accompanying letter detailed the study's aims and its perceived importance (Aiken 1997). An evaluation form was included for respondents to highlight any unclear questions or instructions, to state how easy the questionnaire was to follow and how long it took to complete (Appendix H) (Oppenheim 1992, Bell 1993). The questionnaire was only printed on one side of good quality A4 paper and a clear typeface was used to

create a positive first impression and encourage completion and return. These measures have been shown to increase completion and return rates (McGibbon 1997).

Six weeks following the distribution of the pilot study questionnaires only 30% (9/30) had been returned. A follow-up letter and extra questionnaires were delivered to each pilot study site requesting a return within the next two weeks. Another seven completed questionnaires were received making a final response rate of 53% (16/30); 12 from military nurses (75% of returned questionnaires) and 4 from civilian nurses (25%) of returned questionnaires. This represents 80% (12/15) of questionnaires sent to military nurses and 27% (4/15) of questionnaires sent to civilian nurses. The low civilian nurse response rate may have occurred as the researcher was unknown to these nurses and so they may have been less willing to participate. In contrast, military nurses may have felt an affinity to the researcher, also a military nurse, and some military nurses who knew the researcher and so may have been more prepared to participate. The low response rate highlighted the need for extra measures to ensure a maximum response to the main study (see Section 4.8).

Analysis of the evaluation forms showed that respondents took between five and forty-five minutes to complete the questionnaire, although nearly two-thirds (63% = 10/16) took ten minutes or less. Completing a questionnaire in ten to fifteen minutes is considered acceptable as if it takes too long some respondents might not do so (Oppenheim 1992). Most respondents included a rationale for their answer to multi-choice questions. It is acknowledged that leaving too much space for comments may suggest a large response is expected, while only a small space indicates a response is not really required (Oppenheim 1992). The evaluations stated that the comments space was appropriate and so this was left unchanged for the main study. One criticism levelled at self-completed questionnaires is that respondents may give the answers that they consider are expected rather than their true attitudes (Sheahan 1984, Lanza 1990, Abbott and Sapsford 1993). One respondent commented on this and this was taken into consideration during questionnaire analysis for the main study.

All respondents stated that the questionnaire was clearly laid out and the instructions understandable. The accompanying letter explained that the research was investigating nurses' attitudes to pain assessment but did not state that the focus was cultural influences on these attitudes. To avoid biases in the questions, patient details were

purposely brief to prevent cultural stereotyping that may have occurred if respondents concentrated on the patient's background. However, over half the respondents (9/16) commented that some questions, particularly Questions 8 to 11, were difficult to answer without further patient information, such as their age and cultural background. These multi-choice questions were seeking nurses' attitudes regarding why patients may request increased analgesia (Question 8), who was the best person to assess the patient's pain (Question 9), whether patients willingly report pain (Question 10) and if patients exaggerate their pain (Question 11). Although the focus of Stage 1 was the different nurse factors influencing nurses' pain assessments, these comments highlight how some nurses are not comfortable unless they can fit patients into certain categories and they frequently stereotype their patients (Davitz and Davitz 1975, McDonald and Bridge 1991) (discussed further in Chapter 6).

Some respondents ticked more than one answer in the multi-choice questions. As this would affect statistical analysis for the main study, it was emphasised at the beginning of the multi-choice questions that only one answer was required. Some respondents stated that answering Questions 10 and 11 (whether patients exaggerate their pain and willingly report their pain) was difficult as the only choices were 'Yes' or 'No'. The option of 'Unsure' was not included to avoid respondents ticking this choice without providing a rationale. Asking respondents to make a definite 'Yes' or 'No' choice encouraged them to write a rationale and this provided additional qualitative data.

A problem with multiple-choice questions is that respondents may systematically choose an option at the beginning or end of a question (Oppenheim 1992). Therefore, to minimize any biases that may occur in the results, it is suggested that the correct answer is randomised within the answer choices throughout the questionnaire. This was adopted for this questionnaire where possible.

Whilst analysing the pilot questionnaires, a major difference between reservist and full time military nurses became apparent. Reservist nurses were employed in various civilian clinical environments, including community, medical and oncology, where patients were more likely to experience chronic or cancer pain, rather than post-operative pain. Therefore, these nurses were not as representative as first considered, although their military role was similar. However, their answers did provide valuable feedback that was utilised into the questionnaire for the main study.

Personal information (rank/grade, gender, service affiliation and years qualified) was requested at the beginning of the pilot questionnaires. However, it is deemed poor design to put this information at the beginning (Oppenheim 1992) and so this was moved to the end of the questionnaire used in the main study (see Appendices C and D). This was particularly important as personal details were requested immediately after anonymity had been assured in the accompanying letter. Several respondents had omitted personal details and so clear instructions were included and each piece of requested information was put on a separate line to encourage respondents to complete all sections (Appendices C and D).

The pilot study resulted in some minor amendments to the questionnaires used in the main study, for example, moving personal details to the end of the questionnaire, providing clearer instructions at the beginning of the questionnaire and highlighting that only one answer was required for Questions 8-11. These changes and utilising a pilot study were adopted to enhance the questionnaire's validity, including the vignettes, the numerical rating scale and other questions. Once the issues from the pilot study had been addressed, the questionnaires for the main study were distributed.

Section 4.8   Procedure and research ethics

Formal permission to undertake the study and contact registered nurses in the relevant clinical areas had been requested and granted from the senior nurses at each military establishment (Appendix I) and the Associate Director of Nursing of the civilian institution (Appendix J). As Section 4.5.2 detailed, the only differences between the questionnaires were that half had a male patient (Andrew) and the other half a female patient (Andrea) in the vignette. In addition, demographic information requested from military and civilian registered nurses differed due to rank/grade differences between the two groups (Appendices C and D). Anonymity was maintained by marking envelopes 'Nursing Officer' or 'Non-Commissioned RGN' for military nurses and 'RGN' for civilian nurses. Although demographic details such as gender, rank or grade were requested to assist analysis, this information did not identify the respondents. Maintaining anonymity was an essential ethical consideration as identified in Section 3.3 and was maintained throughout the study.

Questionnaires were posted or distributed at the beginning of the week. Avoiding weekends is recommended as this is associated with poor response rates (Cohen and

Manion 1989, Oppenheim 1992). Questionnaires were delivered to military nurses using internal postal services and were hand delivered to ward managers for distribution to the civilian nurses. Self-addressed envelopes were included for return of completed questionnaires. All participants were informed that completion was voluntary and all data received would be confidential. Information about the study was included to enable nurses to make an informed decision as to whether to participate or not. As detailed in note 8 of Appendix 3 in Research Ethics, acceptance to participate was assumed if participants returned completed questionnaires:

> "For studies which involve only anonymous questionnaires, the completion of the questionnaire itself could be considered to be equivalent to written consent" (Hale et al 1998, p28).

Respondents were requested to complete and return questionnaires as soon as convenient. A final return date was not stipulated to avoid putting respondents under undue pressure. If a return date is included it should be realistic as if too short, some respondents may miss it, for example, if they are on holiday, and if too long, respondents may leave the questionnaire for later completion and forget to do so or mislay it (Oppenheim 1992). However, without a return date, respondents may have considered the questionnaire non-urgent and put the questionnaire to one side for later completion.

Reviewing returns four weeks following distribution revealed only 40% (217/548) of questionnaires had been returned, of which 77% (167) were from military and 23% (50) were from civilian nurses. Reminder letters were sent to senior nurses on all wards/units along with extra questionnaires and return envelopes should any staff have mislaid the original one. A return date of four weeks following the second distribution was given to allow staff time to complete the questionnaire and to avoid an imminent national holiday. A return date also provided a cut off date so analysis could commence.

The follow-up reminder increased the overall return rate to 48.5% (266/548), with 76% (201/548) from military and 24% (65/548) from civilian nurses. This represented 65% of questionnaires sent to military nurses (201/309) and 27% of questionnaires sent to civilian nurses (65/239). Although the overall return rate increased, this was still disappointing, particularly from civilian nurses. Chapter 6 discusses this further.

Once received, completed questionnaires were coded and entered into a computer. The researcher checked the coding and inputting of data three times and, as questionnaires were anonymous, a research assistant also carried out the same checks to ensure accuracy of data coding and inputting. Once inputted, the data were statistically analysed and the following chapter presents the findings from this analysis.

CHAPTER 5. RESULTS FROM STAGE 1 (QUESTIONNAIRE SURVEY)

Introduction

This chapter presents the findings from Stage 1 of the study. The first section provides descriptive statistics of response rates by patient and nurse gender, and years qualified. Section 5.2 presents the findings from each question in the form of bar charts with bullet points as these convey information in a clear and intelligible format (Singleton et al 1993). Due to the low civilian response rate (Section 5.1) a comparative statistical analysis between civilian and military nurses' answers was not possible. However, statistical analysis of military questionnaires was undertaken and Section 5.3 shows these results, while Section 5.4 presents the comments included on the questionnaires. These findings are discussed in Chapter 6.

Section 5.1 Response rates

Five hundred and forty-eight (548) questionnaires were distributed and 266 returned (Figure 5.1).

Figure 5.1   Number of questionnaires distributed and returned
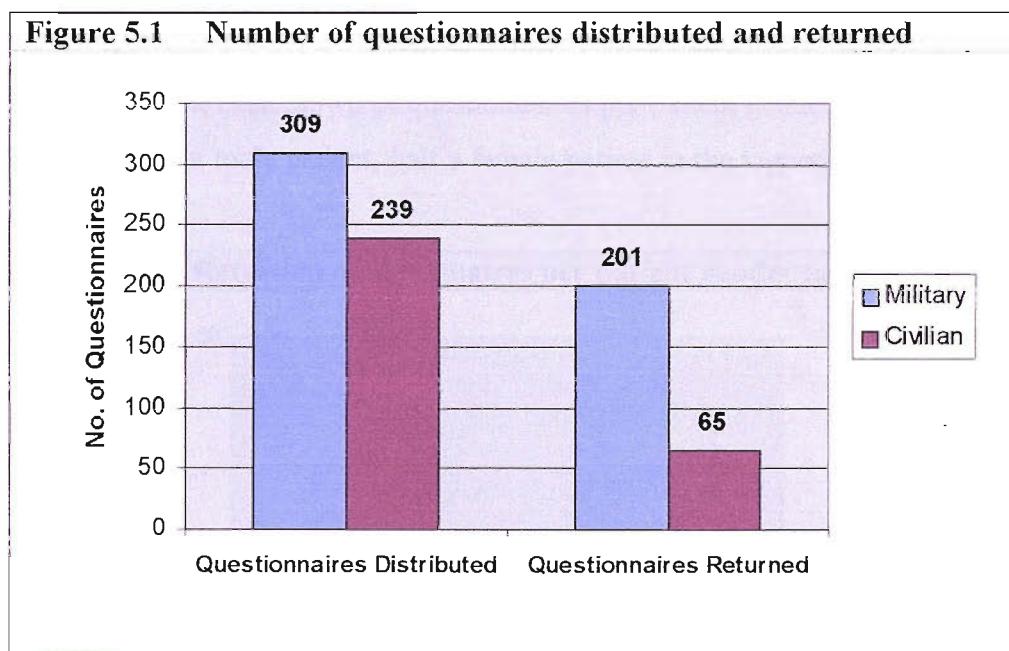
- Overall total response rate – 48.5% (76% = 201/266) from military, 24.5% = 65/266) from civilian nurses.
- Due to unequal distribution, 309 questionnaires sent to military and 239 to civilian nurses, the response rate for each group was - 65% (201/309) from military, 27% (65/239) from civilian nurses.

Figure 5.2 shows the response rate per nurse gender.

Figure 5.2   Response rates per nurse gender (%)
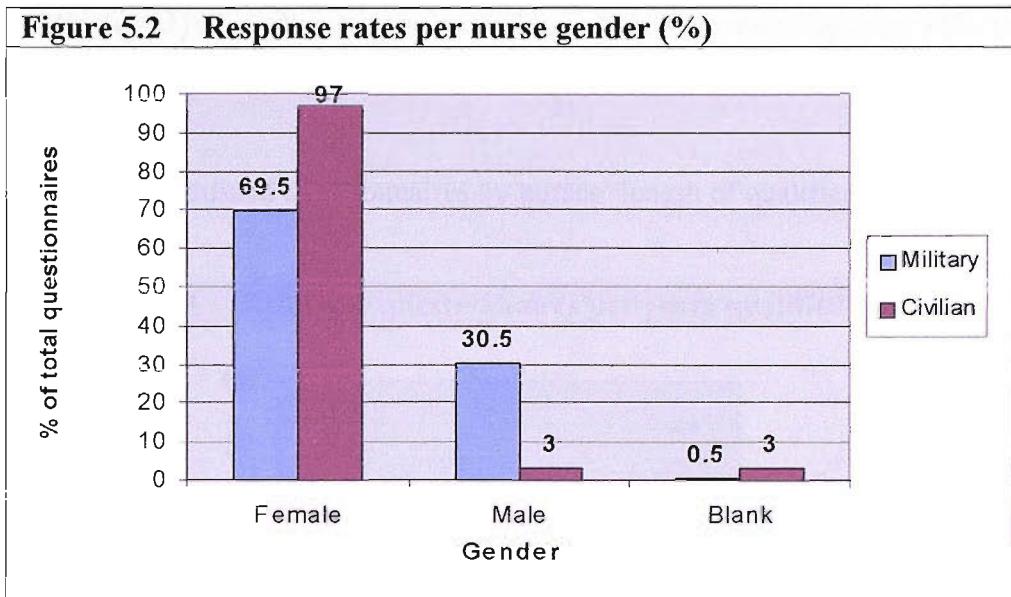
- 69.5% (n=139) of military and 97% (n=61) of civilian nurses were female.
- 30.5% (n=61) of military nurses were male, only 3% (n=2) of civilian nurses were male.
- 0.5% (n=1) of military and 3% (n=2) of civilian nurses omitted these details.

Figure 5.3 shows the breakdown of questionnaires per patient gender (half the questionnaires had a male patient, half a female patient in the vignette.

Figure 5.3   Returned questionnaires per patient gender in vignette (%)
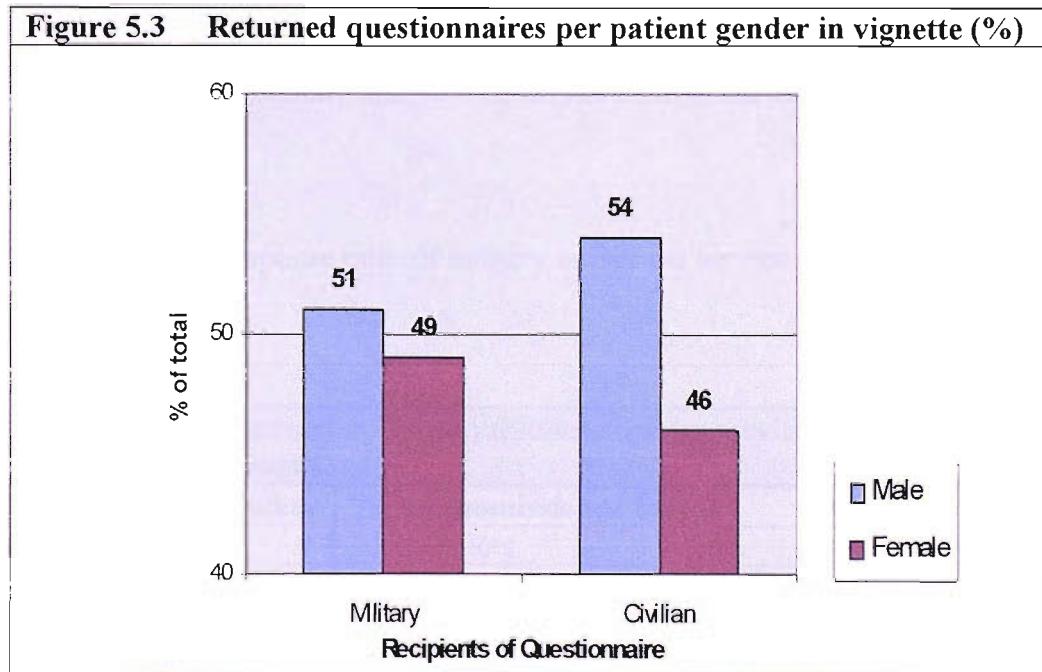
- 51% (n=103) of military questionnaires had the male patient vignette, 49% (n=98) the female patient vignette.
- 54% (n=35) of civilian questionnaires had the male patient vignette, 46% (n=30) the female patient vignette.

Figure 5.4 shows returned questionnaires by nurses' length of qualification.

Figure 5.4 Returned questionnaires per years qualified (%)
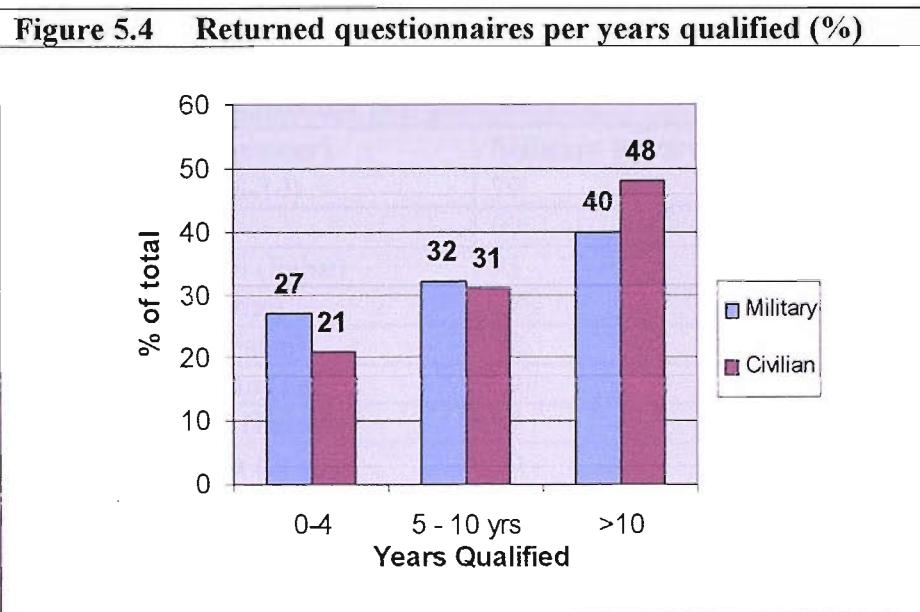
- 27% (n=55) of military and 21% (n=14) of civilian nurses had been qualified 0-4 years
- 32% (n=65) of military and 31% (n=20) of civilian nurses had been qualified 5-10 years.
- 40% (n=81) of military and 48% (n=31) of civilian nurses had been qualified >10 years.

Table 5.1 shows the response rates of military nurses per service and commissioned status.

Table 5.1 Returned military questionnaires by service and commissioned status					
Service	**Number**	**%**	**Commissioned Status**	**Number**	**%**
Army	88	44	Officer	83	41
RAF	60	30	Non-commissioned (NCO)	117	58
RN	52	26			
Blank	1	0.5	Blank	1	0.5
TOTAL	**201**			**201**	

Section 5.2   Results per question

Table 5.2 shows the overall percentages of civilian and military nurses giving the expected answers. Although respondents were informed that there were no right or wrong answers, some questions had expected answers (see Ferrell and McCaffery 1998a). These are indicated in the following sections and discussed in Chapter 6. Generally, military and civilian nurses gave similar answers, although any comparisons should be treated cautiously due to the low civilian response rate.

Table 5.2 Expected answers per question (%)		
Question (Expected answer)	**Military nurses**	**Civilian nurses**
1 – Pain Score given (8-10)	79	82
2 – Endurance (False)	99	100
3 – Comparable stimuli (False)	93	95
4 – Cultural beliefs (True)	67	57
5 – Over report pain (False)	72	73
6 – Distracted from pain (False)	79	73
7 – Vital signs present (False)	27	23
8 – Increased analgesia for pain - corrected scores (A)	90	89
9 – Patient best judge of pain - corrected scores (C)	98	97
10 - Patients willingly report pain (A)	62	53
11- Patients exaggerate pain (B)	65	69

The results of each question are presented in the following sub-sections as bar charts and bullet points. However, some tables are also included for extra clarity.

Section 5.2.1 Question 1. Pain score given to patient

Question 1 included a vignette featuring a post-operative patient. Figure 5.5 shows the responses to Question 1.

This is Andrew's (Andrea's) first day following abdominal surgery. Your assessment of his (her) vital signs yield the following information: BP = 120/80, HR = 80, R = 18. On a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort), Andrew (Andrea) rates his (her) pain as 8.

Question 1.
On Andrew's (Andrea's) chart you must mark his (her) pain using the scale below. Circle the number that YOU THINK represents Andrew's (Andrea's) pain:

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

No pain/
discomfort

Worst pain/
discomfort

Figure 5.5   Answers to Question 1 (%)
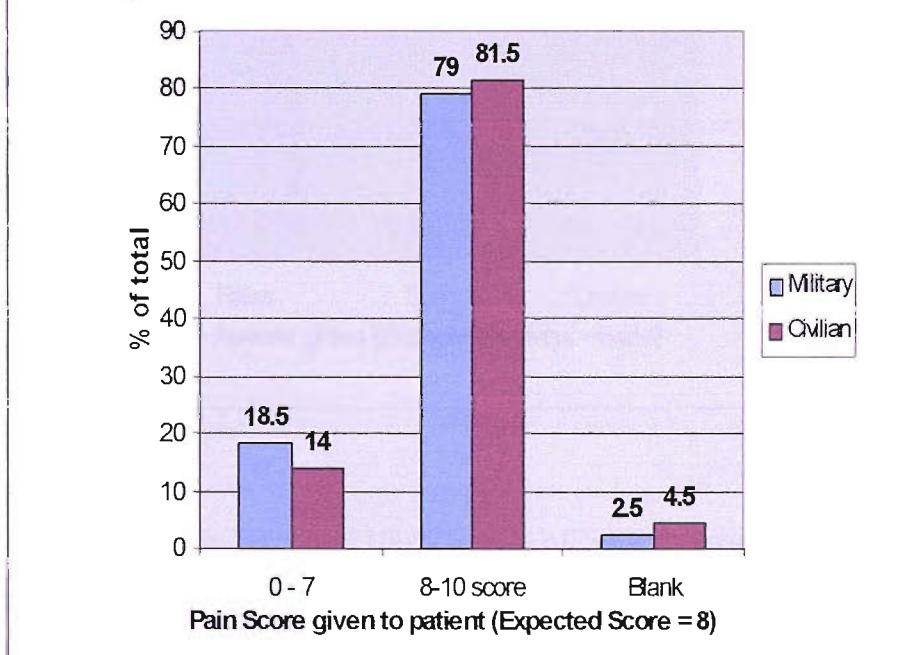
- 79% (n=159) of military and 81.5% (n=53) of civilian nurses gave a score ≥ 8.

- 18.5% (n=37) of military and 14% (n=9) of civilian nurses scored the pain < 8.

- 2.5% (n=5) of military and 4.5% (n=3) of civilian nurses did not give a score.

Questions 2-7 were a series of statements. Respondents were asked to circle their answer – True (T), False (F) or Unsure (U). The results are shown below.

Section 5.2.2   Question 2. Patient should endure as much pain as possible

Question 2
Andrew (Andrea) should be encouraged to endure as much pain as possible before resorting to a pain relief measure.

Figure 5.6   Answers to Question 2 (%)
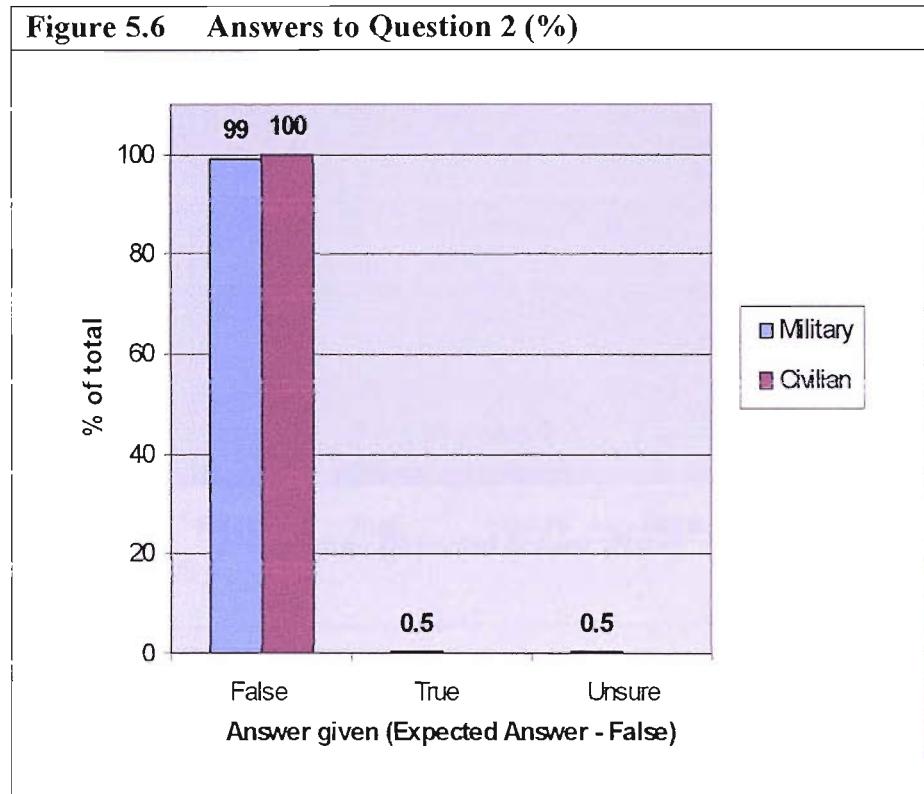
- 99% (n=199) of military and 100% (n=65) of civilian nurses ticked False.
- Only 0.5% (n=1) of military and no civilian nurses ticked True.
- 0.5% (n=1) military nurse was Unsure.

Section 5.2.3   Question 3. Comparable stimuli produce the same pain intensity

Question 3
Comparable stimuli in different people produce the same intensity of pain.

Figure 5.7   Answers to Question 3 (%)
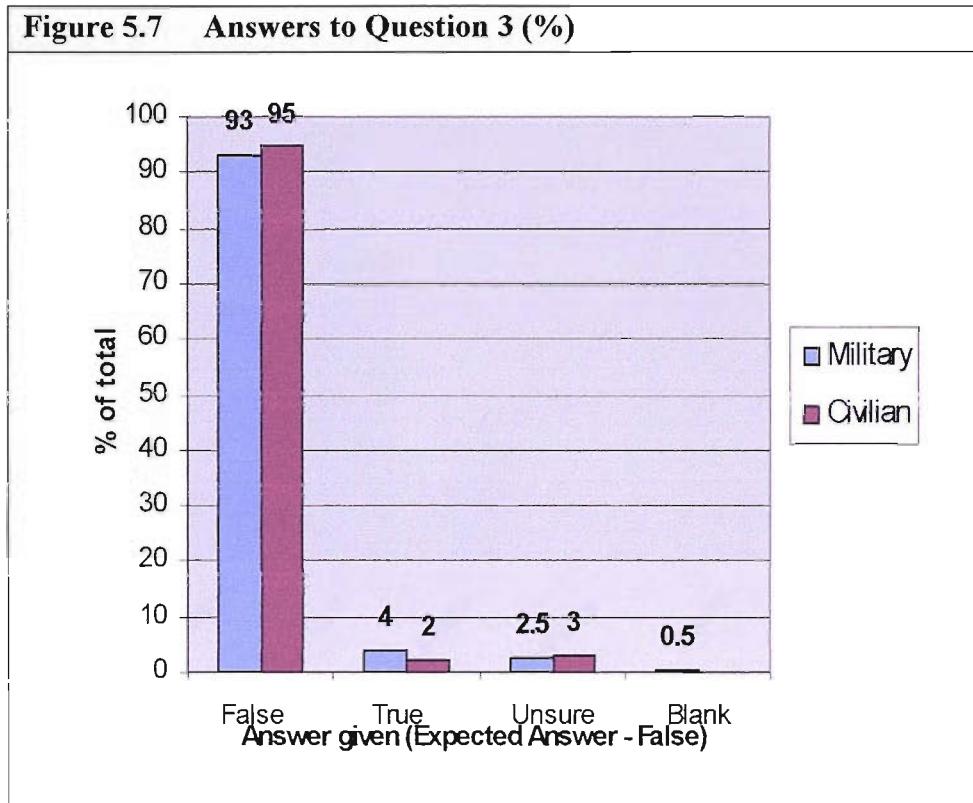
- 93% (n=187) of military and 95% (n=62) of civilian nurses ticked False.

- 4% (n=8) of military and 2% (n=1) civilian nurse ticked True.

- 2.5% (n=5) of military and 3% (n=2) of civilian nurses were Unsure.

- 0.5% (n=1) military nurse left this blank.

Section 5.2.4   Question 4. Cultural beliefs and pain

Question 4
Based on Andrew's (Andrea's) cultural beliefs he (she) may think pain and suffering is necessary.

Figure 5.8   Answers to Question 4 (%)
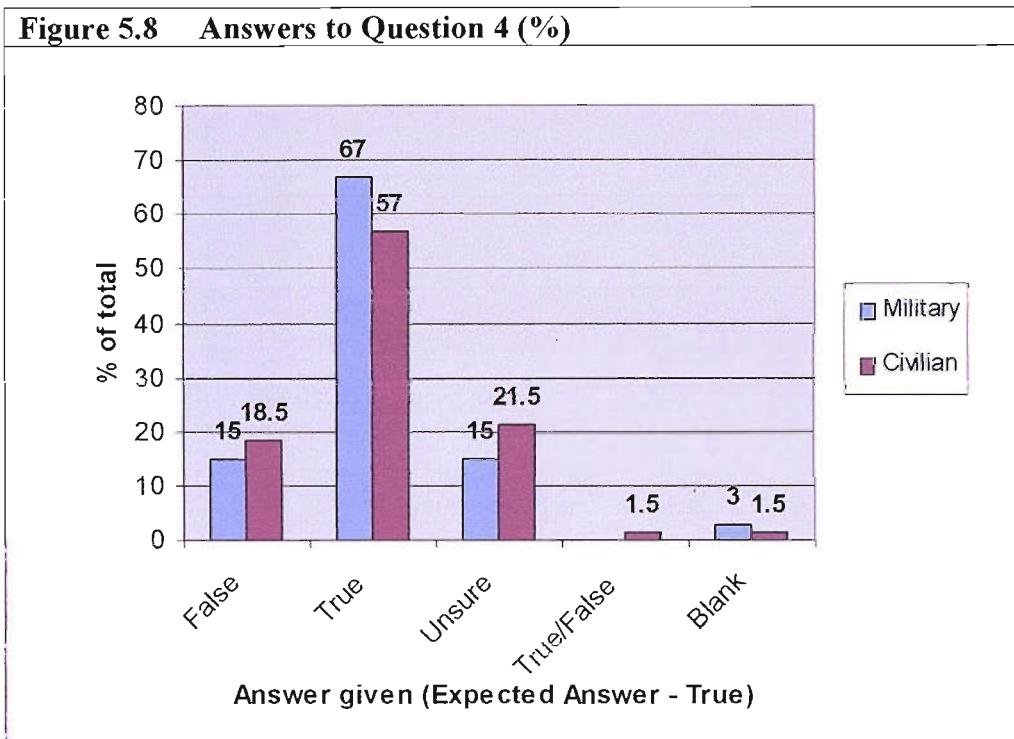
- 67% (n=135) of military and 57% (n=37) of civilian nurses ticked True.

- 15% (n=30) of military and 18.5% (n=12) of civilian nurses ticked False.

- 15% (n=30) of military and 21.5% (n=14) of civilian nurses were Unsure.

- 3% (n=6) of military and 1.5% (n=1) civilian nurse did not answer this question.

- 1.5% (n=1) civilian nurse ticked both True and False.

Section 5.2.5   Question 5. Patient likely to over report pain

Question 5
Andrew (Andrea) is likely to over report the level of pain he (she) is experiencing.

Figure 5.9   Answers to Question 5 (%)
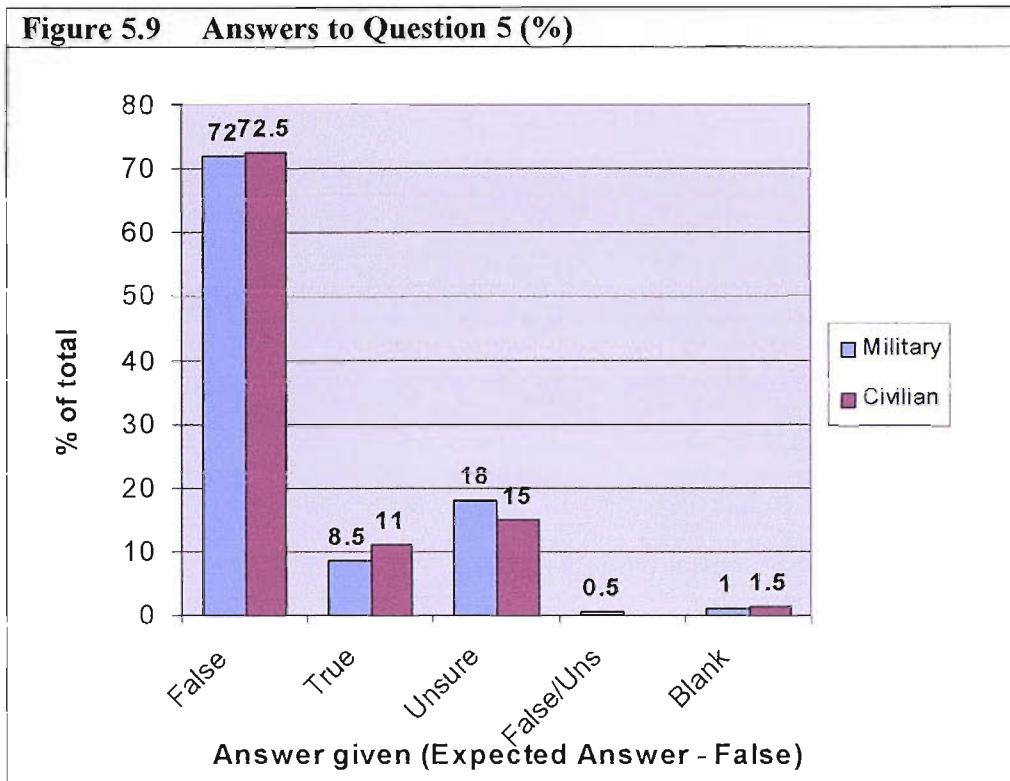
- 72.5% (n=145) of military and 72.5% (n=47) of civilian nurses ticked False.

- 8.5% (n=17) of military and 11% (n=7) of civilian nurses ticked True.

- 18% (n=36) of military and 15% (n=10) of civilian nurses were Unsure.

- 0.5% (n=1) military nurse ticked both False and Unsure.

- 1% (n=2) of military and 1.5% (n=1) civilian nurse left this blank.

Section 5.2.6   Question 6. Distraction and pain

Question 6
If Andrew (Andrea) can be distracted from his (her) pain it means that he (she) does NOT have as high an intensity of pain as he (she) indicates.

Figure 5.10   Answers to Question 6 (%)
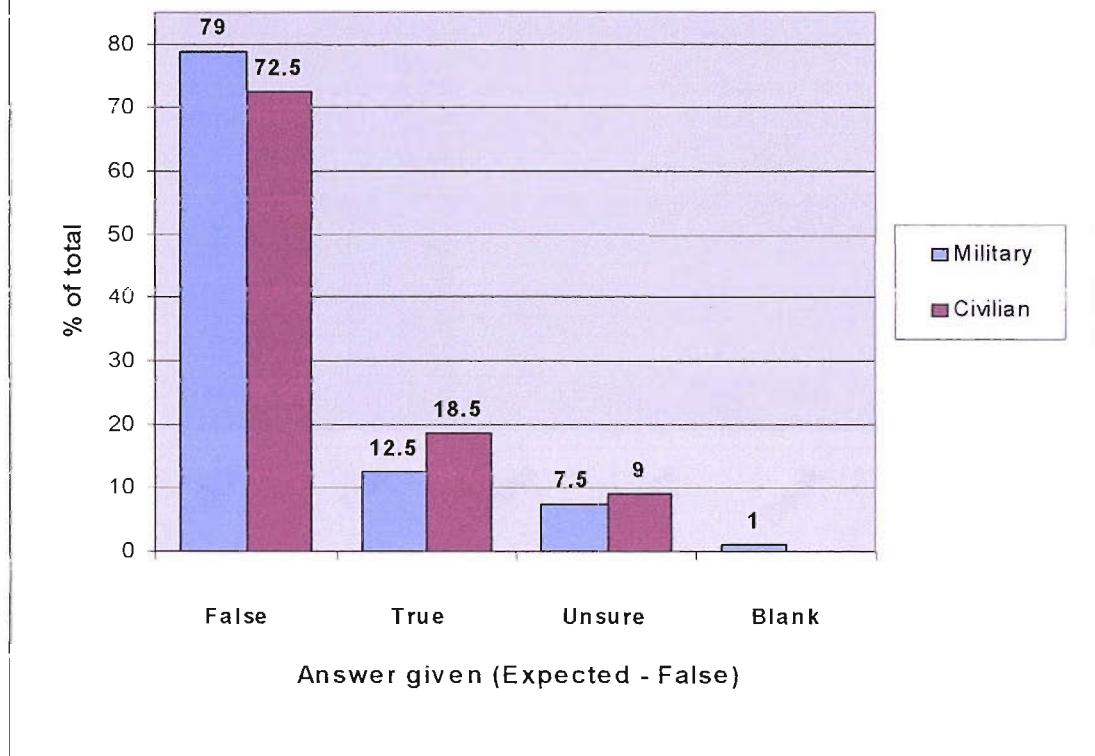
- 79% (n=159) of military and 72.5 % (n=47) of civilian nurses ticked False.

- 12.5% (n=25) of military and 18.5% (n=12) of civilian nurses ticked True.

- 7.5% (n=15) of military and 9% (n=6) of civilian nurses were Unsure.

- 1% (n=2) of military nurses left this blank.

Section 5.2.7   Question 7. Observable signs and behavioural expressions

Question 7
Observable signs in Andrew's (Andrea's) vital signs or behavioural expressions of pain will be present if he (she) is in severe pain.

Figure 5.11   Answers to Question 7 (%)
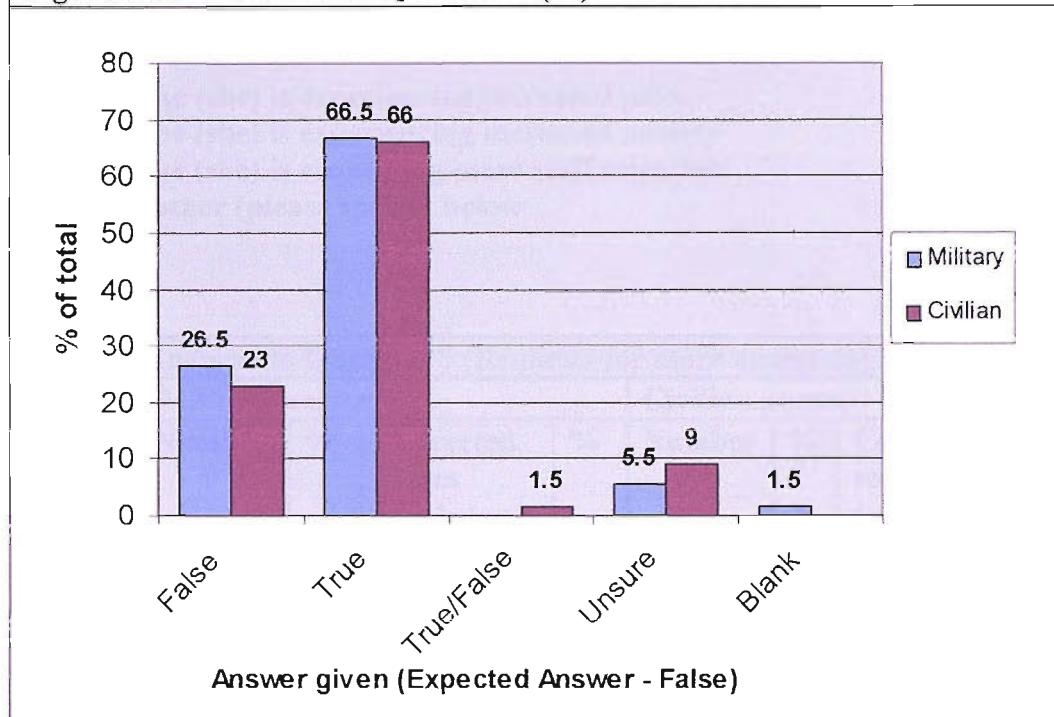
- 66.5% (n=134) of military and 66% (n=43) of civilian nurses ticked True.
- 26.5% (n=53) of military and 23% (n=15) of civilian nurses ticked False.
- 5.5% (n=11) of military and 9% (n=6) of civilian nurses were Unsure.
- 1.5% (n=1) civilian nurse ticked both answers.
- 1.5% (n=3) of military nurses left the answer blank.

Questions 8-11 were multi choice questions. Respondents were requested to circle one answer that they considered was correct.

Section 5.2.8   Question 8. Reasons for requesting more analgesia

Question 8
The most likely explanation why Andrew (Andrea) might request increased doses of pain medication is

        a.   **he (she) is experiencing increased pain**
        b.   **he (she) is experiencing increased anxiety**
        c.   **he (she) is requesting more staff attention**
        d.   **other (please specify below**

Table 5.3	Answers to Question 8 (Requests for more analgesia)							
Answers	**Military nurses**				**Civilian nurses**			
	Number	**%**	**Corrected scores (see below)**	**%**	**Number**	**%**	**Corrected scores (see below)**	**%**
A (Expected)	146	73	181	90	45	69	58	89
B	23	11	15	8	7	11	4	6
C	1	0.5	1	0.5				
D	22	11	4	2	5	8	1	2
AB	6	3			3	5		
AD					1	2		
ABC	3	2						
ABD					1	2		
ABCD					1	2		
Blank					2	3	2	3
TOTAL	**201**		**201**		**65**		**65**	

The results in Table 5.3 show that some respondents ticked more than one answer. To facilitate logistic regression analysis, all respondents who included the expected answer (A) were counted as one group. This included nurses whose comments also indicated (A). As shown in the 'Corrected scores' column this resulted in 90% (181) military and 89% (58) civilian nurses including the correct answer.

Figure 5.12   Answers to Question 8 (%)
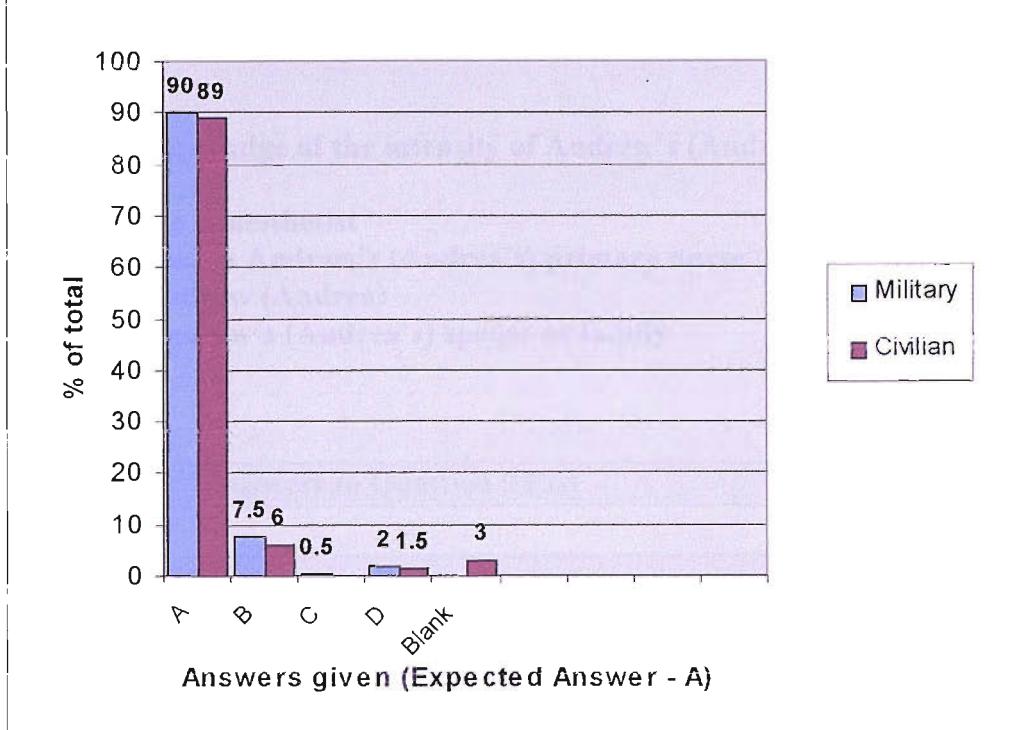
- 90% (n=181) of military and 89% (n=58) of civilian nurses ticked a).

- 7.5% (n=15) of military and 6% (n=4) of civilian nurses ticked b).

- 0.5% (n=1) military nurse and no civilian nurses ticked c).

- 2% (n=4) of military and 1.5% (n=1) civilian nurse ticked d).

- 3% (n=2) of civilian nurses left the answer blank.

Section 5.2.9 Question 9. The most accurate judge of pain

Similar to Question 8, many respondents ticked more than one answer to Question 9.

Question 9
The most accurate judge of the intensity of Andrew's (Andrea's) pain is

      a.   **the anaesthetist**
      b.   **you, as Andrew's (Andrea's) primary nurse**
      c.   **Andrew (Andrea)**
      d.   **Andrew's (Andrea's) spouse or family**

Figure 5.13 Answers to Question 9 (%)
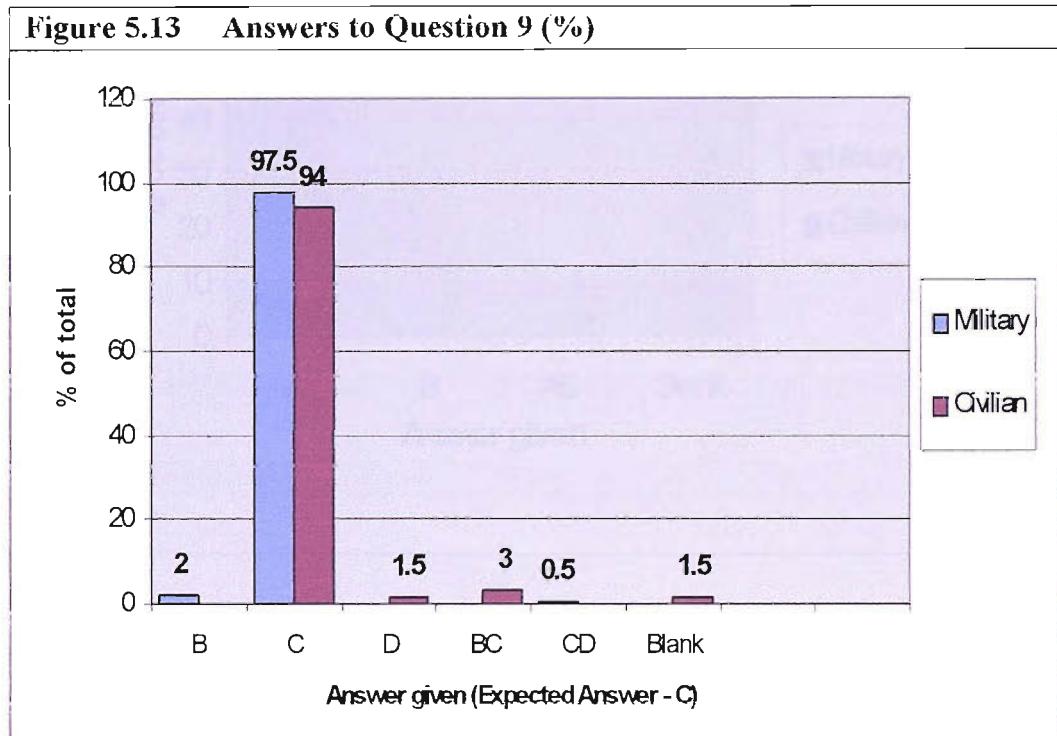
- 97.5% (n=196) of military and 94% (n=61) of civilian nurses ticked c).

- 2% (n=4) of military nurses ticked b).

- 3% (n=2) of civilian nurses ticked b) and c).

- 0.5% (n=1) military nurse ticked c) and d)

- 1.5% (n=1) civilian nurse left this blank.

- If those who included the correct answer (c) are included as one group, 98% (197) of military and 97% (n=63) of civilian nurses gave the expected response.

Section 5.2.10   Question 10. Patient willingly report pain

Question 10
Do you think Andrew (Andrea) will report his (her) pain willingly?

      a.   yes
      b.   no

Figure 5.14   Answers to Question 10 (%)
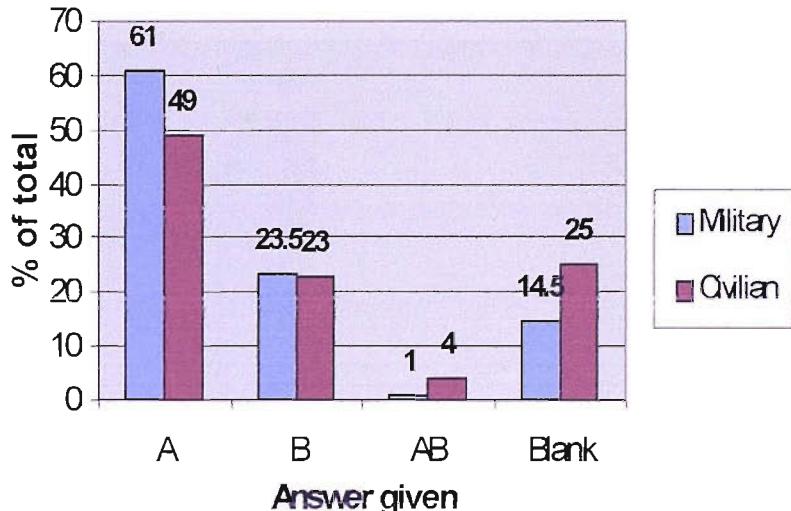
- 61% (n=123) of military and 49% (n=32) of civilian nurses ticked a).
- 23.5% (n=47) of military and 23% (n=15) of civilian nurses ticked b).
- 1% (n=2) of military and 4% (n=2) of civilian nurses ticked a) and b).
- 14.5% (n=29) of military and 25% (n=16) of civilian nurses left this question blank.

Section 5.2.11   Question 11. Patient likely to exaggerate their pain

Question 11
Do you think Andrew (Andrea) is likely to exaggerate his (her) pain?

      a.   **yes**
      b.   **no**

Figure 5.15   Answers to Question 11 (%)
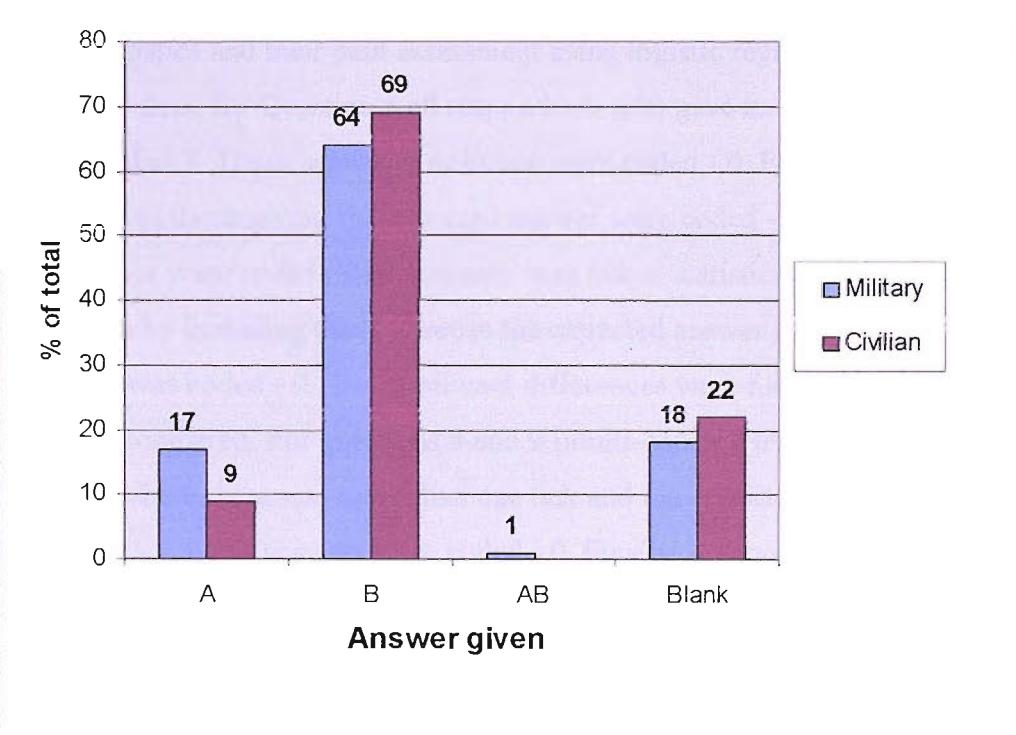
- 17% (n 34) of military and 9% (n 6) of civilian nurses ticked a).

- 64% (n=129) of military and 69% (n=45) of civilian nurses ticked b).

- 1% (n 2) of military nurses ticked a) and b).

- 18% (n=36) of military and 22% (n=14) of civilian nurses left this question blank.

Section 5.3   Statistical analysis of questionnaires

Sufficient questionnaires from military nurses were returned for statistical analysis to meet the first aim of Stage 1, that is, to identify whether military culture influenced military nurses' pain assessments. However, as previously stated, a low civilian response rate prevented a statistical comparison between civilian and military nurses (discussed further in Chapter 6). Therefore, Stage 1's second aim to compare civilian and military nurses' pain assessments could not be addressed.

Statistical analysis of military questionnaires sought associations between different nurse characteristics and their pain assessment using logistic regression. As this test requires binary data, for Question 1 all respondents who gave an expected score of 8 or above were coded 1. Those scoring 7 or below were coded - 0. For questions 2-7, (True, False, or Unsure) those giving the expected answer were coded - 1, while those giving any other answer were coded - 0. If 'Unsure' was ticked statistical analysis was carried out twice, once by including this answer in the expected answer group (coded - 1), the second time it was coded - 0. No significant differences were found when these answers were compared. For questions 8 and 9 (multi-choice), if the expected answer was ticked or where there was more than one tick and the expected answer was included this was coded - 1, other answers were coded - 0. Finally, demographic data were coded as follows: nurse gender - 0 for male and 1 for female; years qualified - 1 for 0-4 years, 2 for 5-10 years and 3 for over ten years, commissioned status - 1 for Officer and - 0 for NCO, and RAF personnel - 1, RN - 2 and Army - 3.

Coding allowed logistic regression to identify the significance of the different factors by comparing the odds ratio of an outcome against another ratio, while allowing for the different number of questionnaires returned by each group. The odds ratio is an index of risk of an event happening given one condition, versus the risk of it occurring given a different condition (Bradley 1995), that is, the probability of occurrence over non-occurrence (Munro 2001a). The index of risk or the odds of an event happening is the probability that the event will happen divided by the probability that the event will not happen (Crichton 2001), for example, whether male nurses will give the expected pain score. The odds ratio is then calculated by comparing the odds for two groups, for example, male and female nurses (see Table 5.4).

Table 5.4	Example of Odds Ratio Table	
Gender	**Outcome**	
	0 (Unexpected score)	1 (Expected score)
0 (Male)	Number of answers (N)	N
1 (Female)	N	N

Section 5.3.1   Nurses' characteristics and pain assessment

To explore any association between nurse characteristics and pain assessment, demographic details were compared to the answer given to Question 1 (pain score given to the patient). The nurse's gender, number of years qualified or their service affiliation (RAF, RN or Army) were not related to their pain rating. Table 5.5 shows the results, which are précised in the bullet points that follow in relation to the null hypotheses (Ho). Chapter 6 discusses the statistical analysis further.

Table 5.5	Significance of nurse variables against pain score given to patients		
Variable – Military Nurses	**Unadjusted Odds Ratio (Exp(B))**	**Significance (p)**	**95% Confidence interval**
Patient Gender	1.41	0.359	0.67, 2.97
Gender (Female to Male)	0.60	0.192	0.28, 1.30
Years Qualified (2v1)	1.55	0.396	0.56, 4.27
Years Qualified (3v1)	1.08	0.871	0.42, 2.77
Service (2v1)	1.50	0.399	0.58, 3.85
Service (3v1)	0.97	0.940	0.39, 2.39
Commissioned v NCO	2.15	0.053	0.99, 4.67

Legend: Years qualified – 1 = 0-4 years, 2 – 5-10 years, 3 – >10 years
Service – 1 = RAF, 2 = RN, 3 = Army
NCO = Non-Commissioned Officer

- 1st Ho – No significant difference between male and female nurses' pain assessment (p=0.192).
- 2nd Ho – No significant difference between service affiliation (RN, Army, RAF) and pain assessment (p=0.399 and p=0.940).
- 3rd Ho – No significant difference found between commissioned and non-commissioned nurses when assessing pain (p=0.053).
- 4th Ho – No significant difference between years qualified and pain assessment (p=0.396 and p=0.871).
- Hypotheses 5-8 (see Section 4.1) were not tested due to the poor civilian response rate.

The odds ratios in Table 5.5 did not indicate any association between the different military nurse variables and the pain score given, although the nearest to any significance was the difference between commissioned and non-commissioned nurses which was almost at the 5% level (p=0053). Although no statistically significant findings were found using logistic regression, nurses included comments on the questionnaire that provided qualitative data.

Section 5.4   Comments included on questionnaires

Both civilian and military nurses included comments, which are presented in the following sub-sections. Section 5.4.1 details civilian nurses' comments and military nurses' comments follow in Section 5.4.2. They are explored further in Chapter 6.

Section 5.4.1   Comments from civilian nurses

Civilian comments are listed as the following bullet points. Caution is once again advised when interpreting these due to the small numbers of questionnaires returned.

- 29% (19/65) of civilian nurses included comments.
- 26% (17/65) highlighted that pain was an individual experience and quoted McCaffery's (1968) phrase - Pain is what the patient says it is.
- 14% (9/65) emphasised pain's personal nature and other influencing factors such as patient expectations and stoicism.
- 9% (6/65) said some patients are reluctant to report pain, as they do not want to be seen as 'wimps' or 'a nuisance/pest'.
- 5% (3/65) said some patients request analgesia prophalactically in anticipation of pain or due to anxiety.
- 12% (8/65) believed assessment was learnt from experience, but regular pain assessment was still necessary.
- Only 6% (4/65) considered pain scales useful and emphasised a holistic approach.
- 11% (7/65) considered the questionnaire was poorly designed as there was insufficient patient information.

Military nurses also included comments, many of which were similar to the civilian nurses' comments above.

Section 5.4.2   Comments from military nurses

- 26% (52/201) of military nurses included comments.

- 36% (72/201) highlighted that pain is subjective and quoted McCaffery (1968) (Pain is what the patient says it is).

- Reasons given for the patients' reluctance to report pain were: post-operative pain was normal; perceived stoicism, particularly among men; patients not wanting to make a fuss or to be seen as 'wimps' (12% = 23/201 nurses); inadequate pre-operative preparation; and relationships between patients and nurses.

- 4% (7/201) reported that they would be reluctant to give analgesia as the patient could be a drug addict/abuser.

- 20% (39/201) discussed the link between pain and anxiety.

- 36% (71/201) said not enough information regarding the patient and their cultural background was included for them to answer some questions.

- 19% (38/201) stressed the influence of the patient's cultural background.

Section 5.5   Summary

This chapter has presented findings from the questionnaire survey distributed to military and civilian nurses. A variety of descriptive statistics were used and these have been presented in tables, bar charts and bullet points for clarity. Although results from both civilian and military nurses were presented together, an accurate comparison of the results was not possible due to the low civilian response rate. Statistical analysis of military questionnaires was undertaken but failed to identify any statistically significant differences between different nurse characteristics and their pain assessment. Chapter 6 examines these findings in more detail.

CHAPTER 6. DISCUSSION OF RESULTS (QUESTIONNAIRE SURVEY)

Introduction

Chapter 5 presented the results from the Stage 1 and these are now discussed further. The first section examines the response rates and possible reasons why these differed between civilian and military nurses. In addition, a justification for why the military nurses' results are representative of all military nurses is detailed. Section 6.2 presents an overview of the responses to each question while Section 6.3 describes the themes that came out of this. While this analysis was useful, the main aim was to identify if military culture influenced military nurses' pain assessments. Therefore, Section 6.4 discusses the statistical analysis of the data using logistic regression (explained in Section 4.6.1) and the possible explanations for the lack of significant findings.

The questionnaire used in Stage 1 was specifically adapted (see Section 4.5) to explore British military and civilian nurses' post-operative pain (hereafter referred to as pain) assessment. This was the first time the adapted questionnaire (Appendices C and D) had been used and it differed from the original questionnaire devised by Ferrell and McCaffery (1998a) (Appendix E) as it focussed on post-operative pain assessment by British nurses, particularly military nurses. Therefore, some caution must be exercised when comparing the results to the other studies outlined.

Section 6.1   Response rates

The final response rate of completed questionnaires was 48.5% (266/548), representing 65% (n=201) of questionnaires sent to military and 27% (n=65) to civilian nurses. The response rate was similar to the 53% (16/30) response rate of the pilot study (Section 4.7.3). This is typical of postal surveys (Sinicich 1990), for example Hamilton and Edgar's (1992) response rate of 54% (172/318). It is recognised that non-response rates can introduce bias as non-respondents' attitudes may differ to those who do respond (Fink 1995), especially as those who feel strongly about a topic are more likely to respond (Singleton et al 1993).

The low civilian response rate may have occurred because the civilian nurses did not know the researcher (as reported with the pilot study in Section 4.7.3). Additionally, within the civilian setting (Section 4.2) large numbers of medical and nursing students conduct surveys as part of their studies. Some nurses may not have responded if they

considered that this was yet another questionnaire to complete. To encourage respondents to complete and return questionnaires, prior to the questionnaire distribution, the researcher adopted various strategies as shown in Table 6.1.

Table 6.1	Factors increasing questionnaire response rates
1	Advance warning of proposed study
2	Explanation of selection for inclusion of study
3	Sponsorship
4	Envelope – appearance of first envelope
5	Publicity – in advance
6	Incentives for completion and return
7	Confidentiality of data
8	Reminders to return questionnaires
9	Anonymity
10	Appearance – i.e., layout of questionnaire
11	Length of questionnaire
12	The topic and its degree of interest
13	Return envelopes
	(adapted from Oppenheim 1992)

Although the factors in Table 6.1 were addressed, they may have been utilised further. For example, although the military Nurse Managers and civilian Director of Nursing were contacted regarding the study (Factors 1 and 2), it is not known if this information was disseminated to their staff. An increased awareness of the study (Factors 2 and 5) could have been achieved if an information leaflet detailing the study had been included on initial contact for display on the ward.

Questionnaires were sent in official envelopes and addresses were typed to appear more professional (Factor 4). While the researcher's employer provided financial support as part of continuous professional development, there was no other motive for supporting the research, therefore, Factor 3 was not considered applicable. No financial incentives were offered to respondents for returning questionnaires (Factor 6), although a justification that the study would help to ensure that pain was managed appropriately was included in the accompanying letter. It was believed that this was sufficient incentive for nurses to complete the questionnaire (Factor 6). However, some personnel

may have interpreted this as implying that the care they provided was inappropriate and this may also have contributed to the low response rate.

Confidentiality and anonymity were assured for all respondents (Factors 7 and 9), however, some may not have felt that this was absolutely guaranteed as the questionnaire requested some personal information, for example, their gender, grade/rank, and how long they had been qualified. Respondents may have been concerned that they could have been identified from this information, although this did not occur, even for military nurses. As the researcher was unknown to civilian respondents this may also have increased their concerns regarding confidentiality. This concern has been reported elsewhere. For example, Couling (2005) found it necessary to reinforce to her respondents that their anonymity would be maintained and that the data collected was confidential as they were concerned that they could be identified from the personal data requested. For military and civilian nurses, when additional letters and questionnaires were distributed (Section 4.8), emphasis was placed on maintaining confidentiality to reassure respondents that any information they provided would only be used for the research and their anonymity would be protected.

To avoid putting undue pressure on the respondents, a deadline for return was not included with the initial questionnaire distribution. However, some respondents may have put the questionnaire to one side for later completion and subsequently mislaid it. In retrospect, including a realistic return date would have provided a focus for respondents. A return date was included when reminders were sent to units (Factor 8), although the response rate remained poor.

The questionnaire was restricted to three pages so busy respondents would not be discouraged from completing it (Factor 11) and it was designed to look professional and was clearly laid out (Factor 10 and 12). A return envelope was included and the internal mailing system was used for its accessibility (Factor 13).

A higher response rate from military nurses may have several explanations. These nurses may have felt an affinity with the researcher, also a military nurse; they may have considered that the research was more relevant, or completed the questionnaire because they knew the researcher. This is similar to the pilot study as described in Section 4.7.3. However, caution should also be exercised when analysing the

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questionnaires as some respondents may have completed it according to what they considered was the researcher's preferences rather than their own attitudes (Oppenheim 1992). Other respondents, fearing a breach of anonymity, may not have included their real attitudes, while others may not have completed the questionnaire if they were over confident of their pain assessment skills (Lander 1990).

Despite addressing the factors shown in Table 6.1, the response rate from civilian nurses remained low. In addition, both military (36% = 71/201) and civilian (11% = 7/65) nurses commented that the lack of information about the patient's age and cultural background made accurate pain assessment difficult. This may have discouraged some respondents from completing and returning questionnaires. However, as with the pilot study (Section 4.7.3), these details were deliberately omitted to avoid nurses stereotyping the patient (Davitz and Davitz 1975, McDonald and Bridge 1991). Other studies have also shown how the patients' cultural background influences nurses when assessing pain (Seers 1988, Lander 1990, McCaffery and Ferrell 1997a).

Table 6.2 shows that the response rates from military nurses per service were similar to the total number of military nurses within each nursing branch (personal communication, personnel departments QARNNS, QARANC, PMRAFNS 2000), thus increasing the study's reliability.

Table 6.2	Military nurses' response rates	
Service	Questionnaire response rate % (n=number)	Proportion of total nurses % (n=number)
QARNNS	26 (n=52)	20 (n=189)
QARANC	44 (n=88)	46 (n=445)
PMRAFNS	30 (n=60)	34 (n=327)
Blank	(n= 1)	
TOTAL	100 (n=201)	100 (n=961)

Sixty-four per cent (211/329) of questionnaires were distributed to officers and 36% (118/329) to NCO's (defined in Section 4.3.1). Of the questionnaires returned, 41% (83/201) were from officers and 58% (117/201) from NCO's. Therefore, a much larger proportion of NCO's returned questionnaires than commissioned nurses. Although completion and return was voluntary and anonymous, some NCO's may have felt obliged to do so as obeying orders from senior personnel (such as the researcher) is a military expectation (Starns 2000).

More civilian nurses (48% = 31/65) had been qualified longer than ten years when compared to military nurses (40% = 81/201). This may reflect the frequent movements around the country or world by military nurses and while many tolerate this disruption, others may find the instability unsettling and so leave the services after a short period. More military nurses had been qualified between 0-4 years than civilian nurses (27% = 55/201 compared to 21% = 14/65). Military nurses are employed for set periods ranging from four years to a full career of thirty years or more and they join the military to experience its uniqueness, diversity and opportunities. As a result there is a large turnover of personnel with many newly qualified personnel joining for short periods (4-9 years). In addition, more nurses are now being trained through the military and so there are larger numbers of newly qualified, less experienced nurses.

Section 6.2   Overview of questionnaire results

As discussed in Section 4.5, the questionnaire (Appendices C and D) was adapted from Ferrell and McCaffery's (1998a) NKAS (Appendix E). An overall comparison between the two was not possible as these two questionnaires differed (see Table 4.6). However, Table 5.2 detailed the expected answers to the individual questions used and the answers given by the military and civilian nurses. These have been transposed to Table 6.3 along with the results from similar studies for comparison, which are further discussed below and in Section 6.3. These studies relate to civilian nurses as no studies have been identified relating to British military nurses' pain assessments (see Chapter 2). No corresponding studies are included for Questions 5, 10 and 11 as these were additional questions incorporated into the questionnaire following the pilot study (see Sections 4.5.2 and 4.7.3).

Overall, the results from military and civilian nurses support those reported by other authors (Table 6.3). For example, nurses were expected to agree with the patient's pain score of 8 in Question 1, as nurses are taught that pain is what patients' say it is (McCaffery 1968) (discussed in Chapters 2 and 4). Over a third of military nurses (36% = 72/201) and a quarter of civilian nurses (26% = 17/65) quoted this. Table 6.3 shows that the majority of nurses gave the expected score of 8, which reinforces the results found by McCaffery and Ferrell (1997b), Sjöström et al (1997) and de Rond et al (2000). The lower numbers found by Seers (1987) and Zalon (1993) may reflect attitudes to pain held before the introduction of educational programmes (Dalton et al 1996, Francke et al 1997, McCaffery and Ferrell 1997b, de Rond et al 2000, 2001,

Edwards et al 2001) and acute pain services (RCS/RCA 1990, Mackintosh and Bowles 2000). The similarity of the findings to other studies highlights the influence of the civilian nursing attitudes on military nurses (explored further during Stage 2 and described in Chapters 8 and 9).

Table 6.3 Expected questionnaire responses compared to other studies				
Question	Expected answer	Military results	Civilian results	Corresponding studies – author(s), (date), % giving correct answer, (numbers)
1. Pain Score	8	79% (159/201)	82% (53/65)	Seers (1987) – 46% (13/28) Zalon (1993) – 55% (65/119) Sjöström et al's (1997) – 70% (21/30) McCaffery and Ferrell (1997b) – 74% (332/450) de Rond et al (2000) – 78% (192/250)
2. Endurance	False	99% (199/201)	100% (65/65)	Hamilton and Edgar (1992) – 93% (297/318) Ferrell et al (1995) – 98% (numbers not given but n= 901))
3. Comparable stimuli	False	93% (187/201)	95% (62/65)	Hamilton and Edgar (1992) – 91% (288/318) Ferrell et al (1995) - 96% (numbers not given)
4. Cultural beliefs	True	67% (135/201)	57% (37/65)	Hiscock and Kadawatage (1999) – British nurses (76% = 23/30), Sri Lankan nurses (50% = 15/30)
5. Over report pain	False	72% (145/201)	73% (47/65)	
6. Distracted from pain	False	79% (159/201)	73% (47/65)	Hamilton and Edgar (1992) – 59% (186/318) Clarke et al (1996) – 98% (118/120)
7. Vital signs present	False	27% (53/201)	23% (15/65)	Hamilton and Edgar (1992) – 42% (133/318)
8. Increased analgesia for pain	A	90% (181/201)	89% (58/65)	
9. Patient best judge of pain	C	98% (197/201)	97% (63/65)	Ferrell et al (1995) – 97% Clarke et al (1996) – 98% (117/120)
10. Patients willingly report pain	Yes	62% (125/201)	53% (34/65	
11. Patients exaggerate pain	No	65% (131/201)	69% (45/65)	

Section 6.3   Emerging themes

Having analysed the data collectively as described above, the following themes were identified as being particularly important. These themes relate to contradictions in responses, the reliance on observable signs and behavioural expressions, and cultural and military influences. Due to the low civilian response rate, the discussion focuses on military nurses' responses.

Section 6.3.1 Contradictions in responses

Further examination of the question responses highlighted some contradictions between different answers given (see Table 6.4). For example, while 98% (197/201) of military nurses said patients were the best judges of their pain (Question 9), only 79% (159/201) agreed with the patients pain score (Question 1), while 18.5% (37/201) underscored the pain, 26.5% (53/201) believed patients over reported their pain or were unsure (Question 5) and two thirds (134/201) relied on clinical signs or observable behaviours (Question 7) rather than patients self-reports. These nurses were supporting studies by other authors who have reported that nurses do not always believe patients' own pain reports (Saxey 1986, Scott 1992, Hunt 1995, Field 1996a and Briggs and Dean 1998) (previously discussed in Section 2.7.1). These contradictions were reinforced in the nurses' comments accompanying their answers, for example, the patient's pain score was considered to be less than 8 (Question 1), as their observations were not raised.

Table 6.4	Contradictions identified during Stage 1 (n=201 military nurses)
1	Although 98% (197) of nurses believed that patients were the best judges of their own pain (Question 9), only 79% (159/201) of nurses agreed with the patient's pain score and nearly 1 in 5 (18.5%=37) of nurses underscored the patient's pain (Question 1).
2	Although 98% (197) of nurses believed that patients were the best judge of their own pain (Question 9), two-thirds (66.5%=134) of nurses relied on clinical signs and behavioural changes to indicate patients were in pain (Question 7) rather than the patient's self report.
3	10% (21) of nurses who said patients would not exaggerate their pain (Question 11) gave the patient a lower pain score (Question 1).
4	Although 90% (181) of nurses believed patients would request more analgesia because they had increased pain levels (Question 8), nearly 1 in 5 (17%=34) of nurses also believed patients exaggerate their pain (Question 11).

These contradictions may have arisen if nurses responded to some questions as they considered was expected, for example, the need to believe patients' self-reports (Question 1), even though they may have doubted that the patient's pain level was as high as they indicated. Such doubts may be related to expected changes in observable

signs and behavioural expressions (Question 7). However, as Section 2.3.4 discussed, patients' vital signs may not alter when patients are in severe pain. Additionally, autonomous changes are influenced by other factors, such as gender, and experimental studies using thermal and ischaemic pain, have shown that blood pressure is inversely related to pain sensitivity with normatensive females exhibiting greater pain than males (Fillingim and Maixner 1996). Therefore, autonomic responses are not unique to pain per se as they also occur under conditions of general arousal and stress (Melzack and Katz 1999). The use of observable signs and behavioural expressions when military nurses assess pain is now explored further.

Section 6.3.2 Observable signs and behavioural expressions

Only 26.5% (53/201) of military nurses gave the expected answer to Question 7 (False), while two thirds of military nurses believed that the statement was True. These results reinforce other studies showing that nurses rely on vital signs and behavioural expressions when assessing pain, for example Hamilton and Edgar (1992) (see also Section 2.3.4). When patients' vital signs are not elevated it has been reported that nurses underscore pain, for example, McCaffery and Ferrell (1992a) found that only 70% (116/166) of nurses agreed with a patient's pain score when vital signs were normal, compared to 89% (148/148) who agreed when vital signs were elevated. Similarly, Chuk (1999) found 61% (16/26) of nurses agreed with the patient's pain score when vital signs were low/normal, compared to 85% (22/26) who agreed when vital signs were elevated, although this latter study only included 26 nurses. Finally, Sjöström et al (2000) reported that 51% (n 45) of nurses relied on patients' appearances when assessing pain. However, in contrast, Thorn (1997) found 70% (14/20) of nurses agreed that not all pain could be detected by behavioural or physical signs, while Schafheutle et al (2001) found 93% (167/179) of nurses agreed a lack of expression did not mean a lack of pain.

These conflicting studies show that although behavioural changes may be present, all patients are individual and "exhibit varying behaviours" (Hosking and Welchew 1985, p54). This may explain why there were contradictory answers given by military nurses, although it is also recognised that adapting Question 7 by including observable signs and vital signs together may account for this contradiction as nurses may have only expected one or the other to be present.

The responses to Question 7 once again highlights the complexity of the pain experience that is influenced by many factors, including the continued dominance of the biomedical model that requires physical changes to confirm pain (discussed in Section 2.2). Overall, it appears that military nurses are influenced by the dominant civilian attitudes relating to the importance of vital signs and behaviour to confirm a patient's pain, even when these may be contrary to the patient's self-report (as in Question 1). This may relate to the increased exposure to these civilian nursing attitudes by military nurses working within NHS hospitals as discussed in Section 1.3.1, particularly as 39% (178/201) of responding military nurses worked in such environments. This was an important finding that warranted further exploration during Stage 2. The importance of cultural influences is now explored.

Section 6.3.3 Cultural influences

Question 4 related to cultural influences and it was interesting that 18% (36/201) of military nurses had difficulty answering this question, stating that not enough information regarding the patient's cultural background was given. This shows how their decisions are influenced by their perceptions of the patient's background as previously reported (Hunt, 1995, Hiscock and Kadawatage 1999) and this may explain why nurses' and patients' pain assessments are often incongruent (Section 2.7.1). The influence of the nurses' background on their pain assessment has been reported elsewhere, for example, Hiscock and Kadawatage (1999) found that only 3% (1/30) of British nurse agreed that nurses were better at assessing pain, compared to 73% (22/30) of Sri Lankan nurses.

In addition, as military nurses are increasingly working in NHS environments, they may have responded to some questions according to the dominant civilian nursing attitudes, for example, pain is what the patient says it is (Question 1). Military nurses may also have assumed that as no rank or service was assigned to the patient in the vignette, the patient was a civilian and so they responded accordingly. The differences between assessing civilian and military patients were explored further in Stage 2 (see Chapters 8 and 9).

Cultural influences were also evident in Questions 10 and 11. For example, in Question 10, while 61% (123/201) of military nurses believed patients would willingly report pain, 15% (29/201) left this blank. Likewise for Question 11, 17% (34/201) said

patients would exaggerate their pain, while 18% (36/201) left this question blank, commenting that completion was difficult without further patient details. The responses to Questions 10 and 11 highlight how stoical attitudes dominate within Western cultures, especially in the military (see Section 2.5.2). The responses to these two questions supports other studies reporting that if patients believe they will be labelled weak, they lack character or that their requests for analgesia will be met with disapproval, they are more likely to suffer in silence (Weis et al 1983, Dodson 1985, Hosking and Welchew 1985). As Section 2.5 discussed, this is particularly relevant to the military culture where personnel are expected to portray a tough image. This image was explored during Stage 2 and is presented in Chapter 9.

The above sections have demonstrated the influence of the dominant civilian nursing culture on military nurses. However, it was also clear from the questionnaire responses that military nurses held some contradictory attitudes (Table 6.4). As military nurses are also part of the military culture, this may have had an influence on some of their attitudes and these are now explored.

Section 6.3.4 Military influences

Military nurses may have responded to some questions according to their military cultural attitudes, for example, while four-fifths of military nurses agreed with the patient's score, nearly a fifth gave a lower score, thus indicating that they do not always believe patients' self-reports. Generally, within Western cultures, stoicism is expected (Thomas 1997a), particularly in the military (Zborowski 1969) (see Section 2.5.2), and thus these military nurses' responses may have reflected the military cultural attitudes to pain.

The responses to Question 1 (Pain score) were particularly interesting as they sometimes contradicted the answers given to Question 9, where nearly all nurses stated that patients were the best judges of their pain. The importance of accepting that patients are the best judges of their pain has been reported in other studies, (see Ferrell et al 1995 and Clarke et al 1996). In addition, when asked if nurses were better qualified than patients at assessing pain, Hunt (1995) found that 17% (6/35) of nurses agreed while 69% (24/35) disagreed. However, Schafheutle et al (2001) found that only 3% (6/179) of nurses agreed while 78% (40/179) disagreed. Some nurses may find it easier to deny that their patients are in pain as this may be less stressful than accepting that

their patients have pain (Baer et al 1970, Dodson 1985). Once again, these differences highlight the influence of cultural background and this was explored in relation to military culture during Stage 2.

Section 6.3.4 Summary of Sections 6.2 and 6.3

While focussing on military nurses' pain assessment attitudes, this section has shown that military and civilian nurses' answers were similar and reinforced the findings of other studies using similar questions. These sections have also highlighted the complexity of the pain experience and this may explain the contradictions and why some nurses ticked more than one answer to some questions (Questions 4, 5, 7-11). However, it is also recognised that adapting the questionnaire for this study (see Table 4.6) may account for the different responses and some of the contradictions identified.

While the above discussion is relevant, nurses' attitudes per se were not the focus and of specific interest was the influence of culture, especially the military culture, on these attitudes and the contradictions identified above. Such contradictions have not been reported previously and were a major finding from Stage 1, which presents a new insight into military nurses' attitudes to pain assessment. This was an important finding that directed the development of Stage 2.

While the descriptive statistics presented above did not identify specific influences of military culture on their pain assessment, further statistical analysis of the military questionnaires was undertaken as described in the following section.

Section 6.4 Statistical analysis of military questionnaires

Statistical analysis was undertaken using logistic regression to determine any association between different nurse factors and their pain assessment, although none were found (see Table 5. 5), thus supporting the null hypotheses 1-4 (see Sections 4.1 and 5.3.1 and Table 4.1). Due to the poor civilian response rate, hypotheses 5–8 were not tested. While logistic regression appeared to support the null hypotheses, it was necessary to ensure that this was a correct conclusion and not the result of other causes, including the type of data collected and the test used.

Logistic regression is a statistical test used to predict the occurrence or non-occurrence of an event (Anthony 1999), that is, whether different factors (such as gender, rank, service affiliation or years qualified) were related to the pain score given to the patient (Question 1). Logistic regression uses a dichotomous (two category) dependent variable (Jordan et al 1998), that is, whether or not nurses gave the expected answer to Question 1. This question required nurses to indicate a patient's pain score and as the patient scored their pain as 8, this was the expected answer (see Section 6.2) irrespective of any other scores given. While only one nurse gave a score above 8, scores below this ranged between 3 and 7. However, irrespective of the actual score given, these were all considered incorrect as they differed to the patient's own self-report, thus providing further justification for using logistic regression.

As stated above, logistic regression, through the expression of an odds ratio (see Section 4.6.1), was only used to identify any association of the independent variables (factors such as gender, service affiliation, rank) with the dependent variable (the pain score in Question 1). It is acknowledged that the other questionnaire responses were equally important, but analysis of these focused on comparing the responses to those reported in other studies (see Section 6.2 and Table 6.3). Focussing on cultural influences using just one question (Question 1) was limiting and further relevant data may have been gained by applying logistic regression to the other questions.

While Questions 2-9 gave several alternative answers, they too had expected answers and so the results were dichotomised as either correct or incorrect. Once again, it is acknowledged that the actual answers were important and a statistical analysis test that allowed many variables to be dealt with at the same time, such as multiple regression, could have been used to measure how well these different variables correlated together (Hinton 1995). While Ferrell and McCaffery's NKAS concentrated on identifying nurses' knowledge and attitudes, this study's focus was cultural factors influencing military nurses' attitudes to pain assessment, rather than the actual attitudes themselves. Therefore, coding the answers as dichotomous variables (correct or incorrect) for logistic regression was appropriate to explore associations between the different cultural factors and nurses' pain assessment answers.

The NKAS includes 37 questions, some True/False, others multi-choice (see Appendix E). Ferrell and McCaffery do not advocate distinguishing the statements/questions as either knowledge or attitudes as many measure both (Ferrell and McCaffery 1998a). Therefore, they suggest that it is more beneficial to analyse the data in terms of percentage scores for each question (Ferrell and McCaffery 1998a). This was adopted as detailed in Section 5.2 above. Histograms showing frequencies are a form of descriptive statistics that allow a limited form of statistical analysis (Donnan 2000a), but were appropriate for comparison with other studies.

Following the questionnaire adaptation, it is acknowledged that many questions were seeking attitudes rather than knowledge. In studies exploring attitudes, data is commonly collected via a series of statements to which respondents indicate whether they agree or disagree using a Likert scale (Edelmann 2000) and this can establish if the particular attitude is generally favourable or unfavourable (Oppenheim 1992). Likert scales rely on respondents placing themselves on an attitude continuum, which are often scored from "Strongly agree" to "Strongly disagree" (Oppenheim 1992). The continuum may also include "Undecided" or "Unsure" as this may make it less objectionable if respondents do not have strong feelings, although it can also lead to fence sitting (Polit and Hungler 1999). The option of 'Unsure' was included in the questionnaire for Questions 2-7 in an effort to prevent questions being left blank.

One disadvantage of Likert scales is that as there is no assumption that the intervals used in the rating scales are equal, the perceived difference between "Strongly agree" and "Agree" may be much larger than the difference between "Agree" and "Undecided" (Edelmann 2000). Additionally, while a Likert scale is beneficial for indicating the relative ordering of people's attitudes, a particular set of responses will always add up to the same score. Thus, a score can be obtained from a number of different combinations although the total score may not always mean the same thing (Edelmann 2000). For example, a score of 30 can relate to 10 respondents scoring 3 but could also result from 5 respondents scoring 5 and 5 respondents scoring 1. This was a major disadvantage when exploring military cultural influences on military nurses' pain assessment attitudes and was the principle reason why Likert scales were not used.

Logistic regression is frequently used in medical and epidemiological studies to predict how much more likely (or unlikely) it is for an outcome to be present (Munro 2001a), such as the risk of a particular disease occurring if a certain exposure is present (Crichton 2001). However, logistic regression was used to determine the probability of different cultural factors influencing military nurses when assessing pain and this different usage may be a limitation, although it is also reiterated that the focus was cultural influences on nurses' attitudes rather than the actual attitudes themselves.

Section 6.5   Summary

This chapter has discussed the questionnaire findings in relation to other studies and has found many similarities, but has also identified some important contradictions (Table 6.4). It is acknowledged that using descriptive statistics, as suggested by Ferrell and McCaffery (1998a), only highlighted how many nurses held the particular attitudes in each question. While important, the primary focus was cultural influences on nurses' attitudes to pain assessment. Logistic regression was used in addition to descriptive statistics, but failed to identify any statistically significant association between culture and the nurses' pain assessment. Comparing military and civilian nurses' pain assessments was not possible due to the low civilian response rate.

The questionnaire was adapted to study post-operative pain assessment by UK civilian and military nurses. It is acknowledged that the adapted questionnaire contained statements that predominantly related to attitudes (Appendices C and D) and so using Likert scales, as discussed above, may have been more appropriate. Using such a scale would have allowed more powerful statistical tests and different results may have been obtained. However, it is again stressed that the focus was the influence of the different nurse factors (gender, service affiliation, rank/grade, years qualified) on their attitudes to post-operative pain assessment, rather than the actual decisions or attitudes held.

This was the first time the adapted questionnaire had been used and further refinement and testing is required to determine its validity and reliability. However, while descriptive statistics and logistic regression (Sections 6.2 and 6.4) failed to support the null hypotheses, further examination of the answers and the comments highlighted some contradictions in the military nurses' attitudes to pain assessment (Table 6.4). These may have resulted from a conflict between attitudes learnt from the civilian nursing culture and those from the military culture. This particularly interesting finding has not

been explored previously and directed the development of Stage 2, the aim of which was to further explore how military nurses are influenced by both the civilian nursing and the military culture when assessing pain.

While the questionnaire survey highlighted the above contradictions it did not provide an adequate explanation for them. This is a limitation of questionnaire surveys where everyday phenomena (such as pain assessment attitudes) can become warped if viewed from a scientific perspective using quantitative data collection methods, such as questionnaires (Coulon 1995). Such methods distance the researcher from the objectivity of the situation being studied and ignore the actor's (respondent's) practical experience (Coulon 1995). Thus, a methodology to address this was required for Stage 2 and ethnomethodological ethnography was considered such a methodology. This is discussed in Chapter 7, while Chapters 8 and 9 describe how it was utilised for Stage 2.

CHAPTER 7. STAGE 2 OF THE STUDY (ETHNOMETHODOLOGICAL ETHNOGRAPHIC INTERVIEWS)

Introduction

This chapter describes the setting up and implementation of Stage 2 of the study. The methodology chosen, ethnomethological ethnography is discussed in Section 7.2 and this is followed by details of the setting and sample (Section 7.3), data collection using semi-structured interviews (Sections 7.4) and data analysis (Section 7.5). The interviews were analysed in relation to the key aspects of ethnomethodological ethnography (Table 7.1) assisted by a computerised data analysis package (see Section 7.5.1). As Stage 2 was a qualitative study, different strategies to ensure rigour were adopted and these are discussed in Section 7.6. The final section presents the procedure followed and the ethical implications pertinent to Stage 2.

As discussed previously, Stage 1 explored cultural influences on military nurses' (hereafter called nurses) post-operative pain (hereafter termed pain) assessment, although due to the low response rate, comparisons between military and civilian nurses' assessments of pain were not possible and so analysis focused on military nurses. While no significant findings were identified relating to the influence of military culture on nurses' pain assessments, some contradictions in attitudes were found (see Table 6.4), although explanations for these were not provided. This warranted further exploration, particularly as it appeared from Stage 1 that military nurses' attitudes become so ingrained that they are unaware of them or how these attitudes influence their routine 'taken-for-granted' assumptions that surround post-operative pain assessment. These were explored in Stage 2, the aims being:

1)   To provide explanations for the contradictions in military nurses' attitudes to post-operative pain assessment identified during Stage 1.

2)   To identify the taken-for-granted assumptions military nurses hold regarding post-operative pain assessment.

3)   To identify the common-sense knowledge military nurses use when assessing post-operative pain.

Interviews were used to meet these aims and were appropriate for collecting data as they give direct access to people's experiences (Silverman 2000a), in this case, nurses' pain assessments.

Section 7.1   Design Overview

For Stage 2, semi-structured interviews explored the taken for granted assumptions nurses learn relating to pain assessment during their military socialisation and their nurse training (see Section 2.5). However, as these assumptions may not be explicitly recounted during interviews, a methodology that enables an understanding of these was required (Coulon 1995). Ethnomethodological ethnography is a methodology belonging to the interpretivist paradigm (see Section 3.1.2) and recognises that people act in ways that are congruent with their culturally learnt attitudes. It focuses on how people make sense of their everyday activities, for example, pain assessment, to behave in a socially acceptable way.

Section 7.2   Ethnomethodological ethnography.

Ethnomethodological ethnography evolved from ethnography, that is, a set of methods to allow researchers "to grasp the native's point of view" (Malinowski 1922, p25). As a form of qualitative research, ethnography is concerned with peoples' own accounts of their attitudes and offers a richly descriptive report of an individual's perceptions, attitudes, meanings and interpretations of different events (Hakim 1987). Ethnography aims to discover the insider's view of their culture and gain an understanding of the meanings of cultural behaviour and how this influences cultural attitudes (Spradley 1979, Parahoo 1997). It also allows an exploration of the acquired knowledge that group members use when interpreting their attitudes and experiences and what these mean to them (Spradley 1979).

One of ethnography's strengths is that it enables a detailed picture of a cultural aspect to be presented. This description can then be judged on the depth of its portrayal and the intricacy of its description rather than how representative it is (Denscombe 1998). Ethnographic studies focus on taking the actor's viewpoint, although this has been criticised as the researcher's interpretations are filtered through the lens of language, gender, social class, race and ethnicity, so that there cannot be an objective observation, only an observation that is socially situated in the worlds of the observer and the observed (Denzin and Lincoln 1994). The implications of this are explored further in Chapter 10.

Ethnomethodology is concerned with how members of a social group perceive, define and classify the ways in which they perform their daily activities and what meanings are assigned to the acts that occur in the context of these activities (Bond and Bond 1994).

It is concerned with studying the everyday methods used to construct and sustain peoples' everyday activities in their cultural world, that is, their "sense assembly equipment" (Silverman 1985, p96). However, during everyday activities people do not always say or do what they mean and therefore, it is necessary to use methods that bring some order and sense-making, so that cultural activities can be interpreted and understood (Benson and Hughes 1983, Miller 1997). Ethnomethodological ethnography explores these methods. It is particularly useful for studying familiar cultural groups, including those from the same background as the researcher (Livingstone 1987). This is relevant as the researcher is also a military nurse.

Ethnomethodology developed in the early 1960's as a result of a growing dissatisfaction with sociological thought that had three basic assumptions; firstly, that sociology was able to produce descriptions of social phenomena that corresponded to actual events; secondly, that the sociological accounts produced were different, and superior to those accounts produced by lay members; and thirdly, that lay members' accounts were flawed in relation to their making sense of the social world (Garfinkel 1984). These views were influenced by the positivist belief that descriptions and explanations could be produced independent of the settings in which they occurred (Dingwall 1981) (see Section 3.1.1).

Ethnomethodological ethnography recognises that culture influences peoples' behaviour, but rather than seeing culture as being made up of material things, such as people, behaviour and emotions, it sees culture as an organisation of these aspects (Dingwall 1981). Describing these aspects is not sufficient and what is required is the taken-for-granted conceptual models people use to represent these cultural aspects (Dingwall 1981), for this study, the models military nurses use when assessing pain. This entails:

> "Paying to the most commonplace activities of daily life the attention usually accorded extraordinary events, seek to learn about them as phenomena in their own right"
> (Garfinkel 1984, p1).

Ethnomethodologists use the term 'members' rather than participants to emphasise the belief of a shared social life with others within the social world (Coulon 1995). Ethnomethodologists also believe that group members are able to produce sufficient social order through their joint everyday reasoning for their practical purposes

(Dingwall 1981). It is argued that social order, rather than being orderly is potentially chaotic and members are able to produce this social order in their minds from this chaos to enable them to function. Therefore members should not be seen as 'rule governed dopes' (Dingwall 1981, p126) but rather as rule interpreters (Garfinkel 1984). The production of social order that occurs during socialisation (described in Section 2.4) is the focus of ethnomethodology which offers a means of exploring what members do, that is, the descriptions of the methods members use to make sense of and understand their own ordinary lives, including the actions they undertake (Garfinkel 1984). Thus, ethnomethodology can be defined as:

> "The investigation of the rational properties of indexical [described below] expressions and other practical actions as contingent ongoing accomplishments of organised artful practices of everyday life"
> (Garfinkel 1984, p11).

Therefore, ethnomethodology, seeks to understand the common-sense knowledge and procedures used by members in their everyday encounters to make sense of their cultural group so that they can act appropriately and in accordance with the circumstances that they are in (Heritage 1984). It is concerned with investigating normal everyday activities, that is, a group's taken-for-granted assumptions, so that there is a greater understanding of the group's social structure (Sharrock and Anderson 1986). Ethnomethodology is an attempt to:

> "Focus on facts of social life that are so obvious, so mundane and so deeply part of the background of our lives that a special effort of the imagination is required to notice them, let alone perceive their importance"
> (Heritage 1984, p304).

Ethnomethodologists believe practical reasoning and actions carried out by members of a group have a formal structure to them (Handel 1982). Ethnomethodology explores this, particularly the influence of members' perspectives, perceptions, definitions and classifications of the ways in which they act. They are also interested in the meanings assigned to these acts that occur in the context of everyday lives so that members behave in a socially acceptable way (Handel 1982, Polit and Hungler 1993, Bond and Bond 1994). Ethnomethodology moves away from exploring the often unanswerable 'why' questions about social order towards the 'how' questions (Dingwall 1981). It is believed that ethnomethodology shows how group members go about producing sufficient order for their normal everyday practices (Garfinkel 1984).

A person's social world is not something imposed or inherited but is accomplished in ways that are normally taken for granted and in which members do not usually stop to analyse (Bond and Bond 1994). Therefore, in any situation, members only 'take account' of what they consider is necessary within that particular setting and at that particular time. This is termed 'accounting' and covers all the diverse activities, mental and overt, that group members use in sense making (Handel 1982).

Another aspect of ethnomethodology is indexicality, that is, those expressions or actions whose sense depends on the local circumstances in which they take place and communicate different meanings on different occasions (ten Have 2004). In everyday life people have to interpret the setting that they are in and what others say to them, even though these accounts are often incomplete and imperfect, that is, they have to repair these indexical particulars (Handel 1982). Surrounding indexicality is the concept of 'reflexivity'. This recognises the interdependence between the circumstances members attribute to social events and their descriptions or accounts of what the events themselves are, that is, the situation is embedded within the description of it and vice versa (Garfinkel 1984, Bond and Bond 1994). Members use practical reasoning common-sense knowledge to continually interpret their world and this becomes part of the continuous interpretation process, although reflexivity is not a conscious activity (Benson and Hughes 1983).

The concept of reflexivity, which relates to an objects' relation to itself, has been interpreted differently within the social sciences where it is used to make explicit the self-conscious view of social science's activities (ten Have 2004). Researchers need to be aware that their own cultural background will influence their participation in another culture and how they interpret what they see or hear. Therefore, they must make this explicit so that others are informed of the potential influence of this on the data collected and its analysis (Denscombe 1998). Reflexivity is a feature in any study and rather than undermining the researcher's commitment to the situation's reality, it acknowledges that researchers can only act with the knowledge that they have (Hammersley and Atkinson 1995). Although this knowledge may not always interpret phenomena correctly, this is no different to what occurs in our everyday lives; we only interpret things on the basis of the knowledge we have. While identifying members' methods, researchers are required, simultaneously, to use the same methods themselves. Thus, the researcher becomes the research instrument and any data collected will be

perceived by the researcher according to their understanding of the situation under study (Dale et al 1988). Chapter 10 explores this interpretation of reflexivity within the context of this study.

The key aspects of ethnomethodological ethnography are summarised in Table 7.1.

Table 7.1 Key aspects of ethnomethodological ethnography	
Key Aspect	**Description**
Taken-for-granted assumptions	Normal everyday routine activities. Expectations of what should happen in a normal day and how members expect others to act.
Common-sense knowledge and procedures	Corpus of knowledge used by members of a social group to make sense of their world. The collective knowledge all members share
Typification	Common ways people classify objects, events and experiences. Process of categorising individuals or events into types.
Accounting	All the diverse activities, mental and overt, that are used in sense-making by the group members.
Indexicality	Formal characteristic of any account that communicates different meanings on different occasions. Actions and utterances depend for their meaning on the context in which they occur.
Reflexivity	An interdependence between the circumstances members attribute to social events and their descriptions or accounts of what the events themselves are.
(adapted from Garfinkel 1984, Bond and Bond 1994, Coulon 1995)	

Ethnomethodologists stress that ethnomethodology is concerned with showing how group members organise their everyday activities using their knowledge and methods as a means of analysing their encounters (Benson and Hughes 1983). Some critics argue that ethnomethodology cannot explain why people act as they do. However, this is not the intention; ethnomethodology attempts to describe interpretive practices used by members rather than identify causes of action (Sharrock and Anderson 1986). This was pertinent for this study seeking to identify how military culture influenced military nurses' interpretive practices and attitudes to pain assessment.

Ethnomethodology has developed in several ways, for example, conversational analysis and ethnomethodological ethnography (Silverman 1985). Conversational analysis focuses on the structure of everyday, mundane conversations including the procedures

involved and the speaker's expectations (Heritage 1984), while ethnomethodological ethnography focuses on the content of the conversations rather than their structure and order (Bond and Bond 1994). However, both share certain guiding principles such as the researcher treating the group being studied as 'anthropologically strange', that is, by looking at the familiar group as though they were unknown (Dingwall 1981).

With regards to pain assessment, ethnomethodological ethnography sought to discover how common-sense knowledge relating to pain assessment is constructed within the military culture. Common-sense knowledge is considered "seeable, desirable, and detectable" (Benson and Hughes 1983, p6). Ethnomethodological ethnography revealed how military nurses recognise that a particular corpus of knowledge belongs to their group. This allowed an understanding about the assumptions made, practices adopted and conventions utilised from members' own terms (Cohen and Manion 1989). Thus, it explored the military nurses' 'taken-for-granted' assumptions that are used to understand their everyday activities and maintain a sense of order in their lives. This involves a process termed 'typification'; that is, common ways objects are classified that are adapted according to the situations people find themselves in (Bond and Bond 1994). Members use typifications to organise their impressions into categories that structure their experience and which are constantly altered, refined and modified during their lives and different experiences (Benson and Hughes 1983).

Section 7.2.1 Ethnomethodology in nursing

To date, ethnomethodology has had little use within nursing and only six studies have been identified using this methodology. Of those, three used conversational analysis (described above) (see Mallett 1990, Bowers 1992, Mallett and A'Hern 1996). The remaining articles covered diverse topics such as nurses' definitions of medication errors (Baker 1997), the use of seclusion in psychiatric practice (Mason 1997) and feeding demented residents in long-term care (Pierson 1999). These articles highlight how nurses' justify (account for) the decisions they make in their everyday practice and use their tacit or 'stock of knowledge' (Baker 1997, Mason 1997, p783) to reach these decisions. Section 8.3.1 discusses this in relation to military nurses' ability 'to tell'. These studies also show how ethnomethodology is used to reveal nurses' taken-for-granted assumptions and common-sense knowledge, for example, nursing assistants' ability to read and interpret non-verbal cues relating to feeding that they learn through experience (Pierson 1999). The taken-for-granted assumptions and common-sense

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knowledge military nurses use when assessing post-operative pain are discussed in the following two chapters.

Section 7.3   Setting and Sample

Purposive sampling was used to select nurses for interview (but see Section 7.7) as this uses personal judgement to select participants who illustrate the features of interest (Silverman 2000a), that is, nurses who were employed in surgical/orthopaedic areas, as they offered some typicality for the phenomenon under study (Stake 2000). For qualitative studies it is not the sample size that is important but the quality of analysis (Silverman 2000a). Therefore, the aim is to select information-rich cases (Grbich 1999) that will provide meaningful data related to the research questions (Mason 2002). Between 5 and 25 members is considered sufficient for qualitative studies exploring attitudes (Kvale 1996) but this can be increased or decreased depending upon the quality of the data collected (Bowling 1997). The aim was to interview between 20 and 30 military nurses.

Section 7.4   Data collection

Semi-structured interviews explored how the military culture influences nurses when assessing pain and identified their taken-for-granted assumptions and common-sense knowledge. Interviewing, the most widely applied technique for generating empirical evidence about the social world, is a specialised form of conversation (Holstein and Gubrium 1997). Interviews were used as they provide narratives of members' descriptions of their world (Silverman 2000a) and allow partial descriptions of selected cultural aspects (Spradley 1979), that is, nurses' pain assessments.

Individual, or face-to-face, interviews are the commonest type of interview (Fontana and Frey 1994). They are useful for identifying attitudes and factual information (Kvale 1996) and nurses were asked to discuss their pain assessment using examples from practice in an attempt to 'get respondents to tell the truth' (Benson and Hughes 1983, p75) and increase the data's reliability. Individual interviews were used in preference to group interviews as there were small numbers of nurses at each unit and individuals were more likely to be released without compromising ward staffing levels. In addition, personnel may have been less intimidated by individual interviews, rather than group interviews where senior members can dominate (Holloway and Wheeler 1996) or junior staff may be reluctant to express their opinions (Polit and Hungler 1999), perhaps due to rank differences.

Topics for discussion during interviews aimed to identify the key aspects detailed in Table 7.1 and to meet the aims of Stage 2, that is, to explore how nurses assessed pain and to identify the taken-for-granted assumptions and common-sense methods used for this assessment. Related questions were used as a guide and other issues or topics were discussed as appropriate. The topics were presented as open questions so that nurses could use their own words rather than being led by the researcher (Oppenheim 1992). Table 7.2 shows the topics and related key aspects of ethnomethodological ethnography that guided the interviews.

Table 7.2   Key aspects of ethnomethodological ethnography and related interview topics

Key Aspect	Description	Related Topics
Taken-for-granted assumptions	Normal everyday routine activities.	1. **Normal** way they assess post-operative pain? (detailed examples of normal sequence of events using their examples). How do they do it? 2. How do they know a patient is in pain? 3. Any circumstances make them change how assess post-operative pain? If so, what and how differ? 4. Any differences in different environments? (peacetime/operational). How different? 5. Is how they assess pain the same as their colleagues (military and (if appropriate) civilian)? If not, how different and why? (gender, rank, service, military training) 6. Differences in other surgical environments (civilian and/or military)? How and why? 7. How has assessment changed over time? Why?
Common-sense knowledge and procedures	Corpus of knowledge used by members to make sense of their world; the collective knowledge shared by all members.	8. What knowledge/skills help assessing pain? 9. What makes assessing more difficult? 10. How did they learn to assess pain? 11. Where did they learn to assess pain? 12. What has influenced how they assess post-op pain? (military).
Typification	Common ways people classify objects.	13. Explore terms used in replies, for example, what does the term --- (pain, assessment, pain score of ?) mean to them?
Accounting	All the diverse activities, mental and overt, that are used in sense-making by the group members.	14. Any patients who have said they were in pain, but they have not been convinced? If so, what made them question this? Likewise any patients who said they were not in pain, but they thought the patient was. 15. What were they thinking about at the time?
Indexicality	Formal characteristics of any account that communicates different meanings on different occasions.	16. If a patient says their pain is 8/10, what message are they sending about their pain? 17. If McCaffery's quote mentioned by interviewee –What does this mean to them? Is this quote always right? Introduce quote if not mentioned by interviewee. 18. Differences if explaining pain assessment to a student nurse or another qualified nurse?
Reflexivity	An interdependence between the circumstances members attribute to social events and their descriptions or accounts of what the events themselves are.	No specific questions as this relates to the interview process. As the interview progresses I will monitor the relationship between the interviewee and myself to see how this shapes/influences the interview.

Using interviews to collect data in ethnomethodological ethnography has been criticised by some sociologists who emphasise that the structure, context and content of talk is central to ethnomethodology and should rely on naturally occurring talk that reveals the ways ordinary interactions produce social order (Holstein and Gubrium 1994). In addition, traditional interviewing practice has been criticised as most texts emphasise the importance of asking the correct questions to get the required answers as this maximises the flow of valid, reliable information while minimizing bias, errors or misunderstandings (Holstein and Gubrium 1997). However, all interviews should be seen as interactional and the narratives obtained from them are constructed as the interview progresses, thus the interview itself is a social encounter (Holstein and Gubrium 1997). Therefore, the interview was not a neutral conduit or potential source of distortion but a means where reportable knowledge relating to post-operative pain assessment was created as the interview progressed. Thus, interviews were appropriate for this ethnomethodological ethnographic study.

Another criticism of interviews is that even though members may speak freely, the researcher controls the data obtained and this may not accurately reflect the descriptions members would use in their daily lives (Benson and Hughes 1983). Thus, analysis may be influenced by the researcher's own subjective meanings and this restricts analysis to specific topics (Payne et al 1981). Ethnomethodological ethnographers address the potential problems of inaccuracy and misinterpretation by treating the member as anthropologically strange, through reflexivity, and by acknowledging their own influence on the interview (Hammersley and Atkinson 1995). The explicit exploration of the researcher's preconceptions helps avoid potential biases when interpreting the data (Hammersley and Atkinson 1995). This is revisited in Chapter 10.

Permission was obtained from members to tape record the interviews so that the researcher could concentrate on what was being said, facial expressions and tones of voice, rather than on writing copious notes (Kvale 1996). In addition, tape recorded interviews produce a permanent form that allows replaying as many times as required (Kvale 1996). Without tape recording interviews, there would have been a greater reliance on the researcher remembering what had actually been said during interviews, with the potential for forgetting details and the problem of selective memory (Silverman 2000b). Although tape-recording interviews was considered beneficial, it was also recognised that they represent a decontextualized version of interviews (Kvale 1996).

Section 7.5   Data analysis

Ethnomethodological ethnography aims to describe how members recognise, describe and explain the order of their everyday lives (Holstein and Gubrium 1994). Data analysis focused on the aspects discussed in Section 7.2 and summarised in Table 7.1, as they enabled the researcher to make sense of the particular case being considered (Goodman and Strong 1997), that is, pain assessment. In addition, military nurses' taken for granted assumptions and typifications were examined, as these are "recipes for action that exist in the culture as a whole" (Goodman and Strong 1997, p156). During analysis it is important to observe how conduct is described and explained in reference to rules, values and motives (Holstein and Gubrium 1994).

Initially, data were analysed by examining at the descriptive practices nurses use in relation to pain assessment, as these are examples of cultural categories used as reality-creating activities (Miller 1997). Data were then analysed using a systematic process of inductive reasoning that sought to identify members' models of their everyday social world, which is used to generate observable conduct (Bond and Bond 1994). Thus, data analysis involved the identification of the typifications, taken-for-granted assumptions and common-sense knowledge (see Tables 7.1 and 7.2) used when military nurses assess pain. A computer assisted qualitative data analysis programme facilitated data analysis.

Section 7.5.1   Computerised qualitative data analysis

Interview data were analysed using a qualitative data analysis software package, QSR N6, NUD*IST (Non-numerical, Unstructured Data for Indexing, Searching and Theorizing) (QSR International 2002). This, and similar computer programmes, reduce the time demanding cut and paste techniques frequently used to analyse interviews (Kvale 1996). This saves time and effort, which researchers can utilise more effectively in data interpretation (Seale 2000). A computer package assists the structuring of data for further analysis, although the responsibility for interpretation remains with the researcher (Kvale 1996). In particular, computer programmes facilitate the rapid coding, or categorisation of interview statements, whereby the researcher is able to read transcripts and code relevant passages (Kvale 1996). QSR N6 allowed codes to be stored and then later searched to identify relationships (Silverman 2001).

While acknowledging the benefits of QSR N6, one disadvantage is that computer packages have the same effect as transforming oral language to written text, that is, they decontextualize the data further (Grbich 1999). Therefore, it was also important to listen to the interview tapes, which the researcher did several times. In addition, although computer packages can save time when the researcher is familiar with them, it has been reported, and this researcher can confirm, that it can take several months to become proficient with the NUD*IST program (Grbich 1999).

During interviews, nurses firstly described their normal way of assessing pain, as well as situations when they considered patients either over or under rated their pain levels. This data, once transcribed, was then inputted into the computer for analysis. Once this data were inputted different categories, called 'nodes', were created to represent different topics and concepts, including demographic details, and to act as storage for the coded text (Richards 2002). QSR N6 allowed anything of interest, or considered 'nodeworthy' (Richards 2002, p64) to be coded. Data were considered 'nodeworthy' when it related to how nurses assessed pain, the key aspects of ethnomethodological ethnography as shown in Table 7.1 and any contradictions in what was said. For coding purposes within QSR N6, each interview (document) was divided into a series of chunks or units that could be individually coded, called text units. The text unit was set as sentences as these are considered the most appropriate for coding interviews (Richards 2002). Following coding, nearly seventy nodes were created, although over twenty related to demographic information (or base data) of interviewees. These nodes are shown in Appendix K and relate to the key aspects of ethnomethodological ethnography and the identified themes.

As transcripts were read on the computer, notes (annotations) were made within the text using the qualitative analysis software to highlight relevant and interesting aspects. In addition, NSR N6 allowed 'memos' to be attached to interview transcripts and these were used to include interviewee details and also provided a link to the key aspects of ethnomethodological ethnography (Table 7.1). An advantage of the analysis software was that coded data could be retrieved and the section expanded (or 'spread') so it could be seen in its wider context (Richards 2002, p60). This was important as coding small parts of interviews can result in data being interpreted out of context (Richards 2002).

Once the coding had been completed and the themes associated with nurses' pain assessment had been highlighted, they were linked to the key aspects of ethnomethodological ethnography in algorithms that highlighted the relationship between the different aspects and how these influenced military nurses' attitudes to pain assessment. These are presented when appropriate in Chapters 8 and 9.

Section 7.6   Rigour

Chapter 3 stressed that rigour is essential to ensure that the collected data is valid and reliable and this is just as important for qualitative research (Barker 1999). However, unlike quantitative research focusing on data objectivity, qualitative research is subjective and requires different criteria to ensure that data represents reality (Grbich 1999). The main criteria is trustworthiness and four criteria need to be fulfilled to demonstrate this; credibility, transferability, dependability and confirmability (Lincoln and Guba 1985).

Section 7.6.1 Credibility

Credibility refers to whether the group being studied can recognise and understand the descriptions provided about them (Carter and Porter 2000). All those who were interviewed were sent their interview transcripts and asked to confirm that they were true accounts. This also provided the opportunity for members to clarify any issues or fill any gaps that may have arisen during transcription.

Section 7.6.2 Transferability

Transferability, sometimes referred to as applicability (Lewis and Barnes 1997), refers to the extent to which the study findings can be transferred, or generalised, to other settings (Lincoln and Guba 1985) and this is assisted by careful sampling, choice of setting and research design (see Section 7.3). Although the interviewed nurses were similar to other military nurses and worked in comparable surgical and orthopaedic environments, the final acceptance of the results' transferability can only come from those who read the detailed account and decide if it can be transferred to other settings (Lewis and Barnes 1997). This will only occur once the thesis and related articles are published.

Section 7.6.3 Dependability

Dependability is the qualitative equivalent of reliability (Lewis and Barnes 1997) and relates to the stability of data over time (Polit and Hungler 1999). Dependability is determined by ensuring that data is auditable, for example, by involving external reviewers who check that the processes followed during the study are clear and consistently applied (Lincoln and Guba 1985). This included the researcher's supervisors and other research colleagues. In addition, when similar meanings and contexts were discussed during interviews, this data were coded in a consistent manner (see Section 7.5.1 above).

Section 7.6.4 Confirmability

When data is attributed as coming from the members, its confirmability is verified (Polit and Hungler 1999). Confirmability also involves the reader's ability to establish that the conclusions and interpretations arise directly from the data (Holloway and Wheeler 1996). This was achieved by asking interviewees to check the interview transcripts to confirm that the interviewer's perceptions accurately reflected reality (Redfern and Norman 1994). This was particularly important as the interviewer had incomplete knowledge of the context and interviewees were able to enhance the interviewer's account and therefore increase the validity of the data collected (Redfern and Norman 1994). However, like the researcher, interviewees also had their own biases that needed to be considered. Additionally, their reflections following the interviews were outside the interview context and after a period of time when they could then rationalise what had been said during the interview (Redfern and Norman 1994). Frequent discussions of the interviews and research findings with the research supervisors and other colleagues also ensured confirmability.

The researcher was constantly aware of the importance of maintaining trustworthiness during Stage 2. These were also related to the ethical considerations, which, along with the procedure followed, are now described.

Section 7.7   Procedure and research ethics

Data for Stage 2 was collected through semi-structured interviews following ethical clearance from the Ministry of Defence. Senior military personnel from each military unit with surgical/orthopaedic nurses were sent details of Stage 2 of the study, including assurances of confidentiality and anonymity, and an emphasis that participation was

voluntary (Appendix L). Providing detailed information highlights the importance of the research and was used to gain senior managers' support (Benton and Cormack 2000).

Permission to access nurses was granted and personnel not involved in the study co-ordinated the selection of nurses for interview according to the criteria stated in the request letter. For ease, the researcher spent a week at each unit and interviews were arranged at the interviewees' convenience. The researcher, a senior military nurse, acted as the interviewer and was aware of the potential barrier that rank differences could create. For this reason, military uniform was not worn during the interviews, although all the nurses were aware of the researcher's rank and position.

Nurses who were to be interviewed were identified using purposive (see Section 7.3), convenience and snowball sampling (see below). Convenience sampling selects members who were most conveniently available (Polit and Hungler 1999) and snowball sampling identifies members by 'word of mouth' (Grbich 1999, p70), that is, interviewees are asked to suggest others with knowledge of a particular topic (Bryman 2001), such as nurses with surgical/orthopaedic experience. These non-probability sampling techniques allow the characteristics of the interviewees to be compared with information about the target population to see how 'typical' these people were (Hammersley and Atkinson 1995). Details of the nurses interviewed are shown in Tables 8.1 and 8.2 and they were a broad cross-section of military nurses who represented each service, both genders, different ranks and who had varied nursing and military experience.

Despite information being forwarded to hospitals requesting volunteers, on arrival at the first hospital it was discovered that interviewees had been selected for interview and had not been fully informed of the study's exact nature, only that it was related to pain. The study was fully explained to these nurses and it was emphasised that participation was voluntary and that they could leave at any time they wished. This was reiterated several times to reassure the interviewees that they did have the choice of whether to participate or not. Ethically, it is important that interviewees do not feel pressurised into participating by their managers and the researcher (Mason 2002), particularly as in this study both held positions of authority. All nurses were happy to be interviewed. In addition, the researcher was conscious that some discussions could have caused interviewees distress, particularly when talking about patients whose pain was poorly

managed. No such occasions occurred during the interviews and this ensured the study adhered to the principle of non-maleficence (see Section 3.3).

As a military nurse, the researcher is aware of the military hierarchical structure and should have anticipated that it may have been more likely for nurses to be selected rather than asked to volunteer. To ensure the remaining nurses at the first and subsequent hospitals could make an informed decision, they were contacted individually, the study fully explained and they were also sent an information letter (Appendix M). Written information is considered important to reinforce verbal information (McHaffie 2000). Contacting the other nurses gave at least twenty-four hours, but more usually 3-4 weeks for them to read the information. Contact details were included should any additional information or clarification have been required. Information, and time to digest it, is important so that interviewees can make an informed choice as to whether they wish to be voluntarily included (Kvale 1996).

Immediately prior to each interview, the study's aims were repeated, voluntary participation reiterated, and confidentiality and anonymity assured (see Section 3.3). Nurses were informed that a code number rather than their name would identify interview transcripts, any information relating to people or places would be changed, all computer data would be password protected, only the researcher would have access to the details of the members participating in the study and interview tapes would be stored securely in a locked cabinet and destroyed once the study was completed. A written consent was obtained if interviewees agreed to continue (Appendix N). All these procedures ensured that the confidentiality and anonymity of participants was maintained.

Another problem occurred following interviews at the first hospital as many nurses were deployed overseas due to the conflict in Iraq. Therefore, other nurses to be interviewed were chosen from those remaining within the UK. While adhering to the principles of purposive sampling, that is, selecting members who illustrate the features of interest (Silverman 2000a), interviewees were also selected using other means. This included convenience and snowball sampling (see above). Twenty-nine nurses were interviewed using this combination of sampling and they represented each military nursing branch (QARNNS, QARANC, and PMRAFNS), as well as different ranks, both genders and with varied military and nursing experience.

Interviews took place over a six-month period in four different establishments, the tri-service military hospital, two Ministry of Defence Hospital Units, and the Royal Centre for Defence Medicine (detailed in Chapter 1). The researcher made a conscious effort to treat the interviews as anthropologically strange (Dingwall 1981), that is, as though the familiar group was unknown, in order to identify military nurses' taken-for-granted assumptions and common-sense knowledge relating to post-operative pain assessment. However, following the first few interviews it was clear that the researcher, an experienced nurse, was expected to have some pain assessment knowledge. Therefore, in later interviews, it was stressed that of interest was how other nurses assessed pain and current pain assessment practices, particularly as the researcher was not clinically based. Role-play was also used with the researcher acting as a student nurse or new member of staff. Chapter 10 explores this aspect further.

Following completion of the interviews, the researcher transcribed all interviews verbatim. This ensured that the researcher was aware of issues surrounding acoustic qualities, the need to ask clearly audible questions, transforming oral speech into written texts, the time and effort required for transcription, as well as ensuring that all interviews were transcribed in the same style (Kvale 1996). Transcribing interviews also stimulated some analysis as the researcher listened and re-listened to each interview (Lofland and Lofland 1995). Spaces were left where people or place names were mentioned to maintain confidentiality (see Section 3.3). Copies of the interview transcripts and audio tapes were sent to interviewees to check interpretation and accuracy, clarify issues, fill any gaps and confirm that they were true accounts of the interview and so represented reality (Holloway and Wheeler 1996).

Section 7.8   Summary
Stage 2 of the study explored the contradictions identified during Stage 1 (see Table 6.4) using ethnomethodological ethnography to identify the taken-for-granted assumptions and common-sense knowledge military nurses learn during their socialisation into nursing and the military. Data were collected through semi-structured interviews and nurses were chosen using purposive, convenience and snowball sampling. While several nurses had been selected rather than volunteering to be interviewed, following the researcher's intervention all nurses were fully informed and agreed to participate.

Overall 29 surgical/orthopaedic nurses were interviewed representing each service, all ranks, both genders and with varied nursing and military experience. The researcher transcribed all interviews and copies of the transcripts and interview tapes were sent to interviewees for checking and to ensure rigour. Interview analysis was assisted by a computer analysis programme, NSR N6 to identify the different factors influencing nurses' pain assessment attitudes. These are presented in the following two chapters.

CHAPTER 8.   FINDINGS FROM STAGE 2 (ETHNOMETHODOLOGICAL ETHNOGRAPHIC INTERVIEWS) – NORMAL AND INCONGRUENT PAIN ASSESSMENT BY MILITARY NURSES

Introduction

Chapters 8 and 9 present the main findings from the interviews undertaken for Stage 2 exploring military nurses' post-operative pain (hereafter referred to as 'pain') assessment. Throughout this chapter, the term nurse denotes military nurses, unless stated otherwise. This first section restates the aims of Stage 2, that is, to provide explanations for the contradictions found in Stage 1 (first presented in Table 6.4) and to identify the taken-for-granted assumptions and common-sense knowledge nurses use when assessing pain. Section 8.1 describes the interview sample to place the interview findings into context, while Section 8.2 presents an overview of the four main themes revealed from the interview analysis (see Table 8.3). These themes clearly illustrate the key aspects of ethnomethodological ethnography (Table 7.1) that relate to nurses' pain assessments. This chapter discusses the first three themes; nurses' descriptions of their normal pain assessment (Section 8.3) and situations when nurses consider patients either over or under rate their pain (Section 8.4). The fourth theme, military cultural influences on nurses' pain assessment is discussed in Chapter 9.

Although Stage 1 highlighted the contradictions shown in Table 6.4, statistical analysis did not provide an explanation for why they occurred. Pertinent to Stage 2 were the processes that influence nurses' attitudes to pain assessment rather than the actual attitudes themselves. Ethnomethodological ethnography was an appropriate qualitative research methodology for Stage 2 as it allowed these processes to be made explicit, that is, nurses' taken-for-granted assumptions and common-sense knowledge relating to their shared knowledge and everyday routine pain assessment practices learnt during their socialisation into nursing and the military. The aims of Stage 2 were:

1)   To provide explanations for the contradictions in military nurses' attitudes to post-operative pain assessment identified during Stage 1.

2)   To identify the taken-for-granted assumptions military nurses hold regarding post-operative pain assessment.

3)   To identify the common-sense knowledge military nurses use when assessing post-operative pain.

Data for Stage 2 was collected from interviews with 29 military nurses working in general surgical or orthopaedic environments. The key aspects of ethnomethodological ethnography introduced in the previous chapter were the focus of Stage 2 as they revealed the knowledge and assumptions held so that nurses assessed pain in a culturally acceptable way. (see Table 7.2) The knowledge and assumptions become so ingrained during their socialisation that nurses do not have to think about them, however, ethnomethodological ethnographic interviews allowed these to be made explicit. Examples of the key aspects of ethnomethodological ethnography that relate to the four themes highlighted during interviews are included throughout this chapter. In addition, while acknowledging that Stage 2 is a qualitative study, the chapter also includes quantitative data, for example, demographic details of those nurses who were interviewed, to provide greater clarity. Prior to presenting the four main themes identified during interviews, the sample used during Stage 2 is described.

Section 8.1   Sample

Twenty-nine military nurses made up the sample for Stage 2 (Table 8.1) and they are listed in the chronological order in which they were interviewed. To maintain anonymity and confidentiality (see Section 7.7), nurses were assigned different numbers following data collection (Column 1) and their working environments are not revealed.

Table 8.1	Stage 2 sample (n=29 military nurses)					
Nurse No.	Service	Rank	Gender	Time in armed forces (Years.months)	Time qualified (Years. months)	Where trained (I, E, I/E, IE)
01	RAF	NCO	F	4	5	E
02	RAF	NCO	M	19	EN – 17/RGN - 10	I/E
03	Army	Comm	F	20	EN - 18/RGN - 7	I
04	RAF	NCO	F	3.1	3.3	E
05	RAF	NCO	F	1	1.3	E
06	RAF	NCO	F	4.6	6	E
07	RAF	NCO	F	2.4	3.2	E
08	RAF	Comm	M	4+3	17	E
09	RAF	Comm	M	3	11	E
10	RN	NCO	F	1	1.6	E
11	RN	NCO	F	1.1	1.10	E
12	RN	NCO	F	1.2	4	E
13	RN	NCO	M	3.6	3.8	E
14	Army	NCO	F	3.9	0.3	IE
15	Army	NCO	F	13.11	10	I
16	Army	NCO	F	4.11	0.3	IE
17	Army	NCO	M	9.11	0.3	IE
18	RN	NCO	M	1.1	1.9	E
19	Army	Comm	M	19	EN – 22/RGN – 3	I/E
20	Army	Comm	F	5.7	10	E
21	RAF	NCO	M	11	13	E
22	Army	NCO	F	4	1	IE
23	RN	Comm	F	1.6	4	E
24	RAF	NCO	F	18	EN – 22/RGN – 4	I/E
25	Army	NCO	F	12	EN – 15/RGN – 6	I/E
26	Army	NCO	M	11	EN – 14/RGN – 10	I
27	Army	NCO	F	2.10	0.11	IE
28	RAF	NCO	M	6	8	E
29	RN	Comm	M	2.5	8	E

Legend: Service – A = Army, RN = Royal Navy, RAF – Royal Air Force;
Rank – Comm = Commissioned, NCO = Non-commissioned;
Gender – M = Male, F = Female;
Where Trained (see below) – I – Internal with the military, E = External, I/E = Both Internal and External, IE = Through the military but affiliated to an external University.

Nurses 1-21 were identified by their respective units using purposive sampling (see Section 7.3). However, following the overseas deployment of many nurses due to the Iraqi conflict, the researcher identified the remaining nurses (Nurses 22-29) using convenience and snowball sampling (discussed in Section 7.7).

The demographic data shows that nurses' mean time in the military was 6 years, 7 months (range 1-20 years). Nearly two thirds (18/29) of nurses had been in the military < 5 years, 10% (3/29) had 6 - 10 years service, and 28% (8/29) had > ten years military experience. Nurses had been registered as nurses for a mean of 7 years, 8 months (range 3 months to 22 years). Fifty-two percent (15/29) of nurses had been qualified < 5 years, 17% (5/29) between 5 and 10 years, and 31% (9/29) had been qualified > ten years. Over half the nurses (17/29) trained within the NHS and entered the military once

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qualified. This explains why the mean time qualified (7 years 8 months) is greater than the mean time spent in the military (6 years and 7 months). Table 8.2 gives a breakdown of nurses by service, gender, rank, working environment, and where military nurses undertook their nurse training. An equivalent civilian role is given for comparison. Nurses from two out of the four MDHU's, the tri-service hospital and the RCDM were interviewed.

Table 8.2 Sample characteristics	
	Proportions interviewed % (Number)
SERVICE	
QARNNS (Royal Navy)	38 (11)
QARANC (Army)	38 (11)
PMRAFNS (Royal Air Force)	24 (7)
RANK	
Commissioned (Ward Manager)	24 (7)
NCO (Staff Nurse)	76 (22)
GENDER	
Male	38 (11)
Female	62 (18)
WORKING ENVIRONMENT	
MDHU	48 (14)
Tri-Service Hospital	41 (12)
RCDM	10 (3)
WHERE TRAINED	
Internally (I)	10 (3)
Internally as MOD staff but through external university (IE)	17 (5)
Externally (E)	59 (17)
Both Internal and External (I/E)	14 (4)

Legend: MDHU – Ministry of Defence Hospital Unit
RCDM – Royal Centre for Defence Medicine

Section 8.1.1   Educational/training context

Only 10% (3/29) of nurses, all in the Army, undertook their nurse training on a totally military course (denoted by 1). However, these courses ceased in the mid 1990's as registered nurse training moved into higher education (United Kingdom Central Council for Nursing, Midwifery and Health Visiting (UKCC) 1986). Since then, each military service recruits personnel to undertake nurse training through the military, but in partnership with civilian universities and hospitals. Precise numbers of these student nurses varies each year according to service requirements, although presently this is approximately one hundred per year.

After recruitment into the military, student nurses undertake initial military training before completing their registered nurse training through a civilian university (Central Office of Information 1998, Army Recruiting Group 2000, Directorate of Naval Recruiting 2000). Other military nursing personnel, including lecturers, also work within the civilian universities to maintain military standards. Therefore, although training externally to the military, these student nurses are exposed to military cultural attitudes. Seventeen per cent (5/29) of nurses, all in the Army, belonged to this category (denoted by IE). Both the RN and RAF also recruit student nurses, but on a smaller scale. This may explain the lack of RN and RAF nurses in category IE.

Table 8.2 also shows that over half the nurses (17/29) qualified and worked as civilian nurses in the NHS before joining the military (denoted by E). Thirty one per cent (9/29) of these nurses were in the RAF, 24% (7/29) in the RN and 1 in the Army. Finally, 14% (4/29) of nurses are identified as I/E, two each from the Army and RAF. These nurses qualified as Enrolled Nurses on military courses but later converted to Registered Nurses with external universities as the Enrolled Nurses' role was phased out.

Chapter 1 discussed changes within the Defence Medical Services where secondary health care provision for UK based military personnel is now located within NHS hospitals. All interviewed nurses were employed on military managed wards in these hospitals and ward data shows that on average, only 13% of patients admitted each month are military (19/145) (details from ward admission records, July to September, 2002). Therefore, the findings in this chapter represent situations when nurses assess civilian patients with pain. However, nurses also discussed pain assessment in relation to military patients and this is presented in Chapter 9.

All interviews were tape-recorded (see Section 7.4) and despite carefully checking the recording equipment prior to each interview, four interviews were only partially recorded (Nurses 2, 23, 24 and 25). However, it was clear early in these interviews that the audiotape equipment was faulty and so extra notes were made. The four nurses reviewed the transcripts and notes and confirmed that they accurately reflected their interviews. The mean interview length was 43.5 minutes (range 14-73 minutes). Two-thirds of interviews (21/29) lasted 20-60 minutes, a fifth (6/29) lasted less than 20 minutes, and 7% (2/29) took more than 60 minutes. No relationship between interview length and service affiliation, rank, gender, nursing or military experience was found.

Section 8.2   Main themes from interview analysis – pain assessment narratives

As detailed in Chapter 7, a qualitative data analysis software package, QSR N6 (QSR International 2002), was used to assist data analysis. Four main themes were identified relating to military nurses' taken-for-granted assumptions and common-sense knowledge used when assessing pain (Table 8.3).

Table 8.3 Main themes identified from interview analysis	
THEME	Characteristics of the military nurses' decision-making process
THEME ONE *Normal way to assess pain*	1) Ask patient - (Terms used, use of pain score). 2) Observations and non-verbal behaviours. 3) Believe what patient says (Pain is individual), but 'You can tell'. 4) Difficulty assessing pain (due to gender, age, culture).
THEME TWO *Patients who over rate their pain*	1) Look at patient as 'You can tell'. 2) Ask patient (Terms used, use of pain scale). 3) How you can tell (Previous experience, operation type, clinical signs, non-verbal behaviour). 4) Why over rate (attention seeking, genuine reasons, e.g., complications).
THEME THREE *Patients who under rate their pain*	1) Look at patient as 'You can tell'. 2) Ask patient (Terms used, use of pain scale). 3) How you can tell (Previous experience, operation type, clinical signs, non-verbal behaviour). 4) Reasons under rated (Patients not wanting to be a nuisance, nurses too busy). 5) Stoical behaviour – especially young males (military)
THEME FOUR *Influence of military culture*	1) Nurses' perspective of military patients' pain attitudes. 2) Nurses' own pain attitudes 3) 'Roughie-toughie'/ macho image. 4) Rank structure. 5) Training including discipline. 6) Conflict between NHS and military culture/environment and rank/role.

The four main themes in Table 8.3 are the normal way nurses assess pain (Theme One), situations when nurses consider that patients either over or under rate their pain (Themes Two and Three), and the influence of military culture on nurses when assessing pain (Theme Four). In addition, characteristics influencing the nurses' decision-making process were identified and created as sub nodes (sub-themes). They are shown as numbered points under each theme in Table 8.3 and include nurses' common-sense knowledge and taken-for-granted assumptions relating to pain assessment, for example, asking patients about their pain and the importance of believing what patients say about their pain. To highlight the relationship between the four themes and their sub-themes, algorithms were created and these are presented as appropriate.

The main themes and sub-themes are explored further in this and the following chapter and relate to the nurses' narratives about pain assessment. These narratives provide "a general understanding of the stock of meanings and their relationships to each other" (Richardson 1990, p24). Thus, these narratives are skilfully constructed stories through which people describe their worlds (Silverman 2000a). The first narrative, the civilian nursing narrative (hereafter called the civilian narrative), describes the normal way military nurses assess pain (see Section 8.3). This narrative shows that military nurses assess pain according to the accepted civilian nursing cultural attitudes to pain and its assessment. Military nurses learn these attitudes as they are socialised into the nursing profession during their training within the NHS (see Section 2.4) or from their subsequent clinical experience, much of which is now gained in NHS hospitals (see Chapter 9).

When analysing the interview data, two distinct elements emerged from the civilian narrative; cultural and collective stories as described by Richardson (1990). The use of different stories has also been reported in other sociological literature. For example, Cornwell describes public and private accounts, where 'saying the right thing' in a public account relates to what is considered culturally acceptable and what will gain approval (Cornwell 1984, p14), while private accounts are peoples' experiences and accompanying thoughts and feelings that are unacceptable and incompatible (Cornwell (1984). Similarly, the cultural story represents the normative stories told by interviewees from the perspective of a sub-culture's ruling interests and the process of telling a cultural story is how members create and support their social world (Richardson 1990). The nurses' cultural story reflects the taken-for-granted assumptions relating to post-operative pain assessment that are held within the dominant civilian nursing culture. Thus, the cultural story relates to Theme One, that is, the normal way military nurses assess pain (Section 8.3). However, cultural stories are partly based on stereotypes (Miller and Glassner 1997) and members also provided alternative stories that challenge the cultural stories. These are collective stories that represent the member's subjective experiences (common-sense knowledge) that are used to justify any variations from the dominant cultural story (Richardson 1990). Collective stories are used when the available cultural story is delimiting, destructive or at odds with actual life and members cannot fit their lives into these existing stories (Richardson 1990). Nurses' collective stories relate to situations when there is incongruence between

nurses' and patients' pain assessment and relates to Themes Two and Three (discussed in Section 8.4).

The civilian narrative, as presented in the following sections, details the taken-for-granted assumptions and common-sense knowledge military nurses use when assessing pain in situations where pain assessment is considered straightforward and uncomplicated, that is, when they agree with patients' self reported pain levels, (Theme One in Table 8.3). However, occasions when pain assessment differs or contradicts the cultural story are also of interest and further interview analysis identified contradictions similar to those found in Stage 1 (Table 6.4). For example, although all nurses state that patients are the best judges of their pain (a taken-for-granted assumption within the cultural story), nurses consider that patients sometimes over or under rate their pain (a collective story). These occasions are discussed later in this chapter along with the nurses' explanations and justifications for their disagreement with patients and the related key aspects of ethnomethodological ethnography (Table 7.1).

Particularly noticeable from Stage 2 is that two-thirds (20/29) of the nurses reporting occasions when they disagree with patients' self-reports of pain, also provided additional explanations that were influenced by their military background (Theme Four in Table 8.3). These explanations provided a different narrative, a military narrative (described in Chapter 9), and this also helps to explain the frequent contradictions identified during the interviews.

Quotes highlighting nurses' pain assessment attitudes are included in the following text and are identified by the nurse's reference number (Table 8.1) and text unit. For example, Nurse 1 refers to the first nurse interviewed, while Text unit 250 refers to the 250th text unit (sentence) within the interview (see Section 7.5.1).

Section 8.3   Theme One - `Normal' Pain assessment – the civilian nursing narrative as recounted by military nurses

The normal sequence of pain assessment described by military nurses in their civilian narrative is shown in the algorithm at Figure 8.1. This and the other algorithms (Figures 8.2, 8.3, 9.1 and 9.2) also illustrate the taken-for granted assumptions (highlighted in blue) and the common-sense knowledge (highlighted in red) that influence military nurses when assessing post-operative pain.

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All twenty-nine nurses first ask patients about their pain. However, as Figure 8.1 shows, they use other terms rather than pain, such as `comfortable', `uncomfortable' or `discomfort' (over 80% = 24/29 nurses):

> "I say hello to all my patients and ask them if they're comfortable"
> (Nurse 17, Text unit 3).

> "I never use the word pain, I always use discomfort"
> (Nurse 20, Text unit 3).

Over half the nurses use the term `agony' when referring to severe pain. This is an example of a typification within ethnomethodological ethnography, that is, common ways people classify things (Bond and Bond 1994). It also highlights the confusion surrounding the term `pain' and its interpretation as discussed in Chapter 2 (see Scarry 1985, RCS/RCA 1990, Pasero et al 1999b). It is explored further in Section 8.4.4 and Chapter 9.

Figure 8.1 Decision-making algorithm. The 'normal' way military nurses assess pain

Terms used: ← Asks if patient has pain
Comfort/discomfort/
Uncomfortable (i.e. typifications)

BUT depends on type of surgery

Pain score → various tools used (NRS)

Patient says Yes,
nurse agrees

YOU CAN TELL

Groaning, screaming, restless, agitated,
curled up/not moving, red/flushed,
twitching, facial expressions/grimacing,
rolling/writhing around, holding wound,
sweating/clammy (i.e. typifications of
expected behaviour)

Behaviour/observations
as expected
(EXPERIENCE)

Similar
operations/patients ←

BUT observations do
not always change

Ask patient to describe pain further, including location

Believe patient

Subjective/pain
individual (threshold)

Influences on assessing

Age/Gender

Culture   Epidural/PCA
          Emotional state

Give analgesia

Reassess/check efficacy

If not effective reassess

Higher dose or more analgesia if still in pain

Legend: Blue = Taken for granted assumption
Red = Common sense knowledge

If patients admit that they have pain, Figure 8.1 shows that a Numerical Rating Scale (NRS) is used to determine its intensity (see Section 4.4.2). At least seven different NRS's were discussed, but the most common one was the nought to three (0-3) scale, as this was the official scale used within the nurses' working environments. Nearly a third of nurses (9/29) prefer Visual Analogue Scales (VAS) with descriptive terms such as mild, moderate and severe as they were considered less confusing than NRS's.

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Nurses stated that the frequency of pain assessment varies according to the surgical procedure and post-operative analgesia prescribed. Pain rating scales are generally not used for patients having what nurses consider are routine or minor surgery as there is a taken-for-granted assumption that these are associated with little pain. Rather than regularly assessing pain in these patients, nurses wait until patients report pain. In contrast, patients with Patient Controlled Analgesia (PCA) or Patient Controlled Epidural Analgesia (PCEA) have their clinical observations (temperature, pulse, blood pressure and respiratory rate) recorded frequently and pain is assessed and recorded at the same time. However, nurses are more concerned with potential PCA/PCEA complications (particularly respiratory depression) than the patient's pain and once the PCA/PCEA is discontinued, pain is not assessed or recorded as frequently, if at all. This reinforces reports by Thomas and Rose (1993), Carr and Thomas (1997) and Schafheutle et al (2001) about the use of PCA/PCEA's, as described in Section 1.1.

Nurses also reported that pain assessment and its recording is poor, particularly following minor or routine surgery as there is a taken-for-granted assumption that pain is less severe and subsides after 2-3 days. In addition, nurses said that they lack the time to fill in pain assessment charts as they are often busy with more seriously ill patients. These nurses' pain assessments follow the civilian nursing practices introduced in Section 2.7 (Pain Assessment) and Section 4.4.2 (Numerical Rating Scales and Visual Analogue Scales), for example, Kuhn et al (1990), Ferrell et al (1991), Carr (1997b) and Schafheutle et al (2001). This highlights the dominance of civilian nursing cultural attitudes on military nurses' pain assessments.

Once a pain score is obtained, over half the nurses (17/29) then seek further information such as its location, type and what exacerbates or relieves it (Figure 8.1). Further questioning provides a better indication of pain relief requirements and when nurses' and patients' pain assessments agree, analgesia is given. Irrespective of the pain scale used, over 80% (24/29) of nurses emphasised that the pain experience is individual as patients' pain tolerance levels differ (defined in Chapter 1). When discussing pain tolerance, all nurses stated that they personally have high pain tolerance levels and no one admitted to having a low pain tolerance. This may reflect the taken-for-granted assumption of stoicism expected among military personnel (discussed in Chapter 9). For example:

"I had a high pain threshold before I joined, but it is definitely higher now. I can only think it must be something to do with the military"
(Nurse 12, Text unit 133).

As pain cannot be measured objectively, the "gold standard" for assessing its existence and intensity is patients' self-reports (McCaffery and Pasero 1999, p40). Obtaining self-reports ensures both patients and nurses share common goals and allows patients to communicate changes in their pain severity (Bucknall et al 2001). Believing patients' self reports is a prominent taken-for-granted assumption in the civilian narrative, typified as follows:

"You have to take that person as an individual, and it really is up to them how much pain or how high they say their pain is"
(Nurse 6, Text unit 50).

Nearly all nurses (27/29) stressed the importance of believing patients and two thirds of nurses (20/29), from all three military services, of both genders and with different ranks and experience levels highlighted McCaffery's frequently reported phrase: "Pain is whatever the experiencing person says it is, existing whenever he says it does" (McCaffery 1968, p95) (introduced in Chapter 4).

Nurses also stressed other cultural taken-for-granted assumptions relating to factors influencing patients' pain experiences, including patient gender (9/29 nurses), age (10/29) and emotional state (4/29). Nurses (14/29) consider that the patient's cultural background is particularly important. However, as Chapter 2 discussed, these factors can also influence nurses when they assess pain and Chapter 9 explores this in relation to military culture and the contradictions highlighted in Table 6.4. Cultural influences on pain (see Sections 2.2.3 and 2.3.8) can lead to nurses acquiring stereotypical expectations of pain behaviour (Davitz and Davitz 1975, McDonald and Bridge 1991, Morris 1991).

Within the cultural story, nurses from all three military services, across ranks, both genders, and different experience levels described a taken-for-granted assumption that patients from other cultures are more vocal when in pain. Language is considered an important cultural factor influencing pain assessment as interpreters can alter meanings during translation due to language difficulties and because typifications, that is, how things are classified, varies within different cultures. The following quote highlights this in relation to civilian patients in the UK:

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> "You don't know that what you've asked has been translated the same and their answer can also be interpreted differently"
> (Nurse 1, Text unit 215).

> "If there's a communication barrier with their language, you use interpreters to try and overcome that. Even then that family member can change the way they're interpreting pain to give you what they think they should be saying"
> (Nurse 23, Text units 158-9).

These nurses confirmed other authors' findings relating to cultural influences on pain and particularly how language is used to convey pain (see Thomas 1997b). Problems can arise because some Western pain terms are not easily translatable. For example, while there are several basic terms for pain in English, such as discomfort or agony, the Japanese only have one term (Fabrega and Tyma 1976). It has also been shown that different terms relate to different pain intensities. For example, in a study with 41 nurses and 12 patients, the term pain was shown to have the highest intensity, followed by ache with hurt having the lowest (Gaston-Johansson 1984), whilst a later study showed these terms were rated similarly by Hispanics, American Indians, blacks and whites (Gaston-Johansson et al 1990).

Although Nurses 1 and 23 discussed communication problems within the UK, communication is considered more problematic on overseas deployment, particularly during conflicts in different cultural contexts (Boivin 2004). In such situations, interpreters are frequently unavailable, and there is a degree of fear, both for patients who are not always allies, and for nurses who are in dangerous and unpredictable settings. In these situations nurses rely on their common-sense knowledge when assessing pain, for example:

> "The ---- [cultural group] didn't understand the 1-10 system. Often I went on how loud they shouted. They shouted `waga' [it hurts] or `alarm' when in pain"
> (Nurse 11, Text units 104-7).

All interviews took place in the UK, away from the unpredictable and dangerous situations that nurses experience when deployed. Therefore, these narratives are indexical to the UK and although some nurses referred to assessing pain on deployment, it was not in the context of the actual deployment. Assessing pain in such contexts is an important distinction between military and civilian nurses and requires further study identifying if, and how, nurses' pain assessment differs in these environments.

Section 8.3.1 `You can tell'

Nurses also described other strategies used when assessing pain. While nurses emphasised that they always believe what patients say, this is more likely when their patients' pain behaviour matches what nurses expect following the surgical procedure and/or the pain score given. Further interview analysis showed that over 80% of nurses (24/29), who represent different military services, ranks, genders and experience levels, believe that they `can tell' how much pain patients are experiencing:

> "You can tell they must be uncomfortable"
> (Nurse 2, Text unit 79).

> "I think you can tell quite instantly if a patient is in pain"
> (Nurse 26, Text unit 6).

Nurses found it hard to explain how they can tell, describing it in several ways, for example, "It's like an instinct" (Nurse 3, Text unit 17, Nurse 26, Text unit 26) and "A sort of sixth sense" (Nurse 28, Text unit 51). This is an example of nurses using their intuition, that is, the ability to recognise certain phenomena and make judgements without having to explicitly state how they reached these judgements (Schön 1983). Thus, nurses are able to identify salient and important aspects from their prior knowledge and clinical experience of similar situations (Benner et al 1996) and this results in an "aha" moment when they subsequently encounter similar situations (Simon 1983, p107). Intuition relies on experience and so is associated with expert or competent practitioners (Schön 1983, Benner et al 1996). In contrast, new and inexperienced staff are required to rely on conscious, rational calculations in order "to figure it out" before making any decisions (Benner et al 1996, p10).

Intuition is used constantly as people go about their everyday tasks (Dreyfus and Dreyfus 1996) and allows them to make spontaneous judgements without having to think about them, although people are often unable to describe how these judgements are learned and internalised (Schön 1983). As practice becomes more repetitive and routine, knowledge becomes increasingly tacit and spontaneous, that is, it becomes part of the taken-for-granted assumptions held by cultural members (Sharrock and Anderson 1986). This may explain why military nurses found it hard to explain how they could tell patients' pain levels.

Being able to tell is an important taken-for-granted assumption within the cultural story and when questioned further, nurses highlighted several aspects enabling them to tell, such as previous experience, non-verbal behaviours and autonomic changes.

Section 8.3.1.1   Military nurses' previous surgical experience

Figure 8.1 indicates that previous surgical experience helps nurses 'to tell' and this is shown in the following quotes from two nurses with varied military and professional experience (Nurse 2 – 19 years, Nurse 23 - <2 years):

> "You build on your experience and your knowledge. You reflect on the circumstances that are similar to what happened in the past"
> (Nurse 2, Text unit 95).

> "You draw on your experience and your knowledge to analyse what the patient is doing"
> (Nurse 23, Text unit 32).

These quotes show how nurses use their common-sense knowledge to reach decisions (account for) about patients' pain levels. Previous experience of caring for patients who have had similar operations is particularly important, for example:

> "How previous patients with similar operation scored their pain"
> (Nurse 27, Text unit 156).

All nurses stated that with experience they gain greater knowledge of how much pain patients could be expected to have. Nurses gain these expectations during their socialisation into nursing where they learn culturally acceptable pain attitudes and expectations (part of their cultural story) and this allows nurses to assess pain more accurately than patients, for example:

> "You know what happens normally, because it's so routine surgery. You know the sort of pain they are going to be in. The first few days it's going to be very uncomfortable and everybody's the same"
> (Nurse 4, Text unit 23).

Nurses' clinical experience also teaches them the links between incision sites and expected pain behaviours, such as patients with abdominal wounds being reluctant to cough, or those having lower limb surgery being unwilling to mobilise. Thus, nurses develop taken-for-granted assumptions of expected pain behaviours related to different surgical operations and they use their common-sense knowledge to make sense of (account for) their patients' pain.

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Another taken-for-granted assumption held by over a third of nurses (11/29) is that pain intensity is associated with different types of surgery. For example, some operations considered minor are not as painful:

> "Arthroscopies are treated by some nurses as minor surgery"
> (Nurse 1, Text unit 164).

> "Mostly you find that with minor surgery, patients do not tend to be in as much pain" (Nurse 4, Text unit 15).

Generally, less experienced and junior nurses expressed this attitude, while experienced and more senior nurses recognised that operation type is not necessarily related to patients' pain experiences. These latter nurses said that patients should be treated as individuals and knowing the procedure is important, not to gauge expected pain intensity, but to provide other information, that is:

> "An appreciation [by nurses] of what procedure the patient's gone through will not necessarily give an expected level of pain, but an expected type of pain" (Nurse 21, Text unit 3).

Over two thirds of nurses held the taken-for-granted assumption that the type of surgery relates to expected pain levels. However, nurses acknowledged that what they considered as 'minor' surgery could still result in pain. As one nurse quoted, "You can't make an omelette without breaking eggs" (Nurse 17, Text unit 106).

The link between surgical procedure and expected pain levels is part of the cultural story within the civilian narrative and reflects a civilian nursing taken-for-granted assumption. This link has also been reported elsewhere, for example, see Cohen (1980) and Mackintosh (1994). Nurses use their previous experience and common-sense knowledge 'to tell' patients' pain levels as they "have seen it before" (Sjöström et al 2000, p114) and thus, a typology of 'normal-course-of-events' and abnormal pain responses to surgery and how patients look when assessing pain are created (Sjöström et al 2000, p116). Military nurses, therefore, reinforced what has been reported elsewhere and this reflects the influence of the dominant civilian nursing pain attitudes. As Table 8.2 shows, less than 10% (3/29) of nurses trained within a solely military environment, while the remaining nurses gained clinical experience in civilian NHS hospitals where they are exposed to these dominant pain attitudes. In addition, as discussed in Chapter 1, all interviewees have NHS experience since military health care is now situated within NHS hospitals. The effect of this on military nurses is discussed again in Chapter 9.

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Experienced nurses also considered that they assess pain more accurately than less experienced nurses, for example:

> "Some of the junior, less experienced nurses just say 'How much pain are you in?' They don't go looking"
> (Nurse 3, Text units 52-3).

With experience, nurses do not accept patients' self reports without 'going looking' for indications that the pain equates with what would normally be expected in relation to the nurses' previous knowledge and experience of caring for similar patients. This is an example of accounting within ethnomethological ethnography, that is, all the diverse activities, both mental and overt, that a group uses in sense making (Handel 1982).

The ability 'to tell' how much pain patients are experiencing results in nurses having a greater reliance on their subjective judgements (common-sense knowledge) to determine this pain rather than using a pain assessment tool:

> "Quite a few people use their judgements and don't use pain scales"
> (Nurse 5, Text unit 85).

> "As I'm getting more experienced, I don't always use a pain score. You can tell and you realise the sort of pain levels people should be in"
> (Nurse 10, Text unit 81).

The latter quote is particularly interesting as it clearly highlights the taken-for-granted assumption that pain levels are linked to surgical procedures. This nurse emphasised that with experience nurses learn the pain levels people **should** be in (my emphasis), but later stressed the importance of treating patients individually. This taken-for-granted assumption of the link between surgical procedures and pain levels is so ingrained that this nurse is unaware of it or its influence on her pain assessment attitudes. This also shows the value of ethnomethodological ethnography that made these taken-for-granted assumptions explicit.

In conjunction with the taken-for-granted assumption that greater experience enables nurses to assess pain more accurately, they also use changes in patients' clinical observations and non-verbal behaviours to confirm pain levels (see Figure 8.1), although nurses rely more on non-verbal behaviours.

Section 8.3.1.2   `Signs of being uncomfortable and changes in clinical observations'

Nurses learn expected and accepted changes in clinical observations and non-verbal pain behaviours during their socialisation into nursing (see Section 2.4) and these form the common-sense knowledge used when assessing pain. Clinical observations and non-verbal behaviours are often discussed together, for example:

> "You've got their physical observations, temperature, pulse and blood pressure. You've also got their demeanour, whether they look comfortable, whether they may be agitated, fidgety. You've got the way they display themselves to you as well as the pain score"
> (Nurse 21, Text unit 42-3).

With experience, nurses learn the taken-for-granted assumptions relating to expected and accepted pain behaviours, particularly non-verbal behaviours associated with different surgical procedures and pain levels. The most common non-verbal behaviour mentioned were facial expressions such as grimacing, and other behaviours included patients' groaning (7/29 nurses), restlessness and agitation (6/29), a curled up position/reluctance to move (12/29), and holding/supporting wound areas (10/29). Nurses also described opposite behaviours, for example patients writhing/rolling around, rather than staying stationary (6/29 nurses). These junior nurses (less than 5 years military experience) discussed the behaviour in relation to younger patients and this may reflect changing cultural attitudes where expressing pain is now more acceptable (explored in Section 9.1.3).

Many authors, for example, Saxey (1986), McCaffery and Ferrell (1994), Scott (1992), Hunt (1995), Krivo and Reidenberg (1996), Thomas et al (1998), Sjöström et al (1997) and McCaffery and Pasero (2001) have discussed how civilian nurses also continue to rely on non-verbal behaviours when assessing pain (Sections 2.3.4 and 6.3.2). Military nurses support these findings, particularly in this chapter discussing the cultural story relating to the civilian nursing normative pain assessment attitudes. As stated previously, this shows how military nurses, who are increasingly working in NHS environments, are influenced by dominant civilian pain attitudes.

Although all nurses discussed non-verbal behaviours associated with pain, over half use this in conjunction with patients' clinical observations, particularly increased pulse rates and blood pressure, as there is a taken-for-granted assumption that these are normal pain

symptoms. However, several nurses (6/29) recognised that clinical observations do not always change when patients have pain. These nurses trained outside the military and so had a greater exposure to the civilian nursing culture and the associated pain attitudes and may have a greater recognition that clinical observations are not always linked to pain levels (discussed again in Section 8.4.1). In contrast, senior and experienced nurses are still dominated by military pain attitudes, and consider that clinical observations and pain levels are linked. This shows how cultures are not static and as knowledge increases, established taken-for-granted assumptions are challenged (see Chapter 9). However, other studies have reported that civilian nurses also continue to rely on changes in clinical signs when assessing pain, for example, McCaffery and Ferrell (1992a), Briggs and Dean (1998), Chuk (1999) and Nash et al (1999) (discussed in Sections 2.3.4 and 6.3.2). Section 8.4.1 and Chapter 9 present possible reasons for this.

Although nurses emphasised that experience enabled them 'to tell' patients' pain levels, they are also aware that this can lead to complacency when they associate different surgical procedures to expected pain levels.

Section 8.3.2 'You can become complacent'

All nurses recognised that they can become complacent and cynical that their patients' pain levels are higher or lower than patients report, especially when their behaviour does not confirm this (see also Section 8.4). The following are typical of nurses' expressed attitudes:

> "You can tell by looking at them. Although it's drummed into you that pain is what the patient perceives it to be, I think you can be quite cynical"
> (Nurse 4 (RAF nurse), Text unit 208).

> "When I first started on this ward, I saw people coming back from operations and I thought they were in a lot of pain and it wasn't until later when I thought, maybe that pain wasn't a 10"
> (Nurse 12 (RN nurse), Text units 71, 83).

> "I think their pain is what they tell you it is and you can't really argue with that, but sometimes it's just be hard to believe, I can't explain it"
> (Nurse 14 (Army nurse), Text unit 19).

These quotes show how nurses from each service assimilate their previous knowledge and experience (taken for granted assumptions and common-sense knowledge) to form (account for) expectations (typifications) of pain levels relating to different surgical

procedures (see Section 8.3.1.1). This highlights cultural dominance where nurses learn expected pain levels and rely on these in preference to patients' self reports. Where there is agreement between nurses' expectations and patients' self reports, pain assessment is straightforward and uncomplicated. However, there can be incongruence and a resulting contradiction between nurses saying that patients are the best judges of their pain, (a civilian nursing cultural taken-for-granted assumption) whilst also believing that nurses assess pain more accurately than patients. This is consistent with the contradictions highlighted in Stage 1 (see Table 6.4) and other studies, for example, Saxey (1986), Dalton (1989), Ferrell et al (1991), Scott (1992), Field (1996b), Thomas et al (1998) and Schafheutle et al (2001). All these authors have reported that while nurses stress the importance of believing patients' self-reports, they do not always consider that this is the most influential means of assessing pain and prefer to rely on other measures such as non-verbal behaviours. This has been discussed throughout the thesis, but particularly in Sections 2.7.1 and 6.3.1. When nurses' and patients' pain scores differ, nurses offered additional explanations to justify these, that is, they accounted for these differences by using many diverse activities to make sense of this situation. These accounting procedures are described in the following sections.

Section 8.4   Themes Two and Three - Incongruence between military nurses' and their patients' pain assessments

Section 8.3 presented the cultural story within the civilian narrative relating to situations when nurses' and patients' pain assessments are congruent. However, two thirds of the military nurses sampled (20/29) reported occasions when they consider that patients either over or under rate their pain (Themes Two and Three, Table 8.3). Nurses are aware that they should not use subjective judgements in preference to asking patients, but this does not always occur, as highlighted by the following quote about patients who are considered to over rate their pain:

> "I consider they're over reacting. I try and use 'Patient's pain is what they say it is', but sometimes you feel that they are over reacting"
> (Nurse 3, Text unit 32).

The taken-for-granted assumption within the cultural story that patients should be believed is often contradicted by nurses in a collective story where they use their common-sense knowledge to account for patients' pain behaviours. This dichotomy is explored in this section with reference to McCaffery's famous phrase discussed in Chapter 4 and Section 8.3, that is, "Pain is whatever the experiencing person says it is,

existing whenever he says it does" (McCaffery 1968, p95). Two thirds (20/29) of nurses stated McCaffery's phrase but contradicted this by saying that patients sometimes over or under report their pain. On these occasions, nurses rationalised and justified (account for) this contradiction by emphasising that they 'can tell' patients' pain levels. The accounting strategies they use 'to tell' are similar to those described in Section 8.3.1.

Algorithms illustrating influences on the military nurses' decision-making processes when they consider patients over or under rate pain are shown in Figures 8.2 and 8.3 respectively. These highlight the different sub-themes, that is, the taken-for-granted assumptions and common-sense knowledge influencing nurses' decision-making as shown in Table 8.3. Nurses' taken-for-granted assumptions for both situations are similar and so are discussed together (Section 8.4.1). However, nurses have different collective stories and use different common-sense knowledge to provide a rationale (account for) for why patients over or under rate their pain, and so they are described separately (Sections 8.4.2 and 8.4.3). Finally, Section 8.4.4 presents possible explanations for why nurses' and patients' pain assessments are incongruent.

Figure 8.2 Decision-making algorithm. When military nurses consider that patients are over rating their pain

Looks at patient to see if signs of pain/uncomfortable

Asks if in pain

Not all nurses liked pain scales

Use of pain scale

Smiley Faces/ Thermometer

Not when experienced
Only for routine operations

BUT YOU CAN TELL

Gut instinct

Patient says yes, nurse thinks no or lower

Patient does not understand pain scale

BUT
Believe patient
Subjective/pain is individual (threshold)

Investigate further

Young report more

BUT

Clinical/other signs to confirm

BUT observations do not always change

Cultural expectations
Language problems
(less time spent with patient)
(stereotype i.e. typifications formed)

Give analgesia

Lower dose/type to start or if not convinced

If effective confirms patient over estimated

WHY DIFFER

Previous **experience** similar operations/patients BUT
(i.e. typifications formed of expected behaviour)

Complacency, cynical

Operation size = pain **BUT** there are exceptions
Knowledge of post-operative pain/analgesia

Shouldn't be having pain after several days

Patient shouldn't be on opiate after 2-3 days

Different interpretations of pain

Females more than males

No outward signs

Patients' behaviour not as nurse expects

Especially when patients not aware being watched

Non-verbal behaviours

Over reacting, hysterical

They are able to mobilise/go for smoke
They do not look like they're in that much pain

Repositioning decreases pain

Laughing/joking/chatting BUT exceptions

Patient wanting attention/analgesia sooner

Addiction problem/drug abuser/dependence/Knows names of drugs
Psychological problems
Some people do swing the lead
Personality type

Genuine reasons

Post-op complications

Infection

Patient anxiety

Epidural line kinked

Been up too much

Legend: Blue = Taken for granted assumption
Red = Common sense knowledge

Figure 8.3   Decision-making algorithm. When military nurses consider that patients are under rating their pain

Looks at patient to see if signs of pain/uncomfortable

Asks if in pain

YOU CAN TELL

Patient says no, but
nurse thinks yes or higher

Men

Investigate further

people stoic/macho
not tell you   **WHY**

BUT

Ask patient to describe

Young   Older

Believe patient

Military

Subjective/pain
individual (threshold)

Patient not wanting to
be a nuisance

BUT

Nurses too busy

Give analgesia

Patients fear addiction

Cultural expectations
Language problems
(less time spent with
patient)

Not like taking tablets

If refuse analgesia

WHY DIFFER

Clinical/non-verbal signs
to confirm

Try to persuade to take analgesia (with
rationale). Compromise with patient)

Patients' behaviour
not as expected
(i.e. different to
typifications)

Especially when patients
not aware being watched

Non-verbal behaviours

Reassess/check efficacy

Grimacing
Wincing
Pale/Shaky
Observations
Behaviour change ——————————→ Not mobilise
Posture
Patients feel loss of control

Higher dose if still in pain

THEREFORE

Legend: Blue = Taken for granted assumptions
Red = Common sense knowledge

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Section 8.4.1 Identifying patients who over or under rate their pain

As Section 8.3 described, nurses said that they first ask patients about their pain using a pain scale. However, a fifth of nurses (6/29), predominantly new and junior to the military, do not like pain scales:

> "I don't think the scale's very good because some patients may say their pain is excruciating but to me excruciating would be a screwed up face, sweating, pain on movement. They think that it's excruciating but to me it's not"
> (Nurse 16, Text unit 34).

This quote highlights a conflict between patients' and nurses' pain attitudes. As discussed above, nurses frequently emphasised the importance of believing patients by quoting McCaffery's pain phrase and use this to acknowledge the subjectivity of the pain experience so that only those experiencing pain know its true intensity. Nurses know that disbelieving patients' pain reports was contrary to their taken-for-granted assumption that pain is what the patient says it is. This is an example of indexicality within the interviews where nurses say what they consider is expected, for example;

> "We all say it, but only because we are expected to"
> (Nurse 16, Text unit 93).

As revealed during the interviews, nurses do not always agree with McCaffery's statement, particularly when they consider that patients over or under rate their pain. An important influence on whether patients are believed is the nurses' cultural background. For example, McCaffery and Ferrell (1995) found only 71.6% (595/805) of Japanese nurses and 74.7% (65/95) of Spanish nurses considered patients were the best judges of their pain, compared to 95.8% (181/190) of Canadian nurses, 95.4% (145/150) of US nurses and 87.7% (178/188) of Australian nurses. In addition, while few nurses from the USA (3.3% = 5/150), Canada (3.7% = 7/190) and Australia (9.4% = 19/188) believed they were the best judges, 17.7% (147/805) of Japanese nurses and 23% (20/95) of Spanish nurses stated that they were the best judges of their patients' pain. These differences may be explained by different cultural taken-for-granted assumptions, for example, Japanese women are subordinate to men, and this is transferred into health care as nurses, (mainly female), are considered subordinate to doctors (predominantly male) (Hendry and Martinez 1991). Cultural influences on nurses' pain assessment were discussed in Section 2.3.8, while Chapter 9 specifically focuses on military cultural influences on British military nurses' pain assessment.

In situations where there is incongruence between nurses' and patients' pain assessments, nurses' collective stories described how they use their common-sense knowledge to justify (account for) any disagreement and to minimize the significance of these. This is an important and new finding that provides a genuine insight into how military nurses account for situations that are contrary to the cultural story, for example, McCaffery's quote that pain is what patients' say it is.

While nurses always believe patients who say that they have pain, they may doubt the level of that pain, for example:

> "I've never disbelieved a patient about their pain, although I've probably doubted it"
> (Nurse 7, Text unit 90).

To further account for any contradictions, nurses stated that McCaffery's definition was too simplistic and needed changing:

> "Maybe it should be changed to include `What the patient says or expresses in other ways'!"
> (Nurse 3, Text unit 208).

This nurse was referring to assessing pain in patients who cannot speak English and where there is a greater reliance on other non-verbal signs when assessing pain.

Nurses from each service expressed concerns with McCaffery's quote, although Army nurses were more likely to voice this explicitly. This may reflect different taken-for-granted assumptions held by Army nurses who, being aware of the expected macho image among service personnel, particularly front line soldiers, may consider that Army patients think that they should present this macho image (see Section 9.1.2). This is another example of indexicality, where what nurses say may differ depending upon the patients referred to, that is, those with different military roles. Changes to McCaffery's quote as suggested by Army nurses include:

> "A few of the nurses that I've worked with would add a little caveat on the end, `Pain is what patients say it is as long as I agree or it's what's expected'."
> (Nurse 26, Text units 232-3).

> "Pain is mostly what patients say"
> (Nurse 27, Text unit 122).

These quotes highlight the complexity of pain and the difficulty assessing it. This complexity is frequently not addressed and as this study has identified, pain assessment is not always straightforward. However, explanations for the contradictions identified in the interviews and from Stage 1 (Table 6.4) have been provided through the cultural and collective stories. Section 8.3 above discussed the normal way nurses assess pain when there is congruence between patient and nurse, and thus, McCaffery's shortened phrase (Section 8.3) is acceptable. However, when there is incongruence between nurses' and patients' pain assessments, McCaffery's phrase may not be adequate (discussed further in Section 8.4.4).

Although stating the importance of believing patients and asking them about their pain, half the nurses (14/29) interviewed first look at their patients for signs of pain or discomfort. As Section 8.3.1 highlighted, nurses stated that they can tell how much pain patients are experiencing and use this to confirm patients' pain levels. Out of the fourteen nurses who said that they first look at patients, 79% (11/14) had been qualified over four years and had over four years military experience. Therefore, more experienced nurses, both in nursing and the military, are perhaps more likely to use their own judgements by looking at patients before asking them about their pain (see also Section 2.3.3). Similar findings have been reported elsewhere. For example, Sjöström et al (2000) found that 51% (45/88) of civilian nurses rely on how patients look while only 42% (37/88) use patients' self-reports. Thus, as nurses gain experience and are socialised into their nursing environment, they use their common-sense knowledge to form typifications of expected behaviours associated with different pain levels and these may challenge the taken-for-granted assumptions within their cultural story.

When discussing patients who over or under rate their pain, nurses' collective stories accounted for situations when their assessment differed from patients' self reports. Several nurses considered that their assessment is more accurate than patients due to their enhanced knowledge gained through experience, for example:

> "If the patient says their pain is that bad then it must be. But we have an
> advantage of having more knowledge than them"
> (Nurse 16, Text unit 94).

This quote shows how nurses' common-sense knowledge within their collective stories accounts for any differences between their assessment and the patients' self-reports. Once again, this was made explicit using ethnomethodological ethnography. The taken-

for-granted assumptions and common-sense knowledge nurses use in situations when they consider patients over or under rate their pain predominantly relates to changes in patients' clinical observations and non-verbal behaviours. These are now discussed.

Section 8.4.1.1   'Observations are fine and they're quite happy sitting there'

Over half (17/29) of the nurses stated that they check patients' clinical observations if they consider that they are over or under rating their pain (Figures 8.2 and 8.3). As described in Section 8.3.1.2 there is a taken-for-granted assumption that patients' clinical observations are linked to pain levels. As the following quotes illustrate, this is also used to confirm patients are over or under rating their pain:

> "If they say 'My pain's really high', but their BP's still quite low. The BP's going to go up and the pulse is going to be racing if they're in a lot of pain"
> (Nurse 4, Text unit 229).

> "If they're saying they're in such bad pain and if their blood pressure, pulse and temperature are not significantly raised, that would suggest to me that maybe they weren't in as much pain"
> (Nurse 17, Text unit 32).

However, as discussed in Chapter 2 and Section 6.3.2, changes in clinical signs do not always occur in post-operative pain due to compensatory measures (Dodson 1985), dehydration following pre-operative fasting or analgesic effects (McCaffery and Pasero 1999). Therefore, relying on increased pulse rates and blood pressure is not a reliable indicator of pain levels. Several military nurses acknowledged this and are more likely to seek changes in non-verbal behaviours (body language) as these are seen to more accurately reflect patients' pain levels, for example:

> "He's saying his pain is nought but his body language and the way he generally presents himself tells you that he is actually in a great deal of pain"
> (Nurse 18, Text unit 81).

Section 8.4.1.2   Non-verbal behaviours

Nurses use their common-sense knowledge to identify non-verbal behaviours and confirm that patients either over or under rate their pain. This includes challenging the cultural stories' taken-for-granted assumptions that patients in pain are unable to talk, laugh or joke, and if they do so, this indicates that their pain is less than they say (see Figure 8.2). Nearly half the nurses (13/29) also stated another taken-for-granted assumption that patients in pain are unable to mobilise or leave the ward, especially for non-essential activities, such as smoking. Nurses from each military service, across

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ranks, genders and with varying service and nursing experience, stated this. The following quotes illustrate nurses' attitudes to smoking and pain:

> "I have a patient at the moment requesting opiate exactly on the time that she's allowed to have it, but quite happily wheels herself around the hospital and enjoys a cigarette"
> (Nurse 21, Text unit 123).

> "Patients who've said they're in agony but they're downstairs smoking or they're off the ward with their family. You doubt their pain"
> (Nurse 25, Text unit 37).

The link between pain and mobilisation has been reported elsewhere and studies have shown that if patients can mobilise then their pain is considered to be lower than they say it is (Ferrell et al 1991, Klopfenstein et al 2000, Schafheutle et al 2001). This is another example of a cultural typification where nurses develop expectations of non-verbal behaviours associated with different pain levels. This also demonstrates ethnomethodological reflexivity, that is, the process whereby knowledge of our social world explains and is explained at one and the same time (Goodman and Strong 1997). Nurses' reflexive accounts explain the behaviours associated with patients who over and under rate pain, while at the same time they describe patients who display these behaviours, thus confirming that their accounts are true.

When patients' pain behaviours are not congruent with nurses' typifications and an adequate explanation cannot be provided, the pain is not considered to be genuine:

> "We would be thinking that the patient could be pulling a fast one"
> (Nurse 18, Text unit 19).

This is reinforced when patients are unaware that they are being observed, for example:

> "Someone who says they're in this immeasurable amount of pain, suddenly manages to sit bolt upright and swing out of bed without any inkling that they are in pain, but as soon as you're with them; it's much harder to get out of bed"
> (Nurse 3, Text unit 24).

> "A patient who complained of back pain could quite happily sit and play Trivial Pursuit, but couldn't move when the physiotherapist walked on the ward"
> (Nurse 19, Text unit 97).

The commonest non-verbal behaviour relating to patients who under rate their pain is facial expressions (see Figure 8.3). For example, half the nurses (15/29) said that if they see patients grimacing or wincing this confirms that they have pain, regardless of what patients report. This taken-for-granted assumption within the cultural story is illustrated in the following quotes:

> "When they're grimacing, this indicates that they are uncomfortable"
> (Nurse 2, Text unit 22).

> "Non-verbal signs, they could be very sweaty, clammy, screwing up their face, 'No, I haven't got any pain', the gritted teeth, I've seen that"
> (Nurse 13, Text unit 30).

Male nurses described this taken-for-granted assumption more than female nurses as males, particularly those in the military, are expected to be stoical (discussed further in Chapter 9). Figure 8.3 shows that other taken-for-granted assumptions relating to associated pain behaviours include posture, such as protecting wounds, lying still, curled up in the foetus position, or patients being reluctant to mobilise, for example:

> "If somebody is lying still, curled up, reluctant to move and says it's four [pain score out of ten], I might be tempted to give them something a bit stronger to see how it works"
> (Nurse 15, Text unit 39).

> "They'd be trying to protect the area, protecting the abdomen"
> (Nurse 18, Text unit 26).

This section has discussed how nurses justify (account for) any incongruence between their assessment and patients' self reports. Nurses described the cultural story within the civilian narrative and this includes the normative taken-for-granted assumption that patients' pain reports should be believed. However, when nurses' assessments differ from the patients' self-reports, nurses account for this through their collective stories that identify the common-sense knowledge they use.

Several authors have reported the lack of congruence between nurses 'and patients' pain assessments (first introduced in Section 2.7.1). For example, Macintosh and Bowles' (2000) study of civilian nurses found that only 62% (39/63) agreed that what patients said about their pain was always true, while Hunt found that nearly half of civilian nurses completing a questionnaire (17/35) were unsure or disagreed with McCaffery's statement (Hunt 1995). In addition, another study found that although the most

frequently used method of assessing pain intensity by civilian nurses was asking patients (91% = 48/53), only 45% (22/53) considered that this was the most influential factor (Ferrell et al 1991). Thus, over half the civilian nurses considered other factors more influential than patients' self reports, particularly patient activity (87% = 46/53) and patient behaviour (81% = 43/53). Finally, in a survey of 180 civilian nurses and 6 civilian nurse interviews, while 77.5% (138/180) of nurses disagreed that their pain estimations were more valid than patients' self-reports, 19.1% (34/180) were uncertain, thus suggesting some civilian nurses continue to rely on their own judgements when assessing pain (Schafheutle et al 2001). Thus, the civilian nursing narrative described in this chapter reflects the general civilian nursing cultures' attitudes to pain assessment where nurses need to prove the existence of pain through other methods rather than patients' self reports (Scott 1992). This once again highlights the influence of the civilian nursing culture on military nurses' attitude to pain and its assessment as they increasingly work in NHS environments (see Section 9.2).

The above studies were undertaken in Western countries where stoicism is generally encouraged. Therefore, nurses may rely on other strategies when assessing pain as they consider that patients will be stoical and not give a true report of their pain. However, while nurses use other strategies, particularly physiological and behavioural changes, these are not always present due to physiological and behavioural adaptation (McCaffery and Pasero 1999), but as this and other studies have shown, nurses continue to rely on such changes (revisited in Section 8.4.4).

This section has described the collective story where nurses use their common-sense knowledge to confirm when patients over or under rate their pain. However, nurses are aware that this is contrary to the cultural taken-for-granted assumption that pain is what the patient says it is and so were keen to offer explanations for this. These are discussed in the following two sections.

Section 8.4.2   Reasons why patients over rate their pain
Most nurses considered that civilian patients are more likely to over rate their pain than military patients and the discussion in this section relates to civilian patients. As Figure 8.2 shows, within the collective story nurses use their common-sense knowledge to account for why patients sometimes over rate their pain. For instance, patients do not understand the pain scale and this was another reason why some nurses dislike these

scales. In addition, three quarters (22/29) of nurses highlighted that different cultural expectations may result in patients over rating or over expressing their pain, although this can lead to stereotyping patients. This is another example of a typification within ethnomethodological ethnography. As nurses are socialised into their profession, they learn attitudes relating to how patients from different cultural backgrounds express their pain. In addition, nurses' reflexive accounts described expected pain behaviours of such patients, while their examples of such patients in practice confirmed that what they said was correct.

Nurses' descriptions of cultural influences on pain behaviour correspond to other reported studies first discussed in Chapter 2 (see Woodrow et al 1972, Dar et al 1995, Riley et al 1998 and Fillingim et al 1999). Interestingly, when referring to culture, nurses generally referred to non-British, non-English speaking groups and did not consider that military patients were also a specific cultural group. This highlights the narrow interpretation of culture that is often equated with different ethnic or racial groups (Dobson 1991, Helman 1994). Assessing pain in military patients is the focus of Chapter 9.

Over a quarter (8/29) of nurses said that patients over rate their pain to gain extra attention or to ensure that they receive analgesia sooner:

> "There are certain patients who just want attention"
> (Nurse 12, Text unit 62).

> "Sometimes a patient may say their pain is more than we think it is as a way to get analgesia"
> (Nurse 24, Text unit 125).

Figure 8.2 also shows that nurses consider patients will over rate their pain if psychological problems or a past history of drug abuse or dependency are evident. This is another example of a typification where nurses associate certain traits, such as psychological problems or dependency, with likely behaviours, for example, patients over rating their pain. Thus, when patients over rate their pain, nurses seek explanations by using their common-sense knowledge to locate their patients' behaviour within a known typification, such as drug dependency. In this way, nurses' collective stories provide a rationale and justification for not believing patients.

Half the nurses (15/29) stated that pain expression differs depending on the patient's gender. Seventeen per cent (5/29) of nurses, all female and with considerable service experience, said female patients are more likely to complain about pain, although they also have higher pain thresholds than males. In contrast, male patients, particularly those who are young and fit, are not expected to express pain as much as women:

> "Women will say that they've got pain, but it's mostly the men, they're meant to be seen to be fit"
> (Interviewee 7, Text unit 68).

This taken-for-granted assumption within the cultural story was more prominent among senior, rather than junior nurses, and among both genders. Nurses' attitudes to gender influences on pain expression reflect general taken-for-granted assumptions within the Western world where females are seen to complain more freely about pain than males (see Woodrow et al 1972, Nayman 1979, Miller and Shuter 1984, McCaffery and Ferrell 1992a, Skevington 1995, Thomas et al 1998 and Yates et al 1998). However, Chapter 9 discusses how societal attitudes to pain expression are changing and these also affect the dominant taken-for-granted assumptions and common-sense knowledge. There is now a greater recognition that pain experiences are complex and vary between people (Pasero et al 1999b). All patients experiencing pain should be treated as individuals and therefore, it should be more acceptable for males to complain of pain. However, as the following chapter also discusses, stoical pain attitudes remains a dominant military taken-for-granted assumption (Wild 2003) and personnel, particularly males are encouraged to suppress their pain. These conflicting attitudes explain some of the contradictions highlighted during interviews.

This section has outlined nurses' explanations for why patients over rate their pain. Only a quarter (7/29) of nurses, from all three military services, and with varying levels of service and nursing experience, described genuine reasons why patients over rate their pain:

> "There is something more sinister going on"
> (Nurse 26, Text unit 76).

The main explanations for 'more sinister' are post-operative complications such as infection, PCA/PCEA problems and patient anxiety. Nurses use their common-sense knowledge to account for any challenges to their taken-for-granted assumptions. These challenges are accepted when socially acceptable reasons are identified, that is, reasons

belonging to another cultural typification that provides an appropriate explanation for patients who over rate their pain. This is discussed in Section 8.4.4.

In addition to situations when nurses believe that patients over rate their pain, nurses also use their common-sense knowledge when they consider that patients are under rating their pain.

Section 8.4.3 Reasons why patients under rate their pain

Nurses' collective stories included various reasons that account for patients who under rate their pain, For example, a fifth of nurses (6/29) said patients do not want to be a nuisance as nurses are busy. This is congruent with other studies, for example Carr and Thomas (1997) who found that this was a main barrier to effective pain relief. In addition, 28% (8/29) of nurses stated the taken-for-granted assumption that elderly patients do not like taking tablets because of concerns about addiction or side effects, especially constipation. Addiction risk was not discussed in great detail, but it appears that nurses' fears mirror those reported elsewhere (see Section 2.3.6) and the taken-for-granted assumption amongst many civilian nurses that the risk of opiate addiction is greater than it actually is. As military nurses work in close collaboration with NHS nurses, they too, have adopted this dominant civilian nursing attitude.

As well as addiction concerns, 20% (6/29) of nurses reported that patients with PCA's or PCEA's often deny or under rate their pain for fear of over dosage, although this mainly relates to elderly civilian patients. However, the most frequently discussed reason why patients under rate their pain relates to the taken-for-granted assumption within British society that people, particularly males, are stoical when in pain and may minimize their pain, particularly in front of other patients (Carr 2002).

Section 8.4.3.1 'Keeping a tight upper lip'

Over half the nurses (17/29) discussed how male patients try and be stoic and nurses referred to this as patients wanting to maintain a 'macho image' or 'keeping a tight upper lip'. Over two thirds of these nurses (13) were male and stated that there is a general cultural expectation (taken-for-granted assumption) within British society that men should not be seen to be 'wimps' or of 'weak character', particularly in front of their peers or nursing staff. For example:

"Fit blokes especially under rate their pain, a bit of 'We're British, keep a tight upper lip' and just get on with it"
(Nurse 13, Text unit 57).

"Young men between the ages of 16 and 24 are very reluctant, especially if a group their own age is also in their bay. They don't want to be seen as wimps. There is still the macho image of 'I've had this major operation, I can cope'."
(Nurse 18, Text units 64-9).

The above quotes highlight Western pain attitudes that are learned through a person's culture so that people know accepted and expected ways to behave (French 1989, Skevington 1995). For example, in many parts of Western Europe and America, males are expected to live up to a strong, macho image within their local culture and there is intense pressure from peers for males to present this image and 'fit the typical mould' (Timlin-Scalera et al 2003, p343). Although Timlin-Scalera et al's qualitative study of twenty-two American males focussed on the reluctance of males to admit or express emotional problems, it reveals the cultural pressures on members to behave in an accepted and expected way. Chapter 9 explores this in relation to military nurses and changing civilian stoical attitudes to pain.

When nurses regard patients as being stoic and refusing analgesia, Figure 8.3 shows that they try to persuade their patients to take analgesia and use their common-sense knowledge to explain that this prevents patients getting pain later. The following is a typical response from a nurse relating to this:

"We like to give the analgesia just as a precautionary measure, mainly because we know that the physiotherapists will be there, and we like to prevent pain rather than wait for patients to be in pain"
(Nurse 20, Text unit 38).

Again, this highlights how nurses use their subjective judgements based on their personal experience when assessing pain, that is, they rely on their common-sense knowledge to account for different pain levels. Nearly all nurses are unaware of their subjective judgements as this common-sense knowledge is so ingrained that they do not have to think about it. This is another example of the benefit of ethnomethodological ethnography for Stage 2 as it revealed this common-sense knowledge.

Section 8.4.4 Explanations for differences between military nurses' and their patients' pain assessments

All the nurses interviewed were keen to provide the normative cultural story within the civilian narrative, that is, culturally accepted attitudes to pain and its assessment, including quoting McCaffery's frequently used quote. However, nurses also told a collective story where they use their common-sense knowledge to account for any challenges to the cultural story, that is, when patients' pain behaviours are not congruent with expected behaviours. Thus, members make their actions explainable and understandable to others and challenge the prevailing attitudes (Miller and Glassner 1997). Military nurses' collective stories explain and justify their disagreements with patients' self-reports and provide an explanation for the contradictions highlighted in both Stages 1 and 2.

When exploring the collective stories, various explanations for why nurses continually rely on other factors when assessing pain were uncovered. As these challenge the civilian nursing culture's taken-for-granted assumptions (cultural story), nurses rely on their common-sense knowledge (collective stories) to account for this. One explanation is that patients' pain behaviours vary. Thus, assessing pain in patients who nurses consider over or under report their pain is more complicated than when nurses' and patients' pain assessment agree (see Section 8.3), and where McCaffery's shortened phrase is sufficient. However, McCaffery's shortened quote does not appear to be adequate when nurses' and patients' pain assessments are incongruent, and additional common-sense knowledge is used to account for any differences. Interestingly, the complexity of pain is also acknowledged by McCaffery, who states that:

> "The least complicated nursing assessment of pain occurs in those situations where the patient is able to freely verbalise about his pain. This means that under conditions of inadequate pain stimuli she will not doubt the patient if he says he is in pain. Conversely, when there is adequate stimuli for pain and the patient says he has no pain, she will believe this **unless she can identify other behaviours or cultural and physiological influences that would lead him to deny his pain**" (emphasis added)
> (McCaffery 1968, p115).

Although this appears to contradict what McCaffery states earlier about pain being what the patient says it is, McCaffery acknowledges that pain assessment is more complicated than her often quoted definition suggests. Pain's complexity also helps to explain the contradictions detailed in Table 6.4, for example, where 98% (197/201) of

military nurses consider that patients are the best judges of their pain but 18% (37/201) underscored the patient's pain.

Since McCaffery's seminal work was published over 30 years ago, pain knowledge has increased. It is now accepted that pain experiences are highly personal and subjective and influenced by psychological, social, and cultural factors (Horn and Manafò 1997, Pasero et al 1999b). McCaffery acknowledges the influence of these other factors and while stating the importance of respecting patients' self reports of pain, McCaffery now makes a clear distinction between **believing** what patients say and **accepting** it (my emphasis) (McCaffery 1999). When assessing pain, nurses do not have to agree with patients but should accept what they say about their pain, convey this acceptance to patients and take appropriate action, whilst also ensuring personal doubts and opinions do not influence their care (Pasero and McCaffery 2001). McCaffery stresses that it is particularly important that the appropriate action includes exploring why patients deny their pain, such as cultural stoical expectations, providing full explanations of pain relief options, and highlighting the potential consequences of refusing analgesia. This is essential to ensure that patients can make an informed choice (Pasero and McCaffery 2001).

The extended quote by McCaffery indicates that when assessing pain, all nurses should identify any behavioural and physiological influences that may affect patients' self-reports of pain. However, McCaffery has more recently stated that since behavioural and physiological responses vary they should not be used to determine the presence and intensity of pain in preference to using patients' self-reports, which should be the first method of assessing pain when circumstances allow (McCaffery and Pasero 1999). This represents a change to the civilian nursing taken-for-granted assumptions and also highlights how cultures continually change and adapt (revisited in Chapter 9). However, as revealed in this, and previous studies, nurses continue to rely on behavioural and physiological responses (see Hamilton and Edgar 1992, McCaffery and Ferrell 1992a, Ferrell et al 1995 and Chuk 1999). This may reflect the continuing dominance of positivism within medicine (see Chapter 2) whose taken-for-granted assumptions favour Cartesian (cause and effect) a priori knowledge and practices over the more humanistic philosophies espoused by McCaffery (Wakefield 1995, McCaffery and Pasero 1999). These have influenced nursing for many years, although as nursing develops as a profession, its own taken-for-granted assumptions that rely on patients' subjective

reports are becoming more acceptable. However, it is also recognised that cultural changes are slow (Linton 1964).

This study has provided a new insight into the use of McCaffery's quote by revealing that pain assessment is more complicated due to the complexity of the pain experience. Although McCaffery has revised the quote and its implications (McCaffery 1999) to acknowledge this complexity, many nurses, both military and civilian, still frequently quote the shortened phrase. While this is succinct and appropriate as an initial definition for pain, it fails to address situations that are more complicated. Although military nurses discussed the complexity of pain and use their collective stories to account for this when it contradicts McCaffery's shortened phrase (part of the cultural story), they do not appear to be aware of McCaffery's full quote. This is another benefit of using ethnomethodological ethnography that allowed this contradiction to be explored. It is not known why McCaffery's shortened phrase continues to be used when it is not entirely adequate for all pain assessments, however, this does warrant further exploration.

Another explanation for the incongruence between patients' and nurses' pain assessments is that perceptions of the concept of pain differ. Military nurses frequently use other terms rather than pain, such as comfortable (18/29 nurses), uncomfortable (13/29 nurses) or discomfort (10/29 nurses) (Section 8.3). The reasons for using different terms was not explored, although one nurse (Nurse 29) stated that they had been taught to use other terms rather than 'pain' as using this term suggests to patients that they do have pain. In addition, the term 'Comfort' is one of the five categories that are used to describe the therapeutic approach to nursing (Ersser 1988) and this may also explain the use of this term by military nurses. Using different terminologies may result in confusion for patients who may not deliberately or consciously deny pain but may not understand what nurses are asking (McCaffery and Pasero 1999).

As Section 2.2 described, different terms may also result in misunderstandings or misinterpretations between nurses and patients, (for example, see Jacox 1979, Carr 1997a), although these studies explored pain terminology used by civilian nurses and patients. It is acknowledged that people learn appropriate terminology (typifications) within their culture and this influences how patients react to pain and whether they will report it or not (McCaffery 1968). Differences in pain terminology and understandings

within the civilian nursing and the military cultures may explain why patients' and nurses' pain assessment sometimes differs and warrants further exploration.

Section 8.5   Summary

This chapter has detailed the cultural story within the civilian nursing narrative that nurses described in relation to the normal and expected way of assessing pain (Theme One). In addition, situations when nurses consider that patients over or under rate their pain have been presented. These collective stories provide alternative explanations that account for deviations from the cultural story (Themes Two and Three) and although these situations are more challenging, nurses use their common-sense knowledge to account for these differences.

The main findings from the civilian nursing narrative as told by military nurses are summarised as follows:

- Nurses' pain assessment descriptions represent a cultural story relating to the taken-for-granted assumptions held within the civilian nursing culture. Pain assessment is straightforward and uncomplicated when nurses' assessment is congruent with patients' self reports.

- Every nurse said that they first ask patients if they are in pain/discomfort and determine this using a pain scale. A Numerical Rating Scale is the preferred choice.

- The importance of believing what patients say about their pain (cultural story), as quoted by McCaffery, was stressed by many nurses (20/29). McCaffery now recognises that her original shortened quote is not always appropriate, but nurses continue to use it, even when it conflicts with their assessment of the patient's pain. In these situations, although emphasising the importance of believing patients, nurses are more likely to use their own subjective judgements (common-sense knowledge) to decide patients' pain levels, rather than asking their patients (collective story).

- Nurses say that they are able 'to tell' patients' pain levels irrespective of what patients report. Nurses learn culturally expected and accepted pain reactions through their experience of caring for similar patients and using information such as operation, location, type of pain and changes in patients' clinical

observations. However, nurses mainly rely on non-verbal behaviours to confirm patients' pain levels.

- Many nurses (20/29) reported occasions when they consider that patients over or under report their pain. Various explanations (collective stories) for not believing patients' are given to account for this, especially as this contradicts the civilian nursing attitude (cultural story) that patients should be believed.

- For patients who over report their pain, these explanations include patients not understanding the pain scale, cultural attitudes, including gender attitudes to pain, or patients wanting extra attention. Only 7 nurses consider that patients over report their pain for genuine reasons, such as post-operative complications.

- Nurses' explanations for patients under reporting their pain include patients not wanting to be a nuisance, patients' fears of side effects and addiction risks.

- The main reason given why patients under rate their pain is expected stoical attitudes within society. Nurses said male patients, particularly those in the military, under rate their pain as stoical pain expectations dominate in this environment.

An ethnomethodological approach has highlighted the two different stories that make up the civilian nursing narrative as told by military nurses, that is, cultural and collective stories. The cultural story relates to the civilian nursing cultures' normative taken-for-granted assumptions and common-sense knowledge surrounding pain assessment. Military nurses gain this corpus of knowledge through experience of similar patients and learning culturally accepted, and expected, pain levels associated with different surgical procedures.

Nurses also use other strategies (common-sense knowledge) to assist their pain assessment, including obtaining a pain score, observing changes in patients' vital signs and, in particular, patients' non-verbal behaviours. These strategies, that is, their common-sense knowledge, enable nurses 'to tell' patients' pain levels and when there is congruence between patient and nurse, pain assessment is straightforward and uncomplicated. However, Table 8.3 identifies other themes when there is incongruence between patients' and nurses' pain assessment (Themes Two and Three) and these contradictions are similar to those identified during Stage 1 (Table 6.4).

Assessing patients who over or under rate their pain is more challenging. Although nurses continue to use the strategies detailed in Section 8.3 (normal pain assessment), this was described in a collective story, that is, an individualised, subjective account (Richardson 1990). Thus, the collective story relates to nurses' subjective judgements where their common-sense knowledge is used to account for patients' pain behaviours, which are used in preference to patients' self reports. Several explanations account for these collective stories, including previous experience, changes in clinical observations and non-verbal behaviours, and the complexity of pain behaviour. While these are important, particularly relevant is the influence of the nurses' cultural background on their attitudes to pain assessment. However, many studies treat nurses as a homogenous group, but as Chapter 2 shows, within any cultural group there are sub-cultures that while sharing many of the main group's characteristics, also hold their own ideas (Helman 1994), although these continually change and adapt (Linton 1964).

The cultural and collective stories, as revealed in the ethnomethodological ethnographic interviews, shows that military nurses appear to assess pain according to the dominant civilian nursing culture's attitudes. As discussed previously, this may have occurred as military nurses are increasingly working within civilian environments. However, nurses also discussed pain assessment in military patients from the perspective of their role as military nurses. In these situations, military nurses' pain attitudes often conflict with civilian nursing attitudes and this may reflect the influence of their military background on these pain attitudes. The final bullet point above is especially relevant as stoicism is considered a particularly dominant taken-for-granted assumption within the military where personnel are encouraged to 'keep the tight upper lip' and not express pain.

Further interview analysis revealed an additional narrative to the civilian narrative described in this chapter. This narrative, a military narrative, reflects the corpus of military knowledge held by military nurses regarding pain behaviour and its assessment. Initially during interviews, nurses said that their military background does not influence how they assess pain, as they are nurses first (reflected in the civilian narrative). However, as the military narrative demonstrates, many examples were given to the contrary where military culture does influence military nurses' pain attitudes. The military narrative is important as it reveals the military taken-for-granted assumptions and common-sense knowledge that differ to civilian nursing pain attitudes. This relates to Theme Four in Table 8.3 and is explored in the following chapter.

CHAPTER 9. THEME FOUR - MILITARY CULTURAL INFLUENCES ON PAIN AND ITS ASSESSMENT BY MILITARY NURSES

Introduction

This chapter presents the military narrative relating to military nurses' attitudes to pain assessment when assessing pain in military patients. As with Chapter 8, the term nurse relates to military nurses unless stated otherwise. While Chapter 8 presented the civilian nursing narrative relating to pain assessment as told by military nurses, they also gave a military narrative with additional taken-for-granted assumptions and common-sense knowledge for situations when they believe military patients under rate their pain. This military narrative focuses on dominant stoical pain attitudes within the military that contradict civilian nursing pain attitudes. These attitudes result in an expected 'roughie toughie' image that is influenced by military training and discipline (Section 9.1). This chapter also highlights other influences on military nurses, such as changing societal attitudes to pain (Section 9.1.3) and in particular, the altered working practices where military nurses are increasingly employed alongside civilian nurses in NHS hospitals (Section 9.2). These create confusion for nurses assessing pain (Sections 9.3 and 9.4) and may explain the contradictions between military and civilian pain attitudes.

Within this chapter, Stage 2's findings are discussed in relation to relevant literature. However, central to this study into the influence of military culture on military nurses' pain assessment, is the discussion in Section 9.5 exploring the military narrative from a broader anthropological perspective. In particular, this includes Hunt et al's (2004) exploration of acculturation, that is, "the process by which artefacts, customs and beliefs change when people from different cultural traditions come into contact" (Hunt et al 2004, p974). While Hunt et al focused on a critical review of acculturation studies on US Hispanics, their article does provide a useful framework for exploring the four basic elements of the acculturation process; cultural difference, identifiable groups, cultural contact and cultural change (Table 9.1). Cultural differences relate to comparing two different cultural traditions, for example civilian and military nurses (first element) who are identifiable groups who share distinct cultural characteristics (second element). The third element, cultural contact refers to a new contact occurring between two cultures; for example, the increasing contact between military and civilian nurses in NHS hospitals. The final element, cultural change, is when new cultural traits are added to or replace previous traits (Hunt et al 2004), for example, changing pain attitudes.

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Table 9.1   Aspects of cultural change
Cultural Difference
Identifiable Groups
Cultural Contact
Cultural Change
(Hunt et al 2004)

The process of cultural change is especially relevant and will be explored using Linton's The Study of Man (1964) to increase cultural and sub-cultural understandings of military nurses' post-operative pain assessments. Linton's work has not been introduced earlier as it was not possible to predict what interview analysis would reveal, particularly as no previous studies have explored military cultural influences on military nurses' post-operative pain assessment or used an ethnomethodological ethnographic approach. Using cultural and sub-cultural change and adaptation focuses on how cultural attitudes influence military nurses' attitudes to pain assessment, rather than the actual attitudes themselves.

The military narrative revealed from ethnomethodological ethnographic interviews shows the taken-for-granted assumptions and common-sense knowledge military nurses use when assessing pain. As nurses were interviewed within UK hospitals, the narratives are indexical to patients in those settings, that is, nurses' discussions focus on assessing post-operative pain in one specific context. The importance of contextual influences on pain assessment (first discussed in Section 2.2.3) was recognised during interviews, for example:

> "It's more important in the military to be able to rate people's pain accurately because when we go to war, if they get their leg blown off and they're rating their pain as zero, are we going to take that as a proper pain score, or are we going to take it as them being stupid?"
> (Nurse 18, Text unit 161).

This quote is another example of indexicality where the meanings of an experience vary depending on the context. This is especially relevant for military nurses who may assess pain in many different contexts, including on board ship, in tented hospitals and on aircraft; often under hostile conditions.

Contextual influences on military personnel's pain experiences have been studied previously. For example, in a study comparing similar wounds sustained under different circumstances (one group from conflict and another from Road Traffic Accidents), it was found that there were significant differences in the frequency of the pain that was reported (Beecher 1956). Beecher believed that this occurred as pain intensity is largely influenced by the injury's significance to the sufferer. For those injured in battle, injuries signified an end to the disaster whereas for the civilians, injuries represented the beginning of a disaster, for example, a loss of income from not being able to work (Beecher 1956).

In an earlier study by Beecher involving 215 seriously wounded soldiers during the Second World War, it was found that nearly a third (69/215) of soldiers did not report any pain, a quarter (55/215) reported slight pain, and a quarter (51/215) reported bad pain after injury (Beecher's pain terminology) (Beecher 1946). Beecher believed that strong emotions such as fatigue, discomfort, anxiety, fear and the constant presence of danger blocked out pain in these soldiers who were subjected to daily strains from being under fire, seeing friends and comrades killed, and enduring harsh weather conditions, poor food and drink, lack of sleep and constant exhaustion (Beecher 1946, 1969). However, it is also now recognised that such emotions also increase endorphin release (see Section 2.2). Recognising the importance of contextual influences on pain assessment is necessary, especially as nurses interviewed were employed within the UK and their descriptions primarily relate to their peacetime role. As previously stated, further study into pain assessment by military nurses in different contexts, and particularly on deployment is necessary.

Nurse 18's quote above also shows how taken-for-granted assumptions and common-sense knowledge are used to account for a patient's pain behaviour. Nurse 18 compares this behaviour with expected pain behaviours (typifications) associated with different injuries, and when the behaviour does not match these expectations, the patients' self-report of pain is doubted. As this depends upon the context, under different circumstances Nurse 18's attitudes may differ.

In this chapter, the military narrative is presented from two perspectives, the first relates to what nurses consider are military patients' pain attitudes. Figure 9.1 shows this through an algorithm and the taken-for-granted assumptions associated with it are

discussed in the first part of this chapter. Additionally, two thirds of nurses (21/29) said that their military background does not influence their pain assessment as they are nurses first and military personnel second. However, as this chapter shows, nurses are influenced by their military background when they assess pain (see Figure 9.2) and this is discussed later.

Figure 9.1   What military nurses consider are military patients' pain attitudes
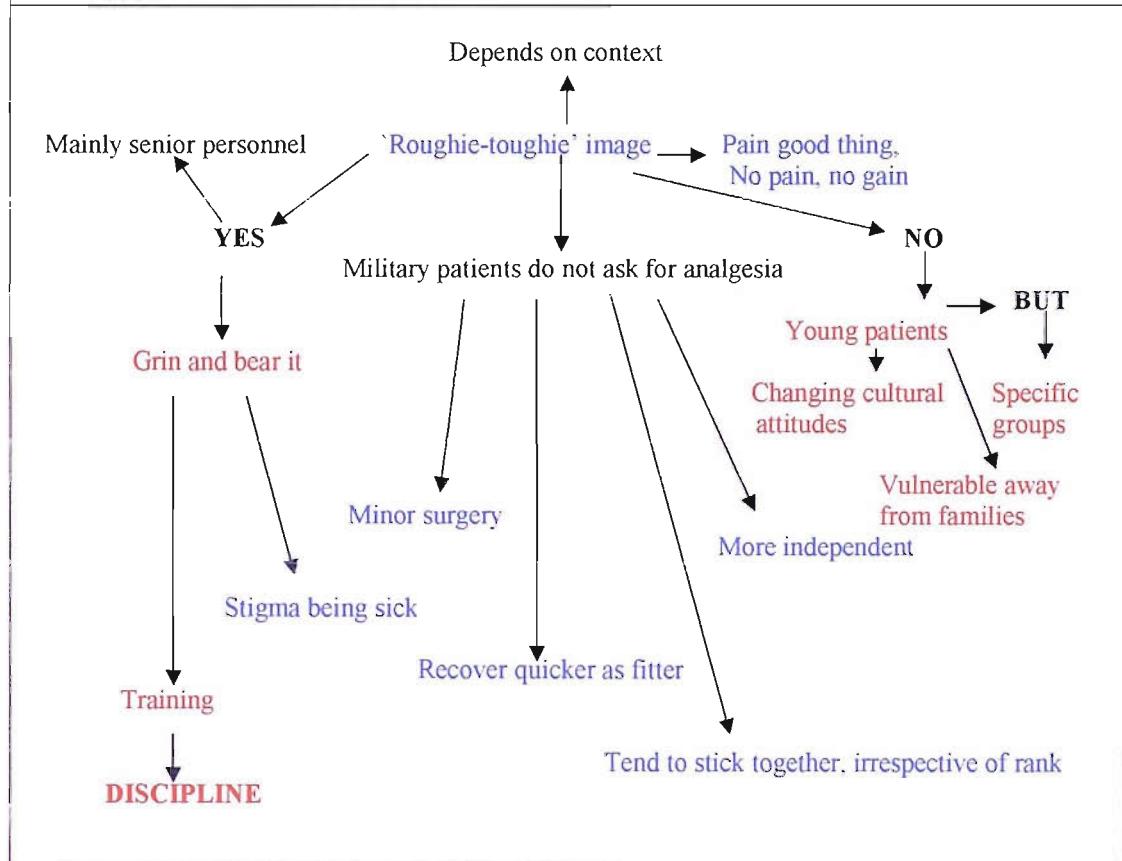
Legend: Blue = Taken for granted assumptions
Red = Common sense knowledge

Figure 9.2　Military nurses' attitudes to pain assessment

Experience more important ← Military background has no influence on nursing care (Nurse first) → Commonality with ex/serving patients

BUT more likely to believe military patients

Feel like NHS nurse

Rapport

Less discipline

Prefer to use rank as it is a reminder nurses are in the military

Rules and Rigidity ← need to use discipline ←

Rank BUT → Barrier

Gain patients respect ←

Senior staff more abrupt/ strict

≠ experience

Harder on patients (for their own good)

Patients approach staff of equal rank

Junior ranks less questioning

Military background influencing nurses

Senior ranks less likely to say in pain

Different language

Yes　　　　No　　　　→　BUT　senior more likely

Discipline

Military ethos/identity lacking in NHS environment: including lack of uniform and more relaxed - this is a good thing

More organised

Assertive/confident

Better time management

Conflict military versus nurse role

More alert

Toughens you up

More adaptable/flexible

More efficient

Autonomous

Legend: Blue = Taken for granted assumptions
Red = Common sense knowledge

A major finding within the military narrative is that nurses frequently discussed the military taken-for-granted assumption that personnel, especially males, will present a macho/'roughie-toughie' image (Figure 9.1) and this is now explored further.

Section 9.1 The 'roughie-toughie'/macho image

Nurses described a military taken-for-granted assumption that pain is a positive experience producing a tough image:

> "There is a culture within the military regarding a macho image so that experiencing pain is a good thing, to the extent that if somebody says 'I've just completed a ten mile run and I've been in agony all the way', it gives them a better image. People deny pain because of this image"
> (Nurse 21, Text units 107-9).

However, as Figure 9.1 shows, nurses have conflicting attitudes as to the existence of the roughie-toughie image. Only three nurses (3/29) did not talk about this image. These nurses trained outside the military and have had limited exposure to military pain attitudes. In contrast, over half the nurses (17/29) said military patients are reluctant to admit that they have pain and will present a 'roughie-toughie'/macho image to impress other patients, particularly military patients, and they: "Try to be heroes, even when you can tell that they are in pain" (Nurse 4, Text unit 45). Military patients are seen to "Grin and bear it and get on with things" (Nurse 4, Text unit 48). This is a dominant military taken-for-granted assumption influencing how members, particularly males are expected to behave. Although nurses stressed that they do not agree with this, this was not always supported elsewhere in the interviews.

Nurses who discussed the roughie-toughie image were predominantly those who have been in the military over ten years. These nurses, mainly male, have worked in various military environments where stoical pain attitudes dominate, while many new nurses now work in NHS hospitals where stoical attitudes are less prevalent and the majority of patients are civilian (see Section 9.2). In addition, military personnel admitted to hospital are normally young and fit males and their attitudes to pain may be similar to those held by civilian patients (discussed further in Sections 9.1.2 and 9.1.3).

As discussed above, all the interviews were undertaken in UK hospitals. Nurses focussed on their current working environments where there are few military patients. Therefore, this chapter discusses what nurses believe are military patients' pain attitudes, although it is acknowledged that these may differ to patients' actual attitudes. Exploring military patients' attitudes to pain was outside this study's remit but requires further exploration to identify any differences in pain attitudes between military nurses' and military patients'.

Nurses said that the roughie-toughie image is a prevalent military taken-for-granted assumption. When asked to explain why this is so dominant, many nurses relate it to military training and discipline.

Section 9.1.1 'Toughening up' – the influence of military training and discipline

All new military personnel undergo a period of initial military training where the roughie-toughie image and stoicism are encouraged. Nurses from each military service recognise the influence of military training, as the following quotes demonstrate:

> "I think it could be training, because they're shouted at so much and they think 'I'll be a man and not complain'."
> (Nurse 4, Text unit 50 – RAF nurse: 3 years, 1 month's service).

> "Basic training toughens you up a lot"
> (Nurse 11, Text unit 72 – RN nurse: 1 year, 1 month's service).

> "Basic training and being pushed to your limit by others, you should be able to take more"
> (Nurse 27, Text unit 112 – Army nurse: 2 years, 10 month's service).

These nurses were relatively new to the military and still remembered the tough nature of their initial military training, where the associated discipline was probably more prominent than what they had experienced outside the military and where stoicism may not have been encouraged to the same extent (see Section 9.1.3 below). Thus, their existing taken-for-granted assumptions and common-sense knowledge were challenged in the new military environment.

Whilst initial military training provides personnel with essential military knowledge and skills, for example, weapon handling, it is also an important part of military socialisation (see Section 2.5). This training aims to reduce diversity and produce collective thinking and conformity (Hockey 1986, McManners 1994, Starns 2000), that is, it develops military taken-for-granted assumptions. From day one new recruits are exposed to and encouraged to reflect the essential values, attitudes and behaviours to effectively perform their military duties (Neil 1994, Simpson and Ainslie 1999).

Young males are often attracted by the taken-for-granted assumption that military personnel are tough and macho and believe that they can overcome the masculine challenges that require them to prove themselves in conflict (Frost 1998). Military personnel are also required to work in areas where they risk injury, capture and/or

mental suffering, along with witnessing shocking experiences of mass destruction, large scale slaughter and extremes of inhumanity (Mileham 1995). This requires military personnel to be highly committed, perhaps culminating in the ultimate personal sacrifice of being prepared to lay down their lives for others (Aldous 1997, Hawley 1997, Rose 1998). Therefore, although new recruits often find initial training stressful, it is purposely so to prepare them for combat (Ross and Woodward 1994, Clemons 1996). Thus, the military require a tough persona and the development of taken-for-granted assumptions relating to pain that differ to the general population, although it is also recognised that this macho image is not uniform across all military personnel (see Section 9.1.2 below).

To maintain the macho image, a military ethos has evolved that supports and encourages bonding and coping mechanisms (Mileham 1995) (also see Section 2.5.1). Military ethos is necessary before dangerous situations are faced and it is the extent and depth of the shared and bonded experiences within a recognised context that unites groups together and develops a commitment to each other (Middleton 1991, Chapman 1995). Within these requirements and challenges, military personnel are encouraged to maintain the stiff upper lip and not to express pain, irrespective of the circumstances as to do so is perceived as a sign of weakness (McManners 1994). Likewise, many military nurses share similar common and identifiable goals that are part of their military taken-for-granted assumptions, including expected pain behaviours, and these influence their pain assessment. As military personnel, nurses are also aware of the requirement to maintain a roughie-toughie image. However, 41% (12/29) of nurses reported that the roughie-toughie image is not as evident as it had been previously (see Figure 9.2). Some of these nurses were relatively new to the military, while others had substantial military experience, although these latter nurses had undertaken additional nurse training in civilian institutions, for example, conversion courses to Registered Nurse, where their military taken-for-granted assumptions had been challenged. This is explored in Section 9.1.3.

Nurses stated that discipline during initial military training significantly influences the roughie-toughie image (as shown in Figure 9.1). Through discipline new members learn the "very requirements of the lifestyle itself, taking his/her cue from the role models who oversee training" (Neil 1994, p6). Discipline is an essential part of military training that ensures personnel are prepared to face combat (Mileham 1995, Rose 1998), as in

dangerous situations the natural instinct is to escape (Mueller 1991). Discipline is maintained through rules and regulations enforced through a strict rank structure that all personnel soon learn (Chief of the General Staff 2000). Instructors maintain this discipline through the power associated with their rank and position. For example:

> "Corporals are God"
> (Nurse 4, Text unit 111)

> "You're in awe of your Corporals and your Senior NCO. It was very much pressured upon me that they were Gods"
> (Nurse 6, Text units 219-22).

Rank influences are also discussed in Sections 9.2.1 and 9.4.2.

A consequence of the roughie-toughie image is that pain is not deemed to be an acceptable reason for preventing personnel undertaking activities, especially physically demanding tasks. Nurses stated that as a result of the taken-for-granted assumption that complaining of pain is a sign of weakness, military personnel will deal with their pain and not let it hinder them. This taken-for-granted assumption extends to illness and taking time off work for sickness is frowned upon. Over half of the nurses (17/29) described this prominent military taken-for-granted assumption, for example:

> "I think it's the military environment. You get on with it, even if you're ill"
> (Nurse 4, Text unit 48).

> "It's the discipline and the training. It's drummed into you that you're not supposed to complain"
> (Nurse 12, Text units 140, 145).

> "In the military you're not meant to complain about pain, there's a stigma about getting over things quickly"
> (Nurse 16, Text unit 61).

Although there is a general stigma to personnel expressing pain, nurses described occasions when this is acceptable. However, this depends on the person, the surrounding context (see Introduction above) and the cause of the pain. In all cases, military personnel use their common-sense knowledge to account for observed behaviour and the surrounding circumstances to determine if it is acceptable or not. This is illustrated by the following quote:

"There's a thin line between no pain, no gain and going through pain when it's doing you an injury and then having to go sick. There's a stigma attached to being sick, although it does vary. For example, nobody bats an eyelid about the fit athlete who twists their ankle and is put on light duties for two weeks. But if you get somebody fairly non-descript, maybe it's coming towards a training exercise and people will think they're just doing it to get out it"
(Nurse 17, Text units 40, 43).

Nurse 17's quote provides examples of the key aspects of ethnomethodological ethnography. For example, the taken-for-granted assumption that military personnel from different backgrounds are more likely to have genuine and acceptable pain than others (see Section 9.1.2). Thus, when encountering a military person complaining of pain, others will use their common-sense knowledge of expected behaviours to account for this pain. This accounting is also indexical to the situation, that is, the 'non-descript' person's pain is related to another event and context, further confirming that the person is trying to avoid an activity. Finally, the account is reflexive as the expected behaviour descriptions associated with different military personnel are linked to personnel who display these behaviours, thus confirming that these descriptions are accurate.

Nurse 17's attitudes to accepted and expected pain behaviour are in line with general military expectations. Nurse 17 had only been qualified several months but he was the only nurse interviewed who had non-medical experience within the military (ten years as a front line soldier). Therefore, his attitudes may reflect the actual taken-for-granted assumptions held by the majority of military personnel working within military environments, rather than what nurses consider are military personnel's pain attitudes. As previously stated, the importance of exploring military personnel's pain attitudes is acknowledged but was outside the scope of this study. Interestingly, Nurse 17 trained as a nurse through the military in a civilian university (see Table 8.1 and Section 8.1.1) where he had been exposed to civilian nursing pain attitudes contradicting his military taken-for-granted assumptions and these were beginning to take prominence. For example:

"With education, I've improved my practice and used my nursing knowledge. Although you can think what you want about a particular patient, if you take a professional attitude towards them you shouldn't be passing opinion and judging them"
(Nurse 17, Text unit 124).

In contrast to Nurse 17, the other nurses interviewed had limited experience of the wider military environment, gaining their military experience in health care settings, many of which are now located within NHS hospitals (discussed in Section 9.2). Another issue raised by Nurse 17 was the different expectations relating to the roughie-toughie image depending upon the military person's role.

Section 9.1.2   Pain expectations among 'hardened soldiers'

Nurses reported that experienced and senior personnel are more likely to deny or under rate their pain (see Figure 9.2). The rationale offered is that these personnel joined the military and undertook their initial military training when expected stoical attitudes and taken-for-granted assumptions to pain were more prevalent. However, nurses also described how presenting a macho image is more prominent among personnel in specific military front line units, such as Paratroopers and Royal Marines. Typical attitudes relating to these specific groups are:

> "Take an Army guy who's a paratrooper. He would be expected to be able to stand a lot of pain"
> (Nurse 6, Text units 52-3).

> "One military patient who under valued his pain immensely was a Marine with a large abdominal operation who scored his pain as zero. He wouldn't take any regular analgesia because he thought that if he gave in to the pain he was being a wimp. It's the hardened soldiers, like Marines and front line soldiers who under value their pain because they see themselves as having to project a tough image"
> (Nurse 18, Text units 78-9, 104).

> "They're not meant to have pain because they're supposed to be tough, especially if they're Para squaddies [soldiers]"
> (Nurse 20, Text unit 65).

These quotes show how military personnel are not homogenous. Although all personnel undertake similar initial military training, once this is completed they move to different units to take on their specific military roles. These roles influence how macho and roughie-toughie they are expected to be, with front line fighting personnel adopting this image more than support personnel away from the front line. Therefore, personnel from different units may be expected to display greater stoicism, for example, front line soldiers from elite forces such as the Paratroopers and Royal Marines, and this is an important finding from this study. Such groups are male dominated and their training aims to develop toughness and aggression to turn "boys into men" (Hockey 1986, p33). Hockey's study followed a group of front-line infantry soldiers undertaking basic

training. The study was undertaken twenty years ago when women were not permitted to serve as front-line soldiers and so these groups were male dominated (Hockey 1986).

The macho image also develops during initial military training which emphasises qualities of masculinity, prestige, and courage and the need to maintain a stiff upper lip during adversity as these are required for combat (Wild 2003, McManners 1994). Front line soldiers are expected to push their bodies beyond normal limits and tolerate fatigue, discomfort and sleeplessness (Hockey 1986, McManners 1994). This includes the necessity to be strong and silent and not express any emotions, as these are seen as feminine traits that male soldiers should not express (Hockey 1986, Levant 1992). Even though there have been several charismatic female military leaders in the past, for example, Boadica and Joan of Arc, males still dominate within the military (Jessup 1996). However, distinctions between male and female expectations is decreasing as military opportunities for women widen following demographic changes, increasing equality and an increasing proportion of female service personnel (Jessup 1996). In addition, the above studies into macho expectations concentrated on male military personnel and were written by men. As 70% (670/961) of military nurses are female they may have different attitudes.

As military personnel, nurses are aware of different military groups' reputations and the taken-for-granted assumptions relating to expected pain behaviours. Therefore, they may expect these patients to present a macho image, although as stated previously, contradictory attitudes to stoicism were evident during interviews. This may be partly explained as nurses presented their view of the masculine military attitudes whilst also stating the feminine civilian nursing attitudes where nurses have been portrayed as a mother figure with its overtones of good housekeeping and maternal control (Kitson 1996). These different expectations may account for nurses' contradictory attitudes highlighted in interviews and relate to cultural change and adaptation, which is discussed in Section 9.5. In addition, other changes, such as changing societal attitudes to stoicism may also account for these contradictions.

Section 9.1.3   Changing societal attitudes

A third of nurses (9/29) reported that new military personnel do not always hold the stoical attitudes generally expected within the military. This is attributed to changing societal attitudes. For example:

> "People now joining the military do not respond well to discipline. In the past, if the instructor told you to do something, you did it, whereas now people question it or are unhappy to undertake it unless there is a good reason"
> (Nurse 21, Text units 114-6).

Thus, changing societal attitudes appear to have resulted in a loss of respect for authority (Chapman 1995). New recruits are less accepting of traditional demands of military life (Dandeker 2001) and shared values are less effectively transmitted (Chapman 1995). New military personnel may see military service as a means of obtaining valuable civilian qualifications rather than as a vocation and a desire to serve one's country (Chase et al 1996, Coker 1998). This is more apparent with an increasing collaboration and emphasis with civilian workers through public/private partnerships (Neil 1994, Beaumont 1997, Simpson and Ainslie 1999). It is argued that increasing privatisation has had a negative impact on military ethos as privatisation "dilutes the unique flavour of the military setting, disturbing the system of hierarchy upon which order and discipline rest" (Frost 1998, pp8-9). Changing societal attitudes may also erode the tightly bound concept of "service" (Chapman 1995, p48) and military ethos (McCorquodale 1997), thus challenging military stoical taken-for-granted assumptions.

As well as changing attitudes to discipline, nurses also discussed shifting pain attitudes where personnel recently joining the military are more willing to express their pain, whereas those with several years experience and holding a higher rank are reluctant to do so. The following quotes show that nurses are aware of these changes, irrespective of how long they have been in the military:

> "The younger generation are more willing to tell you that they're in pain while the older chaps have the grin and bear it attitude"
> (Nurse 17, Text unit 65).

> "New people joining up are more vocal, whereas the SNCOs tend to complain less about pain. I don't know whether it's because of the way they were taught, but they tend not to make a fuss"
> (Nurse 26, Text units 160-1).

These attitudes may reflect changing social values where core values such as morality, loyalty, commitment and courage can no longer be assumed to be present in new recruits who may be unwilling to tolerate and accept previously held attitudes (McManners 1994, Knell 2001). Generally, acknowledgement of changing cultural attitudes to stoicism is more apparent among nurses who had trained within civilian institutions external to the military. These nurses have been exposed to civilian nursing

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taken-for-granted assumptions and so may have been more aware of how wider societal changes have resulted in people not accepting pain. These nurses may also challenge existing military taken-for-granted assumptions. For example, they use their common-sense knowledge to compare their experiences of initial military training with their normal everyday working environment in the NHS and this may explain why they said that initial military training was artificial and does not accurately reflect life in the military. For example:

"When you are out of basic training, you start to learn what the military is really like, because basic training is not the military"
(Nurse 18, Text units 151-3).

The taken-for-granted assumptions personnel learn during initial military training represent what most military personnel expect to encounter in their normal military working environments where stoical pain attitudes still dominate (see discussion of Nurse 17 in Section 9.1.1). In contrast, Nurse 18 works within an NHS hospital where there are different cultural taken-for-granted assumptions to pain and this change in working environment influences their pain attitudes.

Section 9.2   Military influences in the hospital environment

As discussed in Chapter 1, military secondary health care is now situated within NHS hospitals and military nurses increasingly work alongside civilian nurses. Although both groups care for patients, their different cultural backgrounds result in some variations among the taken-for-granted assumptions and common-sense knowledge held. Table 9.2 shows the different philosophies surrounding caring for patients by the two groups that influence these taken-for-granted assumptions and common-sense knowledge (Wills 1997).

Table 9.2	Different philosophies of military and NHS hospitals	
	Military	**NHS**
Goal achievement	Throughput motivated by quickly returning patients to their units	Throughput motivated by contracts
Resources	Motivated by ethos of traditional care and not finances	Efficiency motivated by competition
	(adapted from Wills 1997, p44)	

Table 9.2 shows that there are differences between the driving forces behind the two environments, with NHS hospitals being driven by market forces emphasising throughput, whilst the old style military hospitals were driven by organisational attitudes to providing care to its personnel (Wills 1997). With the formation of MDHU's and the RCDM (discussed in Section 1.3.1), military personnel also brought their existing philosophies. However, this has resulted in some conflicts between the taken-for-granted assumptions and common-sense knowledge held by both cultural groups and this is also an important explanation for the contradictory attitudes expressed during interviews.

Military nurses have been working within NHS environments for several years (Wills 1997). Although some newer nurses (8/29) consider that this is beneficial, others with considerable military experience said that integration has eroded military culture. This is similar to the changes described in Section 9.1.3 above and has also been reported by several military authors (Aldous 1997, Beaumont 1997, Wills 1997). Integration into the NHS has also included nurse training and as described in Section 8.1.1, new members joining the military to undertake nurse training do so through a university while gaining clinical experience in NHS hospitals. Other military personnel are also located within the universities, but the new military members are predominantly exposed to civilian nursing taken-for-granted assumptions and common-sense knowledge, including those relating to pain assessment. This exposure continues once nurses qualify as they continue working alongside their civilian colleagues in NHS hospitals. This explains why new members, for example, Nurses 1, 5, 7, 14 and 18, are more likely to hold similar attitudes to civilian nurses compared to nurses with greater military experience, such as Nurses 2, 3, 15, 19 and 24. Although experienced nurses are attempting to adjust to changing cultural attitudes, these challenge their military taken-for-granted assumptions, including those about pain assessment. This also accounts for some of the contradictions identified during interviews and Stage 1 as detailed in Table 6.4.

As previously discussed, changes to military nurses' normal working environments has resulted in military managed wards being located within NHS hospitals. Nurses consider that these are less military orientated than previous military hospitals or their military patients' normal military working environments. However, patients may not consider it this way. For example, nurses still wear military uniforms displaying their

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military status and they address patients and staff by rank. These constantly remind patients that they are military personnel, irrespective of the environment, and thus subject to military expectations, including those surrounding pain. The conflict between civilian nursing and military taken-for-granted assumptions explains the dichotomy between nurses considering hospitals as less military whilst still reinforcing military values through their military uniforms and ranks. This dichotomy also includes stoical expectations.

Although there is a stigma surrounding being ill and seeking help, nurses described a taken-for-granted assumption that post-operative pain is legitimate. This is another aspect of the context surrounding pain experiences that influences its interpretation. The following is typical of how nurses use their common-sense knowledge to account for pain experiences within the taken-for-granted assumption of stoicism:

> "Military patients don't like attending their GP for little bits and bobs, they'll wait until it's really bad and then go. They don't want to be seen to be malingering or a burden. However, in the post surgical environment, I don't think that stands"
> (Nurse 28, Text units 195-6).

While post-operative pain is seen as a legitimate reason for patients to express pain, hospitals are unfamiliar environments for most military patients who are constantly reminded that they are military personnel through nurses wearing military nursing uniforms and the use of rank. Thus, patients remain reluctant to admit that they have pain for fear of being labelled as 'wimps' and so the military taken-for-granted assumption that pain should be suppressed still dominates and military patients continue to deny or under rate their pain, for example:

> "Most military patients are with other military patients. I don't know if it's lose face or 'He's had the same op as me but he's not in pain so I'm not in pain'."
> (Nurse 7, Text unit 68).

One nurse described two military patients who tried to see how much pain they could tolerate and who had used the least amount of analgesia:

> "It was a competition to see who could use the least PCA. Both wanted to make sure that they'd outdone the other. Both not wanting to admit to the other that they were in pain"
> (Nurse 26, Text unit 32).

This nurse was discussing two Army patients who came from different regiments. This shows the importance of denying pain in order to maintain their regiment's honour, as discussed in Section 2.5. However, nurses also discussed how military patients are more likely to mix with each other in the NHS environment as they share similar military backgrounds and this familiarity provides reassurance to the patients (see also Section 9.4.2). Consequently, although patients may deny their pain in front of other military patients, they look after each other, irrespective of their service or rank. Thus, the military taken-for-granted assumption of looking after one's colleagues (Section 2.5) is also evident in hospital, as the following shows:

> "Military people stick together; it's not so much officers and juniors, it tends to be, 'We're military people.' They pal up together and look after each other" (Nurse 15, Text unit 107).

Another important aspect within military culture that influences pain assessment is the nurses' and patients' rank (see Figure 9.2) and this is now explored further.

Section 9.2.1 'Rank can be a barrier'

All nurses, irrespective of which military service they belong to, or their rank and experience, said that their rank is unimportant when assessing pain, although they acknowledge that it can sometimes be a barrier. While military nurses retain professional authority over patients, this creates an inconsistency when caring for patients of different ranks. Military ranks demand certain levels of respect and this taken-for-granted assumption dominates, even in hospital. This presents a challenge to nurses who use their common-sense knowledge to account for this conflict and they emphasise that hospitals are non-military environments. For example:

> "Military patients should never use rank on the ward and they're treated as patients"
> (Nurse 15, Text unit 71).

> "Because they're in a sick role, they listen to what you have to say no matter what rank they or you are"
> (Nurse 16, Text unit 112).

However, a third of nurses (11/29) believed that military patients are more reluctant to express pain to nurses holding senior ranks, particularly those of officer status, for example:

"It's amazing what rank does. Military people feel intimidated by a female Army officer and say they're not in pain"
(Nurse 20, Text unit 70).

This demonstrates the military taken-for-granted assumption that rank is a symbol of authority and commands automatic respect (Starns 2000). However, it has also been reported that such symbols can intimidate patients by the "air of brisk efficiency they convey" (Starns 2000, p165). This was expressed by one nurse:

"I get the impression that some trainees see a ward full of JNCO's and SNCO's and they think that they're going to get harsh treatment and be told to `Stop malingering, get on with it'."
(Nurse 13, Text unit 71).

Six nurses stated that military patients are more willing to report pain to nurses who are equivalent or junior in rank as these nurses are more approachable. This reflects the normal military hierarchical chain of command where personnel have a more relaxed relationship with equivalent or junior ranks. For example:

"Patients will automatically go to the junior rank nurse"
(Nurse 1, Text unit 260).

"Junior staff are more approachable. You find it easier talking to a junior rank because you feel you're on a level with them, they're more likely to talk to you"
(Nurse 22, Text units 138, 142).

Another problem related to patients and nurses holding different ranks is that there is a taken-for-granted assumption that certain military patients may have difficulty communicating their concerns to nurses, for example: "There are some differences between ranks as some are more articulate than others" (Nurse 24, Text unit 102). Nurses said that this was due to different intelligence levels and the terminology used, as shown in the following quotes:

"If you've got a very junior rank, they may not be able to take things on board. If they're more senior, they will probably question things more, so you'd give them more information"
(Nurse 2, Text units 141-4).

"You might get some rough language from the juniors"
(Nurse 17, Text unit 72).

In the above situations, nurses used their common-sense knowledge to account for difficulties in communication. These quotes also demonstrate ethnomethodological reflexivity as expectations of communication difficulties amongst different ranks are confirmed when they communicate with these personnel who respond as expected.

Despite the above communication difficulties, all nurses address their patients by rank on first meeting, particularly to those who are senior in rank, for example:

> "I ask them what they prefer to be called. Sometimes an officer will say, `Call me Sir', so obviously you respect that and until they tell me differently I call them Sir. But I would call a junior rank by their first name"
> (Nurse 4, Text unit 122).

Addressing personnel by their rank is usual military practice, particularly from junior to senior members. Nurses are aware that rank is used to maintain discipline (see Section 9.1) and personnel know the consequences of failing to respect rank (Starns 2000). As a result of the military hierarchical structure, it has been reported that the range of ranks and status of patients and nurses on military managed wards is more evident than on NHS wards and all patients and nurses behave in accordance with their culturally conditioned ranks (Lange and Bradley 2001). Lange and Bradley's study was undertaken on a military psychiatric ward where there were greater numbers of military staff and patients than in this study. However, military training and discipline ensures personnel act according to their culturally conditioned ranks and the influence of this on nurse-patient relationships is shown in the following quotes:

> "When I was a junior rank, I easily related to other juniors but when I looked after a senior officer it was quite intimidating. I think the role is reversed for a patient if you have a senior nurse and a junior patient"
> (Nurse 3, Text unit 87).

> "With the military patient you've got rank issues, some nurses are very senior and this can affect the questions patients ask. They want to say the right thing but may not say what they really mean"
> (Nurse 21, Text unit 77).

Although nurses acknowledge that patients' ranks influence how they interact with them, nurses do not think that their own rank influences their pain assessment. However, nurses gave examples to the contrary that show that they have adopted some military attitudes, even though they are generally unaware of this.

Section 9.3   'Military attitudes do rub off'

Nurses undertake the same initial military training as other military personnel and so are exposed to military taken-for-granted assumptions and common-sense knowledge surrounding pain (see Section 9.1.1). This initial military training develops toughness and several nurses (7/29) alluded to how it influenced their own attitudes. For example:

> "I was more caring and compassionate before I joined the military. Some of what you do during basic training toughens you up a lot and you think, 'Oh come on, I'm only taking a bit of plaster off your hand!' I know it's a bad attitude to have and you've got to try not to think like that"
> (Nurse 11, Text unit 70).

This quote shows how Nurse 11 has adopted the military taken-for-granted assumptions and common-sense knowledge that encourages stoicism. Most nurses were unaware that they have similar pain expectations as other military personnel, although seven senior nurses did recognise this, as the following quotes reveal:

> "In the past, there was a tendency for military people to have experienced the attitude that patients over report their pain and attitudes like that do rub off"
> (Nurse 17, Text unit 121).

> "In the past, if somebody more experienced says a particular type of patient shouldn't be in as much pain and they're a bit of a 'woose' then I used to adopt their point of view instead of looking at a patient as an individual"
> (Nurse 26, Text unit 66).

The above two nurses have substantial military experience and were able to account for these attitudes and accept that their military background does influence their pain attitudes. However, more recently they have worked within the NHS where these behaviours are not expected, or accepted. Even with substantial military experience, these nurses recognise challenges to the military taken-for-granted assumptions and common-sense knowledge relating to pain. This is shown by the following quote from one experienced nurse in relation to initial basic training:

> "When I joined up, you didn't get pain, you got kicked, you got punched and when you went running, you were encouraged to run faster with a size ten [shoe size]"
> (Nurse 19, Text unit 140).

This particular nurse had twenty years military experience and emphasised that this was his own experience and acknowledges that initial military training has now changed:

"Ten years ago there was a lot more discipline and it was a lot stricter. Now it's a lot

more relaxed" (Nurse 19, Text unit 166). This is an example of how cultures are not static and continually change (explored further in Section 9.5).

The above quote also highlights the important influence of other members on developing cultural attitudes. Within any culture, new members learn taken-for-granted ways of thinking, patterns of practices and expectations relating to all aspects of clinical and caring knowledge through more experienced members (Benner et al 1996, Howkins and Ewens 1999, Randle 2003).

Section 9.3.1   Influence of military nursing colleagues

Within the civilian nursing culture, new civilian nurses who are keen to be accepted, are aware of senior members' authority and control over them (Melia 1987, Cahill 1996). Similarly, in the military, senior nurses use their status and power, consciously and sub-consciously, to ensure that new nurses conform to military norms. This is particularly relevant within a hierarchical structure such as the military, where role models who hold a senior rank have considerable influence on new members and their attitudes. This includes pain attitudes as well as any conceptions and misconceptions held by senior colleagues (Nash et al 1999, Bucknall et al 2001), irrespective of whether junior nurses agree or not. Fear of reprisals or negative sanctions levied by ward staff acts to control new members and reduces their ability to question practice (Philpin 1999) and the established taken-for-granted assumptions. This is potentially more problematic in the hierarchical military environment where new members may consider that they are forced to be submissive as this is the only way to deal with the dominance of others.

New military nurses should be more likely to adopt military taken-for-granted assumptions relating to pain from their military colleagues as failure to adopt these attitudes may be interpreted as disobedience, and would be punished. However, as discussed in Section 9.1.3 above, changing societal attitudes and closer working relationships within the NHS has resulted in newer nurses being more likely to question their military colleagues' pain attitudes. In addition, increasing exposure to civilian nursing attitudes in the NHS has resulted in military nurses adopting these dominant civilian attitudes and so they consider that there are few differences between civilian nurses and themselves.

Section 9.4 `I'm just the same as other nurses: I just wear a different uniform'

All interviewees worked on military managed surgical/orthopaedic wards located in NHS hospitals. These wards do not provide the same opportunities to continue developing military cultural attitudes as nurses have previously been exposed to, firstly during initial military training, then subsequently in military hospitals. However, newer nurses emphasise that nursing is their primary role, irrespective of location, and although they were working within the NHS they are doing the same job, but just wear different uniforms. Newer nurses have little time or opportunity once initial military training is completed to internalise military attitudes, including those surrounding pain and its expression. This may explain why they said that their military background does not influence their pain assessment.

A third of nurses (9/29) identified a conflict between the disciplined, hierarchical military culture and the more relaxed, easy going NHS (Figure 9.2) and they see this as a major difference between civilian nurses and themselves. As a result, these 9 nurses, all who trained in the military and have several years of military experience, stated that their military ethos has been diluted within the NHS. Of particular concern is the loss of military control and sense of belonging, for example: "I don't know who I work for, is it the NHS, is it the military?" (Nurse 3, Text unit 150). This highlights the changing culture of military nurses, especially for those with previous military experience, who are concerned with the rapid changes and loss of military identity.

In contrast, NHS trained military nurses described similarities to previous working environments, for example: "I feel like an NHS nurse most of the time" (Nurse 10, Text unit 118) and "Sometimes it's just like being a civilian nurse" (Nurse 11, Text unit 82). These two nurses had limited military experience and as they were working in similar environments to where they had trained before joining the military, the impact of the changes is less evident to them than to the senior and more experienced military nurses. This discussion highlights an important finding that military nurses are not a homogenous group and newer nurses who have had a greater exposure to civilian nursing attitudes during their training are more likely to accept these attitudes than more experienced nurses. This is discussed further in Section 9.5.

Despite the above conflicts, all nurses are proud to be in the military and highlighted the benefits of working on military managed wards.

Section 9.4.1 `Military training demands efficiency and organisational skills'

A third of nurses (11/29) said that their organisational and time management skills are superior to their civilian colleagues, for example:

> "Civilian patients see we're an organised and professional organisation, they see the smartness and how we prioritise work"
> (Nurse 2, Text unit 128).

> "Patients know that if they ask for pain relief, the nurses are more efficient and will get the job done. If nurses hit a brick wall, they work around it, whereas the civilians tend to give up at the first hurdle. Military nurses have been around lots of different areas and worked in the field [deployment]. They've had to adapt and I just think they're more effective"
> (Nurse 23, Text units 78, 91).

Nurses attributed their efficiency to all aspects of military training as assertiveness, confidence, adaptability, autonomy and teamwork are emphasised to ensure personnel do not let their colleagues down (Chief of the General Staff 2000). Gaining these skills is essential for when nurses are deployed overseas as they frequently take on more autonomous and varied roles, often in hostile environments with little support (Wild 2003). Taking on more autonomous roles in such contexts is a specific area where military nurses differ to their civilian colleagues, as the following quotes highlight:

> "With our operational role we have to be more autonomous. We're encouraged to be more independent than the NHS"
> (Nurse 25, Text units 150-2).

> "Military nurses are probably used to working alone and not having many people around to ask for advice"
> (Nurse 26, Text units 135-8).

As Section 9.3 discussed, nurses' pain assessments while deployed was outside the scope of this study but requires further exploration.

Although nurses described differences between civilian nurses and their assessment of pain, rather than criticising their civilian colleagues, they emphasised that these are patients' opinions. Eight nurses (8/29) reported that patients, both military and civilian, request to be admitted to military wards, for example:

"Patients request to come to this ward because a relative or friend has said the staff are wonderful. I think the overall atmosphere and standard of patient care is better. Patients who have come from other wards comment upon the atmosphere. They prefer our ward"
(Nurse 6, Text units 132-8).

"Patients think we're more professional than other wards. You hear them say to other patients, 'It's alright, they know what they're doing, they're in the military'."
(Nurse 11, Text unit 66).

Nurses say that patients prefer military wards and consider that the nurses are more professional because of their uniforms, for example:

"Patients think we look very smart"
(Nurse 1, Text unit 108).

"It's the uniform. Patients say we look like real, old fashioned nurses. They put more faith in you and they feel safe in the military environment. It's the whole military thing that they like"
(Nurse 12, Text units 67, 112-114).

Despite the increasing influence of working in the NHS, nurses try to maintain their military ethos by wearing uniforms and highlighting their assertiveness, autonomy and confidence. However, nurses also stated that their military background sometimes has a detrimental influence, for example, if they are the same gender or from the same military service as their patients. This can affect whether patients report their pain and was mentioned by a third of nurses (10/29). For example:

"Because I was the male nurse, the Marine thought I would have a lower opinion of him if he complained of pain"
(Nurse 18, Text unit 88 – Male RN nurse).

"Army patients won't admit to an Army bloke that they've got pain in case we think they're a bit of a wimp"
(Nurse 19, Text unit 121 – Male Army nurse).

This reflects the taken-for-granted assumptions that some military sections are expected to be more stoical than others as discussed in Section 9.1.2. However, it is also recognised that some patients might be more willingly to discuss their pain with a nurse from their own military service, as they are more familiar with the structure and ranks:

"Some patients may feel more comfortable with nurses from their own military service as they know their own ranks and how each other's system works"
(Nurse 19, Text units 129-30).

The influence of the nurses' military background on their pain assessment may have conflicting affects as nurses are required to adopt two roles; that of a nurse, whilst also holding a military rank and the expectations associated with this.

Section 9.4.2 'Neutral nurse versus military rank holder'

Although nurses emphasised that their rank does not influence their pain assessment, there are occasions when this does occur: "Are they relating to me because I'm an officer?" (Nurse 3, Text units 88-9). All 8 nurses who had been in the military over 10 years expressed this opinion, although they also stressed that they are nurses first, for example:

> "Rank is never an issue. At end of the day we're all RGN's"
> (Nurse 13, Text unit 86).

> "If there's a military patient on the ward then I'm a nurse, I'm not a SNCO, it's a weird situation. I react as I would with any patient"
> (Nurse 15, Text unit 73).

Although military patients are treated differently according to their rank, as both patients and nurses belong to the same cultural group, they share many traits. Sharing similar traits results in a common bond between military patients and nurses that influences their relationship, irrespective of what is claimed to the contrary. Half the nurses, (14/29), especially those with several years' military experience, described a commonality with serving and ex-serving military patients:

> "At the end of the day you find common ground. It's easier with military patients because you talk about where they're posted, you build up a rapport"
> (Nurse 6, Text units 170-2)

> "You're friendlier with the military patients, probably because you have more in common. They've been places you have been and you can talk to them on a more familiar level"
> (Nurse 16, Text units 133-5).

As a result of this commonality, nurses build a rapport with serving or ex-serving patients more easily than with civilian patients. One consequence of sharing a similar cultural background is that nurses are more likely to believe military patients when they do report pain, especially as nurses consider that military patients are more likely to under rate or deny their pain, as detailed in Section 8.5. Therefore, when military patients do express pain, this confirms that their pain is real. As one senior nurse said: "Maybe I'm a bit more biased cus I know more military people. If a military person is

crying in pain, I will generally believe that they are in absolute agony" (Nurse 15, Text unit 55). Nurse 15 is aware of the taken-for-granted assumption that military patients would be expected to be stoic and therefore, using her common-sense knowledge identifies that this pain behaviour is genuine. However, as previously discussed this may alter according to the context and the military patient's background.

As stated in Section 9.1.2, the conflict between being a nurse and a military person may have arisen as nurses are traditionally associated with possessing character traits linked to femininity, such as sympathy, tenderness and compassion (Starns 2000). In contrast, military nurses are also subject to military expectations associated with masculinity, such as presenting a macho image and maintaining a stiff upper lip (McManners 1994, Wild 2003). This conflict is another reason for the contradictions identified. Nurses are subject to both military and civilian nursing taken-for-granted assumptions relating to pain. However, as this chapter describes, nurses are increasingly working in the NHS where civilian nursing attitudes dominate. This is a particularly important finding and the cultural change and adaptation military nurses are experiencing and its influence on their pain assessment attitudes is now discussed.

Section 9.5   Cultural change and adaptation

The above sections have presented the military narrative and discussed it with reference to relevant literature where appropriate. However, to provide an overall explanation for the contradictions in military nurses' attitudes requires an exploration from a broader anthropological perspective. Therefore, this section relates the interview findings to cultural change and adaptation. Of relevance are the four basic concepts affecting the process of cultural change as discussed by Hunt et al (2004) and presented in the introduction to this chapter (see Table 9.1). Hunt et al's model is particularly relevant for discussing cultural change as military nurses are increasingly working within NHS hospitals where they are exposed to the civilian nursing culture whose pain attitudes challenge those that dominate in the military. Focussing on cultural change and adaptation is entirely appropriate in the context of this study exploring the influence of military culture on military nurses' pain assessment attitudes. Cultural change and adaptation are now discussed in relation to the integration of the military sub-culture into the civilian nursing culture and its affect on military nurses' attitudes to post-operative pain assessment.

Chapter 2 discussed how the nursing profession and the military are two sub-cultures within British society. However, as this study is focussing on military nurses, they can be considered as a sub-culture of both the military and the nursing sub-cultures. Military nurses are socialised into the military during initial military training where they learn how to behave as military personnel, including the wearing of uniforms, respect for rank and authority as well as expected pain attitudes (see Section 9.1.1). However, military nurses also share many aspects of the civilian nursing sub-culture. For example, the majority of military nurses, irrespective of where they undertook their nurse training, will have followed the same training curriculum according to nationally agreed standards. In addition, many military nurses gain clinical experience as students and qualified nurses in NHS hospitals and so have little contact with totally military environments (see Section 9.2) and thus, are influenced by civilian nursing attitudes.

Although military and civilian nurses share many characteristics (ideas, concepts and rules), there are some differences and these are discussed in relation to cultural change. While Hunt et al (2004) discuss the different aspects of cultural change, the actual processes involved are explored in greater depth using Ralph Linton's work on the development of cultural systems (Linton 1964). Other authors have discussed cultures and cultural change, but many focus on commercial organisations and business where cultural change is purposefully implemented (see Schein 1992, Handy 1993, Bate 1994, Brown 1995, Manley 2000). Although Linton's work originally referred to distinct tribes as sub-cultures, the process has close parallels with the merging military nursing and civilian nursing sub-cultures and therefore is appropriate for this study.

Linton describes three different groups of characteristics (termed elements) possessed by cultures; Universals, Specialties and Alternatives. Universals are common elements within the culture, that is; "ideas, habits and conditioned emotional responses which are common to all sane, adult members of the society" (Linton 1964, p272). Within the civilian nursing culture, Universals are the taken-for-granted assumptions surrounding pain, as described in the civilian narrative in Chapter 8, for example, the importance of believing what patients say about their pain and expected pain behaviours. However, cultures are not homogenous and sub-cultures possess variations to the Universals, termed Specialties, that is; "elements of the culture that are shared by the members of socially recognised categories of individuals, but which are not shared by the total population" (Linton 1964, p 272). Military Specialties include stoical pain attitudes (the

roughie-toughie/macho image), discipline and the hierarchical rank structure. The final group of elements described by Linton are Alternatives; that is, "a considerable number of traits which are shared by certain individuals but which are not common to all members of the society or even to all the members of any one of the socially recognised categories" (Linton 1964, p273). Linton defines traits as "individual acts and objects, which constitute the overt expression of a culture" (Linton 1964, p 397). In the context of this study, Alternatives are changing societal attitudes to pain and discipline (as described in Section 9.1.3).

To avoid conflict and to ensure cultures function as cohesive units, Linton believes that cultures and sub-culture need to share some common Universal and Speciality elements (Linton 1964). However, as discussed in Chapter 2, cultures and sub-cultures are not static and they continually change and adapt as they interact (Helman 1994), although the degree of adaptation depends upon the extent of the contact and interdependence between the two groups (Linton 1964). This is particularly pertinent, as changing military health care practices have resulted in a greater contact and interdependence between civilian and military nurses.

As a result of increased contact between cultures and sub-cultures, some distinctive features cease to be Specialties and become Alternatives (Linton 1964). Changing societal attitudes to pain and discipline from the civilian nursing culture (Specialties) are in direct conflict with military nurses' attitudes (Specialties) relating to stoicism and discipline and thus, military nurses assumptions are seen to compete with those of the dominant culture (Brown 1995), that is, the civilian nursing culture. Civilian Specialties have now become Alternatives for military nurses who use their common-sense knowledge to provide a justification for accepting them or not.

The process whereby a sub-culture takes on elements from another culture is termed diffusion (Linton 1964). This process requires time and contact and the process of cultural change that results from this diffusion is termed acculturation where the original and new sub-culture fuse to form a new culture (Linton 1964). Thus, acculturation is "the process of contact between cultures by which an individual or group is assimilated into the existing culture and which in turn, modifies the existing culture" (Bond and Bond 1994, p259). As discussed in this chapter, military nurses are increasingly working within NHS hospitals and this challenges their military Specialties. The

success of diffusion of these new elements depends upon how members view the consequences of accepting these new elements (Ehrlich 2000). The process of cultural change and adaptation is slow (Spradley 1979) and the data obtained from interviews in Stage 2 reflects the early stages of diffusion where military nurses are still in the process of using their common-sense knowledge to justify accepting the Alternatives and this accounts for the contradictions highlighted during interviews. However, as this chapter also shows, new and junior staff are more likely to accept these Alternatives compared to senior, more experienced staff.

The different elements that form cultures and sub-cultures and the continual process of change as discussed above, results in cultures that comprise of two parts. The first is a solid, well integrated and fairly stable core of mutually adapted Universals and Specialties, while the second part is a fluid, largely un-integrated and constantly changing zone of Alternatives (Linton 1964). The core provides the form and basic patterns for the culture while the fluid zone gives capacity for growth and adaptation (Linton 1964). One consequence of these two parts is that older or more experienced members are more likely to share the core elements and reject any new elements within the fluid zone. In contrast, younger or new members are more likely to be influenced by any new elements within the fluid zone (Linton 1964). This continual process explains why cultures continually change and that at any one point some changes will have been completed, others will be under way and others beginning (Linton 1964). Therefore, cultural change is a continual process resulting from human interaction (Bate 1994).

At the core of the military nursing culture are the military taken-for-granted assumptions relating to stoicism that nurses first learn during their initial military training. As detailed above, senior and more experienced military nurses with considerable military experience have adopted the military Universals and Specialties and they are more reluctant to accept the new civilian Alternatives where patients can be less stoical. However, these nurses are experiencing increased contact with civilian nurses as well as with other military nurses who have already adopted the civilian Alternatives. These other military nurses are those new to the services and who have had little opportunity of assimilating military Specialties from their initial military training and have had greater contact with the civilian nursing Universals.

Many military Specialties, such as stoical pain attitudes, discipline, efficiency, organisations skills, and gender roles are being challenged within the NHS. In these environments, military nurses are exposed to civilian Specialties that are in direct conflict with the military Specialties. As military nurses are continually in close contact with their civilian nursing colleagues, the civilian Specialties become Alternatives that are eventually adopted (diffused) into the military nursing culture as they are seen to be more compatible with the existing culture (Linton 1964). However, although not discussed in any depth, nurses also stated that some of their military traits, such as time management, smartness and organisational skills (Specialties) are influencing civilian nurses, and it may be that these are becoming Alternatives that civilian nurses need to consider whether to accept or not. This requires further study.

Linton also discusses how serious disruption can occur when two societies are in the process of genuine fusion. In such cases, there is a period when individuals are exposed to two sets of values, each of which may be internally consistent but which at the same time are sharply opposed in certain of their elements (Linton 1964). This is the current situation within the military where the civilian Alternatives have created a major challenge to military nurses' working practices and a reduction in military ethos and thus, military nurses are still in the process of acculturation. This may explain the frequent contradictions revealed from the questionnaire survey (Table 6.4) and within the interviews.

As a further complication, military personnel are being deployed to many overseas locations in support of peacekeeping or humanitarian missions (McCorquodale 1997, Haysman and Lewis 1998). On such deployments, nurses predominantly work in military settings with other military personnel and this may reinforce their military taken-for-granted assumptions relating to pain. Thus, on their return, the military taken-for-granted assumptions may take more prominence and slow down the diffusion and acculturation process taking place within the UK. As previously stated, nurses' pain assessments on deployment and any effects of this on their return to the UK were outside the remit of this study but warrant further exploration.

This chapter has presented the military narrative described by military nurses relating to assessing pain in military patients. The discussion has highlighted the important influence of the military culture on nurses' attitudes to pain assessment but has also

demonstrated that these attitudes are not homogenous. However, as discussed in Chapter 8, military nurses are also influenced by the civilian nursing culture that they are being increasingly exposed to. Of particular importance is the acculturation process that military nurses are now experiencing and the above discussion of cultural change and adaptation provides the main explanation for the contradictory attitudes highlighted during both stages of this study into the influence of military culture on military nurses' post-operative pain assessment.

Section 9.6   Summary

This chapter has discussed the main influences of military culture on pain behaviour and pain assessment. The main aspects are summarised below:

- There is a military taken-for-granted assumption that personnel, particularly males will portray a roughie-toughie/macho image. This image is instilled during initial military training through discipline and the use of rank.

- Changing societal pain attitudes and a limited exposure to military culture has resulted in newer nurses being more likely to consider that patients do not believe that they have to be stoical when in pain. In addition, following changes in military secondary health care, military surgical/orthopaedic nurses are employed in NHS environments where pain attitudes mirror those of society.

- Although military nurses learn dominant stoical pain attitudes during initial military training and subsequently from their military colleagues in clinical practice, these attitudes conflict with civilian nursing attitudes. For newer nurses who trained within NHS hospitals this is less problematic as they consider there is little difference between civilian nurses and themselves, while more experienced nurses are reluctant to relinquish their military attitudes.

- Nurses stressed that they are nurses first and military personnel second. They do not believe that their military background influences how they assess post-operative pain. However, they remain in military uniform and retain their rank and still hold stoical expectations for some military patients.

- Military patients, who predominantly work within military settings, may be confused by NHS environments and the contradictory taken-for-granted assumptions and so may be reluctant to admit that they have pain.

- Although nurses try to maintain military ethos, the military taken-for-granted assumptions (Specialties) relating to pain and discipline are being challenged

and replaced with the conflicting but prevalent civilian nurses' attitudes to pain (Specialties). The civilian Specialties become Alternatives for military nurses and with continued contact with the civilian nursing culture, these Alternatives are slowly integrating (diffusing) into the military culture.

- The importance of context on pain assessment is acknowledged and requires further study.

This chapter has described the military taken-for-granted assumptions and common-sense knowledge military nurses use when assessing pain. Nurses consider that military patients put on a roughie-toughie/macho image as this is a dominant military taken-for-granted assumption instilled during initial military training. However, nurses do not consider that they hold these attitudes as they are nurses first and military personnel second, although this is contradicted elsewhere in the interviews.

A major reason for the contradictions shown in Table 6.4 and found in the interviews is the conflict between the civilian nursing and military taken-for-granted assumptions and common-sense knowledge relating to pain. This conflict has arisen as secondary health care for military personnel is now located within NHS hospitals where discipline is less evident and stoical pain attitudes are discouraged to reflect changing societal attitudes. In addition, military nurses are not a homogenous group and different attitudes are apparent among them. Newer military nurses, having trained and worked within the NHS, are more likely to hold attitudes that mirror those of civilian nurses. Although military pain attitudes are learnt during initial military training, on completion nurses invariably return to a NHS environment with its more relaxed discipline and stoical attitudes. In contrast, nurses with greater military experience have adopted the dominant military taken-for-granted assumptions, including stoical expectations. However, these senior nurses are increasingly being exposed to the conflicting attitudes within the NHS.

Following the continued contact between the civilian and military cultures, the military stoical attitudes are being challenged. This represents a cultural change and adaptation where attitudes to pain held within the civilian nursing culture are slowly replacing military attitudes. Thus, military taken-for-granted assumptions (Specialties) surrounding pain attitudes are being reduced and diluted as military surgical/orthopaedic nurses increasingly integrate with the NHS whose taken-for-granted assumptions

(Specialties) relating to many aspects, including discipline and pain attitudes, are more relaxed.

Nurses were generally unaware of the cultural change and adaptation that they are undergoing, particularly newer nurses who commented on the similarity to their previous status as civilian nurses. For more experienced military nurses, the main area of concern is the loss of military ethos in NHS environments. To reduce this, nurses highlighted military benefits such as enhanced organisational skills and their smart uniforms that distinguish them from their civilian colleagues. Another important aspect that emphasized their military background is the commonality found when caring for serving or retired military patients. Nurses described how their military background is used as a focal point of interest through which they can reminisce and talk about their military careers. As nurses share similar backgrounds, and thus taken-for-granted assumptions to these patients, they consider that they have a better insight and understanding of how these patients are likely to behave post-operatively.

Although nurses stressed that they treat all patients the same, the commonality described above results in nurses' attitudes differing between civilian and military patients. In addition, the use of rank sometimes creates a barrier between patients and nurses. Military patients, particularly males, are reluctant to report their pain to nurses, especially those who are senior in rank, as this is contrary to the dominant taken-for-granted assumption that they should present a macho image. Thus, the conflict between nurses adopting the two roles of a nurse and a military person, causes confusion for both patients and nurses and this is another explanation for the differences found in nurses' pain assessment attitudes.

Overall, although nurses dismissed any influence of their military background on how they assess post-operative pain, their military background does influence this assessment, particularly when dealing with military patients. However, due to changing working practices, military nurses are experiencing a cultural change where the dominant civilian attitudes are diffusing into the military culture and replacing the stoical military attitudes. However, this process is slow and as it continues, military nurses may continue to experience contradictory attitudes as highlighted in this study. This may also be altered by the frequent overseas deployments to areas of conflict where nurses' military taken-for-granted assumptions may be reinforced. This may slow

the diffusion and acculturation process further when these nurses return to their normal working environments within the UK.

CHAPTER 10.   CONCLUSIONS, LIMITATIONS AND IMPLICATIONS

Introduction

This final chapter presents the overall conclusions from this two-stage study into the influence of military culture on military nurses when assessing post-operative pain (Section 10.1). As the first study exploring this topic, it makes two distinctive contributions, firstly to the cultural knowledge of post-operative pain assessment by military nurses and, secondly to the use of two different methods; a quantitative survey using self-completed postal questionnaires for Stage 1, and qualitative, semi-structured interviews following ethnomethodological ethnographic principles for Stage 2. This latter method has had limited use in nursing (see Section 7.2.1), and neither method has been used previously to explore military nurses' attitudes to post-operative pain assessment.

While increasing the knowledge of cultural influences on nurses when assessing pain, the specific focus was on military nurses and post-operative pain. Section 10.2 discusses some limitations of the study, including the potential influence of the researcher, a senior military nurse, on the data collected. The final section, Section 10.3 discusses the study's implications, both in terms of its practical applicability and the need for further research, especially into military nurses' pain assessment attitudes and practices.

Chapter 1 presented the rationale for studying military nurses' post-operative pain assessment and described the continual problem of poor post-operative pain management. Chapter 2 detailed the reasons for this including the many factors influencing the pain experience that make pain assessment difficult. Sections 2.2.3 and 2.3.8 highlighted that cultural background was the overriding factor influencing pain attitudes and the paucity of literature on military nurses' pain assessments led to this two-stage study being undertaken. The aims of the first stage, involving a self-completed postal questionnaire survey, were:

1)   To identify whether military culture influenced military nurses when assessing post-operative pain.

2)   To compare civilian and military nurses' post-operative pain assessments.

The findings from Stage 1 informed the development of Stage 2 that used ethnomethodological ethnographic interviews to address the following aims:

1)   To provide explanations for the contradictions in military nurses' attitudes to post-operative pain and its assessment identified during Stage 1.

2)   To identify the taken-for-granted assumptions military nurses hold regarding post-operative pain assessment.

3)   To identify the common-sense knowledge military nurses use when assessing post-operative pain.

While Stages 1 and 2 have been presented in earlier chapters (Stage 1 – Chapters 5-6 and Stage 2 – Chapters 8-9), the overall conclusions reached from these in relation to the above aims are now discussed, including why the two stages should be considered as one integrated study (Section 10.1.3). As Chapter 5 stated, Stage 1's second aim of comparing civilian and military nurses' post-operative pain assessments was not addressed due to the poor response rate of civilian questionnaires. Poor response rates are congruent with the limitations of questionnaire surveys reported by other authors (see Section 4.1.1).

Section 10.1   Conclusions

The main conclusions relate to both post-operative pain assessment (Section 10.1.1) and the methodologies used (Section 10.1.2). The study was commenced with a prior assumption that military culture may influence military nurses when they assess post-operative pain. However, this proved to be more complex than originally thought and the study has provided a new insight into the complexity of pain assessment by military nurses who are influenced by many factors, particularly their cultural background. For clarity the conclusions are numbered in italics.

Section 10.1.1   Military nurses and post-operative pain assessment

1)   Military nurses' pain attitudes are influenced during their socialisation into both the civilian nursing and the military sub-cultures.

Table 6.4 and the interview analysis identified some contradictory attitudes to post-operative pain assessment. For example, the majority of nurses stated that patients are the best judges of their pain (Question 1, Appendices C and D and the cultural story of the civilian nursing narrative). However, 18.5% (37/201) of military nurses gave a

lower pain score (Question 1), 26.5% (53/201) considered patients over reported their pain (Question 5) and 17% (34/201) said patients would exaggerate their pain (Question 11). These contradictory attitudes were also seen during Stage 2 where military nurses accounted for these within the collective story of the civilian nursing narrative and in the military narrative, for example, due to their knowledge and previous experience. Stage 2 also revealed that these contradictory attitudes develop as military nurses are socialised into both the civilian nursing and the military sub-cultures; each of which has different attitudes to pain and its assessment (Aim One of Stage 2). This is an important discovery. While the focus was military cultural influences, the civilian nursing culture was also explored as this has a major effect on the attitudes military nurses hold about post-operative pain assessment. This influence occurs due to the increasing exposure of military nurses to the civilian nursing cultural attitudes during nurse training or subsequent clinical experience (discussed in Chapter 9).

2)   Military nurses use cultural and collective stories to justify their post-operative pain assessments, particularly when these are not congruent with patients' self reports.

The influence of the civilian nursing culture was revealed by military nurses in a civilian nursing narrative (Chapter 8). Within this narrative, military nurses described the normal way that they assess post-operative pain through a cultural story (Section 8.3). This reflects the culturally accepted taken-for-granted assumptions learnt during their socialisation into the nursing culture (Aim Two of Stage 2). However, a second story, the collective story, was also told where military nurses use their subjective common-sense knowledge to rationalise and justify (account for) occasions when their pain assessment contradicts the cultural story (Aim Three of Stage 2). This was described in Section 8.4.

A particularly interesting contradiction between the cultural and collective stories relates to the importance of believing patients' self-reports of pain, as advocated by McCaffery (1968) and stated by all military nurses (see Chapter 5 and Section 8.4.4). Whilst McCaffery's phrase, "Pain is whatever the patient says it is" (cultural story), is sufficient when nurses' and patients' pain assessments are congruent, military nurses use their common-sense knowledge to challenge situations when they consider that patients over or under rate their pain (collective story). However, as Section 8.4.4 also shows, McCaffery acknowledges the complexity of the pain experience and the additional quote provided in Section 8.4.4 is an example of how common-sense

knowledge is used to account for this complexity. Although military nurses were not aware of McCaffery's additional quote, they use their common-sense knowledge in a similar way. This parallel between military nurses' and McCaffery's attitudes exemplifies how American nursing pain attitudes have influenced British civilian and military nurses' attitudes towards pain assessment.

McCaffery has recently discussed how increased pain knowledge over the past thirty years has led to a greater recognition that many factors influence patients' pain experiences, for example cultural expectations of stoicism (McCaffery 1999). While emphasizing that patients should always be believed, McCaffery stresses the importance of exploring reasons why patients over or under rate their pain and of providing all the necessary information to enable them to make informed choices about their pain (McCaffery and Pasero 1999). This changing attitude shows that pain assessment is moving away from the acute pain model within the positivistic paradigm and its reliance on physiological changes, to a more holistic approach that acknowledges other important influences on pain experiences, such as cultural attitudes. This was first discussed in Section 2.3.8 and was supported in this study. It is also another example of a cultural change (see Section 9.5) within nursing.

3)   There are differing stoical attitudes held by the civilian nursing and the military sub-cultures. However, stoicism within the military is not a homogenous tendency, but varies according to the different roles undertaken by military personnel.

Military nurses also told another narrative, the military narrative, which relates to assessing pain in military patients (Chapter 9). A particularly relevant finding was the conflict between the civilian nursing and military cultures' taken-for-granted assumptions concerning stoicism. This is expected within the military, whereas expressing pain is more acceptable in the civilian nursing culture (Aim Two of Stage 2). However, military personnel are not a homogenous group in relation to the expression of stoicism and those in front line fighting units, such as Paratroopers and Royal Marines, are expected to show greater stoicism than those working away from the front line. This is an example of how military nurses use their common-sense knowledge to explain different pain reactions among military patients (Aim Three of Stage 2). It also highlights how the stereotypical view that military personnel are 'roughie-toughie' or macho fails to recognise the diversity among these personnel. As discussed by Chrisman and Johnson (1990), the potential for stereotyping patients according to

expected attitudes and behaviours may result in patients being inappropriately assessed. Military nurses also need to be aware of this.

4)   As a result of changes in military health care provision and societal attitudes to pain and discipline, military nurses are slowly being acculturated into the civilian nursing culture.

A major finding in relation to stoical attitudes was how these are being challenged as military nurses are increasingly integrated into the NHS following changes in UK military health provision. As a result, military nurses are experiencing a cultural change and adaptation as military nurses adopt the dominant civilian nursing attitudes to pain. However, this acculturation takes time (see Chapter 9) and may be slowed even further due to military nurses' frequent movements, especially their deployments overseas. While on deployment, nurses have a greater exposure to military taken-for-granted assumptions, such as stoicism and discipline, as these deployments generally involve working within a totally military environment. As a result, the military taken-for-granted assumptions are reinforced and this may reduce the diffusion of civilian nursing attitudes into the military nursing culture, albeit briefly, when nurses return to the UK. The cultural change and adaptation provides the main explanation for the contradictory attitudes highlighted in this study and provides an additional and important insight into the complexity of pain assessment by military nurses.

5)   Despite the influence of the civilian nursing culture, military nurses are still influenced by their military background, and military patients, with whom they share a common culture, are treated differently to civilian patients.

Another impact of the increased integration and influence of the civilian nursing culture is that many junior and newer military nurses, while acknowledging that culture influences their patients' pain attitudes, do not consider that their own military background affects how they assess pain. However, the military narrative (Chapter 9) revealed that many military nurses attempt to reinforce their military status through wearing military uniforms and using their military ranks. While this appears to have little influence on how they assess pain in civilian patients, there are noticeable differences with military patients, as a result of sharing a common military background.

Although caring for serving or ex-serving military patients is infrequent, when these occasions do arise military nurses adopt a military role, although this was subconscious. This was evident through addressing patients by rank and nurses using their own rank

and status to get patients to comply with their wishes, although nurses stressed that this was always for the patients' benefit. Nurses also stated that they have a greater rapport with military patients and so can communicate more effectively with them, thus enabling a more accurate pain assessment. Nurses are unaware that they treat military patients differently and this shows how sharing a similar cultural background influences the care that they provide, including how pain is assessed. Similar to the discussion on stereotyping military patients above, all nurses need to recognise this in clinical practice to ensure patients are treated equally.

6)   Not all military nurses share the same pain attitudes and these vary according to their level of military experience.

The military narrative also showed that military nurses are not a homogenous group and they have different stoical expectations according to their military experience. Newer and junior nurses are more likely to accept the pain attitudes held by civilian nurses as a result of a greater exposure to these during their nurse training and/or subsequent NHS experience. Although these nurses are exposed to military attitudes during initial military training, they have limited time and exposure in this environment to adopt such attitudes. In contrast, military nurses with considerable military experience are more resistant to the challenges to their military stoical attitudes from this changing clinical environment. These nurses have internalised the military attitudes over a longer period of time, but they, too are beginning to adopt the civilian pain attitudes as they increasingly work in civilian environments.

The increasing adoption of the civilian nursing pain attitudes by military nurses demonstrates the strong influence of the civilian nursing culture on those personnel working within it, including military nurses. This acculturation of military nurses into the civilian nursing culture is occurring despite the military hierarchy recognising the impact of changing societal attitudes, including those surrounding pain and the changing clinical environments. Consequently, all military personnel have been issued with booklets detailing the importance of military ethos (see Section 1.3.1), and they are encouraged to undertake a variety of team activities, such as sport or adventurous training to help foster and maintain this ethos.

Section 10.1.2   Methodology

7)   Despite adapting the questionnaire used in Stage 1, the reliability and validity of the questions was congruent with other studies using the same questions. However, additional and valuable data were obtained by including space for comments and removing the behavioural changes from the patient scenario (Question 1).

During Stage 1, two types of data analysis were employed, descriptive statistics, as suggested by the original authors of the questionnaire (Ferrell and McCaffery 1998a), and logistic regression. Even though the questionnaire was adapted to make it more appropriate to British civilian and military nurses, the findings support those reported elsewhere by authors using the same questions, thus providing further evidence of these questions' reliability and validity (see Section 6.2). An additional adaptation involved the inclusion of space for comments and while logistical regression failed to show any statistically significant associations between military culture and military nurses' post-operative pain assessments (Aim One of Stage 1), the space for comments provided additional valuable data, that is, contradictory attitudes, which may not have been obtained otherwise (see Section 5.4.2).

8)   An existing theoretical framework, ethnomethodological ethnography, was used to explore the influence of military culture on military nurses' post-operative pain assessment. This provided new facts about a complex subject that had not previously been explored. This included a pictorial representation of the complexity of this process through the development of algorithms.

The conclusions presented in Section 10.1 were made following analysis of the data collected from both Stages, although the data from Stage 2 was especially rich and insightful. Stage 2 used an existing theoretical approach, ethnomethodological ethnography, but in a new way by exploring a specific problem; military cultural influences on military nurses when assessing post-operative pain. Ethnomethodological ethnography was particularly appropriate as it helped to identify new facts relating to military nurses' assessments of post-operative pain. These were the cultural and collective stories military nurses related regarding the normal taken-for-granted assumptions and the subjective common-sense knowledge used when these taken-for-granted assumptions are challenged. In addition, this methodology highlighted the military taken-for-granted assumptions and common-sense knowledge surrounding pain and its assessment and how these conflict with the civilian attitudes. These new facts provide further support for choosing to use ethnomethodological ethnography to explore the influence of military culture on military nurses when assessing post-operative pain.

This study has also shown how the conflicting attitudes between military and civilian taken-for-granted assumptions are attributable to the complexity of pain experiences. Although previous studies have discussed this complexity (see Chapter 2), it is believed that the pictorial representations, that is, the algorithms shown in Figures 8.1, 8.2, 8.3, 9.1 and 9.2, are especially useful. These algorithms show the various factors, including culture, that influence military nurses when assessing pain. They present a new and clearer way of viewing the complexity of pain assessment. While recognising that the algorithms require further refinement, it is acknowledged that their development directly resulted from using ethnomethodological ethnographic interviews, thus providing additional confirmation of this methodology's value.

This study has also demonstrated the value of combining two different paradigms, that is, positivism and interpretivism (see Section 3.1), to address different aspects of the same phenomena; cultural influences on post-operative pain assessment. In addition, adopting two methods is a form of triangulation that provided unique and diverse views about the same phenomenon (Redfern and Norman 1994) and enhanced the credibility of the research as it revealed a fuller and richer picture of the population under study (Begley 1996), that is, military nurses and their assessment of post-operative pain.

The above section has presented the main conclusions from this two-stage study. While many relate to Stage 2, the importance of Stage 1 cannot be ignored. Despite the limitations of Stage 1 (detailed in Section 10.2), it was the valuable data obtained from this stage that directly led to the development of Stage 2 and the conclusions presented above. Therefore, the merits of Stage 1 should not be underestimated. The links between these two stages are now discussed.

Section 10.1.3   Links between Stages 1 and 2

For clarity, this thesis has presented the study as two distinct stages, although they are part of one chronological study, with Stage 2 directly evolving from Stage 1. The findings from both stages show some similarities, for example, Stage 1 (Section 6.2) identified that many military nurses' answers to individual questions reflected civilian nurses' attitudes, while Stage 2 (Chapter 8) discussed the cultural and collective stories within the civilian nursing narrative identified during Stage 2 interviews. This helps to explain the contradictions identified during Stage 1 as first presented in Table 6.4.

While military nurses may have responded to some questions in the Stage 1 questionnaire survey according to the normative cultural story, their answers and comments also provided data that supported the collective story. For example, while nurses stated that patients were the best judges of their pain (Question 9) (a cultural story), some nurses also underscored the patient's pain (Question 1). This may have occurred as military nurses use their common-sense knowledge gained from their previous experience, including military experience, knowledge of expected pain behaviours and associated clinical signs, to reach their own decisions relating to the patients' pain levels (collective story) (also see discussion on McCaffery in Section 8.4.4). Thus, Stage 2 provided explanations for the contradictions highlighted in Stage 1 in relation to the influence of military culture on military nurses' pain assessment attitudes.

Statistical analysis of Stage 1 questionnaires failed to identify any significant relationship between different nurse factors and their post-operative pain assessment. While this may be partially explained by the choice of statistical test used, logistic regression (described in Section 6.3), it is also possible that as no service affiliation or rank were assigned to the fictitious patients in the vignette (Question 1), nurses assumed that the patient was a civilian and responded accordingly. This may have occurred as military nurses mainly care for civilian patients.

Similarly, military nurses' descriptions of assessing pain in the civilian narrative during Stage 2 (Chapter 8) also related to civilian patients and although military nurses discussed expected stoical behaviours during interviews, this was mainly associated with military patients. Therefore, if military nurses' responses were related to civilian patients this may explain why no differences were found in how they assessed the male or female patient in the vignette used in the Stage 1 questionnaire. Furthermore, many similarities were apparent between military nurses' answers to questions relating to a fictitious patient (questionnaire survey) and their discussions relating to actual patients (ethnomethodological ethnographic interviews), thus adding further validity and reliability to the vignette, questionnaire and the interview data.

While the questionnaire survey (Stage 1) allowed a broad investigation of military cultural influences on military nurses' post-operative pain assessment, the interviews (Stage 2) allowed a more in-depth exploration, particularly when assessing pain in military patients as identified in the military narrative. This latter aspect was not

explored during Stage 1, although when constructing the questionnaire consideration was given to including different ranks and service affiliations to the fictitious patients to explore any military cultural effects. This was rejected as including all rank variables would have necessitated 14 versions of the patient vignette contained within the questionnaire (see Table 10.1). These would then have only been distributed to military nurses, as civilian nurses may have had limited knowledge of the various ranks. As well as making direct comparison with civilian questionnaires more difficult, 14 variations would have increased the number of groups to which returned questionnaires were assigned with a corresponding reduction in the number of responses that could be allocated to each group. This may have affected the reliability of any statistical analysis. Therefore, military cultural influences were explored in depth during Stage 2 interviews.

Table 10.1 Potential patient variations within the military questionnaires	
1	RN Male Officer
2	RN Female Officer
3	RN Male NCO
4	RN Female NCO
5	Army Male Officer
6	Army Female Officer
7	Army Male NCO
8	Army Female NCO
9	RAF Male Officer
10	RAF Female Officer
11	RAF Male NCO
12	RAF Female NCO
13	Male Civilian
14	Female Civilian

This section has explained why this two-stage study should be considered as one study as it explored different aspects of the same topic, that is, military cultural influences on post-operative pain assessment. While the findings are important, there are some limitations and these are now presented.

Section 10.2   Limitations

The limitations relate to the type of pain studied, the questionnaire survey, the samples, and the data collection and analysis. Particularly important was the influence of the researcher during the research process. These limitations are now presented.

Section 10.2.1   Type of pain studied

Post-operative pain was studied as it has an easily distinguishable physical cause (a surgical incision) and the pain normally resolves once healing has occurred (McCaffery and Beebe 1989). However, without further research, it cannot be assumed that military nurses' attitudes to post-operative pain assessment are similar for other types of pain, such as chronic, cancer or medical pain. Nurses' attitudes to these types of pain are important, but as military nurses' operational roles demand acute care skills and experience, post-operative pain was considered especially relevant for this first study into military nurses' pain assessment.

Section 10.2.2   Questionnaire survey

It is acknowledged that the questionnaire survey of Stage 1 (Appendices C and D) contained many attitude questions, although descriptive statistics only showed the number of nurses holding particular attitudes. While this is important, it may have distracted from the focus of the influence of cultural factors on these attitudes. In addition, as the questionnaire was adapted for use with British civilian and military nurses, this altered the data collected and made direct comparison with other studies using Ferrell and McCaffery's NKAS questionnaire difficult. However, adapting the questionnaire, particularly the patient vignette in Question 1 (Appendices C and D), where details of the patient's age and behavioural changes were omitted (see Question 36, Appendix E), provided the contradictory attitudes that led to the exploration of military nurses' taken-for-granted assumptions and common-sense knowledge during Stage 2. Thus, this change provided valuable data that may not have been obtained otherwise and once again highlights how nurses utilise behavioural signs when interpreting patients' pain, as discussed in Sections 2.3.4, 6.3.2, 8.3.1.2 and 8.4.1.2.

Only 65% of military nurses responded to the questionnaire and these may represent a biased sample. It is not known why the remaining 35% did not respond but this may have resulted from a lack of information or if they were over confident of their pain assessment skills. Greater emphasis on the factors shown in Table 6.1 may have

increased the response rates, particularly if additional information had been sent to units before the study commenced and with the questionnaire distribution.

This study also highlighted the difficulties of motivating nurses to complete questionnaires, particularly as the researcher was unknown to the civilian nurses. A postal questionnaire, while suitable for military nurses located around the world, may have been less so for the civilian nurses situated in one city. Approaching these nurses personally and providing additional information, whilst also emphasising the importance of their participation, may have increased response rates and enabled a comparative analysis. However, this may also have created inequality between the two groups as face-to-face contact could have provided civilian nurses with more information and the opportunity to ask additional questions about the study.

Another potential problem with questionnaires is that respondents may complete them according to what they consider are the researcher's expectations (Black 1999). This may also explain some of the contradictions found. In addition, while the data collected through self-completed questionnaires and semi-structured interviews provides a valuable insight into cultural attitudes to pain assessment, it is recognised that these expressed attitudes may be different to actual behaviour (Silverman 2000a). Observing actual pain assessment practices may have revealed how military nurses assess post-operative pain in practice. However, this was not adopted as observing clinical practice may have changed nurses' pain assessments if they were aware of the researcher's presence, that is, the potential Hawthorne effect (see Haralambos and Holborn 1991), particularly as the researcher is a senior military nurse who was not employed clinically. This potential observer effect was another reason why data were collected through questionnaires and interviews.

A further limitation of the questionnaire is that it contained a Numerical Rating Scale on which nurses rated the patient's pain. It is acknowledged that such scales only measure one aspect of the pain experience, that is, its intensity, thus limiting the information gained. However, nurses were familiar with NRS's as these were the standard pain assessment tools used in their clinical environments (see Section 4.4.2). Using a NRS was also appropriate when compared to other tools that reflect the multidimensional nature of pain (discussed in Section 4.4.2) as nurses rarely use such tools (McGuire 1984).

Section 10.2.3   Setting and Samples

The findings presented in this thesis relate to post-operative pain assessment in military nurses' normal clinical environments within NHS hospitals in the UK. Nurses may hold different attitudes in other contexts, for example, on board ship or aircraft or in field hospitals, particularly when deployed in times of conflict. The importance of context on pain assessment warrants further exploration.

Table 10.2 shows that there were similarities in the military samples used in each stage of the study, for example, NCO's outnumbered Officers and there were more female than male nurses. This mirrors the proportions of nurses within the military nursing services where 53% (n=506/961) are NCO's and 47% (n=455/961) are Officers, and 70% (n=670/961) are female and 30% (n=291/961) are male (see Table 4.4). However, a major difference not shown in Table 10.2 are the nurses' working environments. The nurses' normal working environments could not be identified from returned Stage 1 questionnaires, but the proportion of surgical nurses at each unit is shown in Table 10.2.

Table 10.2	Comparison of military samples used in this study			
	Stage 1 – Questionnaire Survey (n=201)		Stage 2 – Ethnomethodological Ethnographic interviews (n=29)	
SERVICE	%	Number	%	Number
RN	26	52	38	11
Army	44	88	38	11
RAF	30	60	24	7
RANK				
Officer	41	83	24	7
NCO	58	117	76	22
GENDER				
Male	30.5	61	38	11
Female	69.5	139	62	18
WORKING ENVIRONMENT				
Tri-Service Hospital	40	124 (n=309)	41	12
MDHU's	38	120 (n=309)	48	14
RCDM			10	3
Others (overseas)	21	65 (n=309)		

During Stage 2, nurses were selected for interview using purposive, convenience and snowball sampling, that is, non-random sampling techniques that are not as robust as random sampling (Parahoo 1997). These techniques were used to ensure nurses met the

required criteria (working in surgical/orthopaedic wards). In addition, Section 7.7 discussed that although units were sent information about the study, senior nurses had selected nurses for interview without giving them complete details of the study. Each nurse was then contacted individually, the study fully explained and time was given to assimilate this information so that potential interviewees could make an informed decision. However, it is recognised that nurses may have felt pressurised into participating due to the researcher's military rank. However, frequent reassurances were provided that participation was voluntary, confidentiality and anonymity were constantly emphasised, and the researcher did not wear uniform. It is believed that the rank influence was reduced as much as possible and that all nurses freely consented to be interviewed.

A similar percentage of nurses from the Tri Service hospital were involved in both stages. However, during Stage 2 no overseas nurses were interviewed, 10% of nurses worked in the RCDM and more nurses from MDHU's were included. This not only reflects the different sampling methods used for both stages (see Sections 4.3, 7.3 and 7.7) but as Chapter 1 stated, the RCDM only opened after completion of Stage 1. In addition, following the outbreak of hostilities in Iraq many nurses were deployed overseas. For accessibility reasons, only nurses remaining in the UK were used for Stage 2 interviews, as they were easily available (convenience sampling) or recommended by colleagues (snowball sampling). This may have reduced the representativeness of these nurses, although as detailed in Sections 6.1 and 8.1, nurses are moved every two to three years, and this is not always to other surgical environments. Thus, the Stage 2 sample was considered to represent all military nurses.

Section 10.2.4 Data collection and analysis

Chapter 6 discussed that the responses to each question in Stage 1 were dichotomised as either expected or unexpected, thus reducing the available data for analysis. As stated in Section 6.3, this may have been avoided if Likert scales had been used to measure the strength of nurses' pain assessment attitudes. Although the focus was not military nurses' pain attitudes per se, Likert scales would have generated ordinal data that could have been analysed using more powerful statistical tests. Thus, the strength of nurses' attitudes could have been analysed in relation to the different nurse factors and this may have produced more meaningful results. However, as Chapter 6 explained, no other studies utilising the NKAS have analysed the questions this way and Ferrell and

McCaffery advocate using descriptive statistics (Ferrell and McCaffery 1998a) and these were used for this study.

Logistic regression was used to predict the likelihood of different nurse factors influencing the pain score given, that is, the answer to Question 1. Further valuable data may have been obtained if analysis had been extended to include all questions, not just Question 1. This may also have identified the contradictions found in the responses given to some questions (Table 6.4). Logistic regression was chosen following advice from several medical statisticians, but it is accepted that as the study was exploring cultural attitudes to pain assessment, social statistical rather than medical statistical advice may have been more appropriate. As stated in Chapter 6, logistic regression has been used predominantly in medical and epidemiological studies to predict how much more likely (or unlikely) it is for an outcome to be present, especially in relation to the risk of a disease occurring following exposure to a certain factor (Crichton 2001).

Another limitation to the data analysis is that cultures consist of multiple voices, which continually change (Alvesson and Sköldberg 2000). Therefore, the nurses' attitudes relate to their attitudes at a given point, that is, when they completed the questionnaire and during the interviews. This was particularly relevant as major changes occurred between the two stages, that is, the establishment of the RCDM and the overseas deployment of many nurses (see Section 1.3.1). In addition, as Chapter 9 discussed, military nursing is undergoing a cultural change as military nurses increasingly work in the NHS.

Section 10.2.5   Reflexivity

The final limitation relates to the principle of reflexivity, although the interpretation differs to how it is applied within ethnomethodology (see Chapter 7). As introduced in Section 7.2, reflexivity in this section refers to the need for researchers to be aware of their role and relationship with their study's participants as the two affect each other mutually and continually in the research process (Alvesson and Sköldberg 2000). Researchers need to recognise that they are an integral part of the world that they study (Ersser 1996) and being reflexive alerts them to the part that they play in what they study and describe (Gubrium and Holstein 1997). Therefore, researchers need to reveal the values, interests and influences associated with their own subjective experience (Hammersley and Atkinson 1995) and stay aware of how these affect the research

(Whyte 1982, Porter 2000). The following section describes this and is taken from the researcher's study diary. For clarity it is presented in the first person.

Throughout the study, I was continually aware that being both the researcher and a senior military nurse would influence the data I collected and how it was analysed. I commenced the study with an interest in the topic of cultural influences on post-operative pain assessment and had some pre-formed assumptions that the military culture would influence military nurses' pain assessments (Chapter 2). Although I tried to remain neutral, while listening to interview audiotapes it was apparent that on occasions I became excited when nurses expressed some expected attitudes, for example, "I must try and remain anthropologically strange, but it is difficult when ---- (Interviewee 3) provided a lot of data that I was expecting and reflected my own attitudes". There were also times when I glossed over topics, particularly if I considered them unimportant. Although reflecting on this was unsettling, similar reactions have been reported elsewhere (see Carolan 2003) and reveals how emotions are a vital part of the researcher's motivation and choice of orientation (Alvesson and Sköldberg 2000). This was evident in my reflections, such as: "I was completely dismissive when ---- (Interviewee 6) discussed her experience of caring for chronic pain patients. I wonder how that came across to her? It was obviously an important issue for her, which I should have acknowledged".

Taking a reflexive stance acknowledges that researchers are shaped by their experiences of the particular time and moment of the world in which they live (Pontin 2000). It has been stated that although the researcher's presence can change the settings being studied, it can also provide additional data on people's reactions (Hammersley and Atkinson 1995). This was apparent during interviews when I asked nurses to describe how they would explain pain assessment to a new staff member or student nurse and I adopted this role. While this attempted to treat the interview as anthropologically strange (Dingwall 1981) this did not always occur. Nurses' explanations often included many assumptions about my level of knowledge, for example, terminology and abbreviations were used that junior or student nurses might not have known.

When I adopted the student nurse role, this was more readily accepted by nurses who did not know me, while those who knew me found it harder to accept. I also had difficulties at times as my military rank and position frequently led to attempts to take

control of the interviews and lead the interview in a certain direction. Several notes within the diary alluded to how I had led the interview in a certain direction, particularly if information was not so forthcoming, especially from the very junior nurses (Interviewees 5, 7, 10, 11, 18, 23 and 27). Similar responses have been reported elsewhere amongst nurses holding positions of authority and expertise, who find it difficult to adopt a neutral position (Carolan 2003, Hand 2003). However, there were advantages to sharing the same culture as the members. For example, having a knowledge of the technical language encouraged the members to talk in their own terms (Burgess 1982) and reduced the likelihood of misunderstandings, while also increasing trust between the researcher and the members (Miller and Glassner 1997).

Reflexivity is important so that the researcher remains conscious of their role within the study and the part that they play in generating data (Mason 2002). Acknowledging the researcher's own taken-for-granted assumptions and considering how they impact on the study is an important method for achieving rigour in qualitative research (Hand 2003). While recognising that studying one's own culture can cause tension as the researcher holds similar attitudes to those being studied (Pellatt 2003), reflexivity enables these to be made explicit.

This section has highlighted the study's limitations. While acknowledging these, the following section offers some implications of the study in relation to military nursing practice and the need for further research into military cultural influences on military nurses' post-operative pain assessment.

Section 10.3   Implications

The implications for military nurses when assessing post-operative pain are presented below. It is important that nurses are aware of the many factors that influence their attitudes to post-operative pain assessment to ensure that they accurately assess this pain. For clarity, these implications are presented under separate headings relating to practice, education and research, and reflect the implications of the knowledge gained of post-operative pain assessment and the methodology utilised.

Section 10.3.1   Practice

1)   Military nurses need to be aware that their changing working environment influences their attitudes to post-operative pain assessment.

As military nurses are increasingly working within NHS environments it is important that they are aware of the influence of this changing context and how this challenges their military attitudes. They need to recognise that different taken-for-granted assumptions exist between the civilian and military cultures, especially relating to stoicism, and these may conflict. However, it is also important that there is a greater recognition that military personnel, both nurses and patients, are not homogenous groups and will have different taken-for-granted assumptions and expectations.

While nurses need to acknowledge that the roughie-toughie/macho image may be more prevalent within certain groups, for example, front line soldiers, they also need to realise that as nurses they will also have different attitudes that reflect their different upbringings and military experience, which may result in a greater reliance on subjective judgements when assessing post-operative pain.

Section 10.3.2   Education

2)   Educational programmes should be implemented to raise awareness of the complexity of post-operative pain assessment, including cultural influences on nurses' attitudes to this assessment.

The practice implications above could be addressed through improved education. Many studies have described how education can improve nurses' pain knowledge and attitudes (see Dalton et al 1996, Francke et al 1996, 1997, McCaffery and Ferrell 1997b, Harmer and Davies 1998, Edwards et al 2001, de Rond et al 2001). However, although education can change knowledge, changing behaviour is more complex as it is influenced by many factors, such as training, personality, social norms and expectations, and these also need to be addressed (Pasero et al 1999a).

Institutional barriers, too, such as a lack of availability and familiarity with analgesia delivery systems, for example PCA's and PCEA's, lack of appropriate analgesia, cost implications and fear of side effects, have been reported as preventing better pain management despite increased education (Rose et al 1997). This requires further exploration within the military nursing culture and one way of improving pain management may be by adopting a continuous improvement framework as utilised by Carr (2002). Such a framework involves practitioners identifying and addressing an area

for improvement and this direct involvement motivates nurses to improve their practice, such as pain management (Carr 2002).

For military nurses, an educational programme could highlight and utilise the findings from this study. This includes differences between the civilian nursing and military cultures taken-for-granted assumptions and how these influence attitudes to post-operative pain assessment. In addition, such a programme could emphasise the complexity of pain experiences, the influence of changing societal attitudes to pain and discipline and the importance of treating patients individually, particularly military patients who should not be seen as a homogenous group. An educational programme would allow military nurses to reflect on their practice and increase their awareness of the different mechanisms used to assess post-operative pain to ensure that this is accurate and appropriate. Finally, an educational programme that adopts a continuous improvement framework (Carr 2002) could identify topics for further research.

Section 10.3.3   Research
3)   Further research is necessary to identify if military nurses' attitudes vary according to the context or type of pain being assessed.

While an educational programme can raise military nurses' awareness of the complexity of post-operative pain assessment, it is also important to explore pain assessment in other contexts as well as other types of pain. Therefore, further studies should be undertaken to identify if and how, military nurses' pain assessments differ in contexts other than within military wards in NHS hospitals, for example, Primary Health Care. In particular, this should also include pain assessment on deployments where patients are assessed in totally military environments, such as on board ships, aircraft or in field hospitals, where facilities are less than optimal, such as temperature changes, and where nurses are subject to continued hostilities and dangers. In addition, further research is necessary into different types of pain, such as chronic or cancer pain.

The questionnaire survey adopted for Stage 1 could be used to identify military nurses' attitudes to post-operative pain assessment in different contexts, although the problems of non-response (see Sections 4.1.1, 4.4.1, 4.7.3, 6.1 and Tables 4.2 and 6.1) and the limitations of the questionnaire (see Section 10.2.2 above) are acknowledged. In addition, there may be a lower response rate from deployed nurses due to the sporadic and unpredictable postal services to many deployed locations. One method that may

reduce this could be by using telephone surveys as these have been effective for collecting data from respondents across a wide geographical spread (Barriball et al 1996). In addition, telephone interviews can collect rich data as they offer anonymity for those being interviewed so that they can talk in an open and honest way (Carr 1999). The interviewer also has less influence on the interview (Smith 2005), although military protocol would necessitate any military researcher identifying themselves by their rank and this could create a barrier. Prior notification as with any research study could help alleviate this. The main disadvantage of collecting data via telephone is that achieving contact with respondents can be difficult (Barriball et al 1996) and this could be especially so on deployment where many different telephone networks are used.

While the adapted questionnaire would be unsuitable to study other types of pain, the original NKAS questionnaire could be used and this would also allow a more meaningful comparison with other studies using the questionnaire. However, as Chapters 4-6 revealed, the questionnaire was adapted from Ferrell and McCaffery's (1995a) NKAS. Further research using this questionnaire is necessary to confirm its reliability and validity. This should include a comparison with civilian nurses' attitudes to pain assessment to identify any specific differences, particularly as military nurses are increasingly working with civilian nurses and appear to be adopting the civilian attitudes to pain assessment. In addition the questionnaire may need to be adapted to meet the needs of UK nurses and an abridged version, as used by Couling (2005) may be more appropriate.

4)   Adapting the questionnaire for Stage 1 provided valuable data that would not have been identified otherwise.

While the authors of the original NKAS recommended using descriptive statistics to analyse the results, an important adaptation to the questionnaire used in this study was the inclusion of space for comments. These comments provided qualitative data for additional analysis that revealed valuable information highlighting the contradictions in military nurses' attitudes to post-operative pain assessment (see Table 6.4). Including space for comments allowed nurses to explain their answers and this led to the development of Stage 2. Thus, including space for comments in any future questionnaires seeking military nurses' attitudes may provide explanations for any conflicting responses found, particularly when studying complex and previously unexplored subjects, such as pain assessment.

*5)	The civilian nursing narrative told by military nurses may also apply to civilian nurses.*

While the focus was military nurses, as previously discussed they are influenced by the civilian nursing culture. Therefore, the cultural and collective stories within the civilian nursing narrative may also apply to civilian nurses in their clinical environments, although further research with civilian nurses is necessary to confirm this. Raising awareness of the potential conflict between the cultural and collective stories and the taken-for-granted assumptions and common-sense knowledge surrounding post-operative pain assessment can only help to ensure patients' pain is assessed and managed appropriately.

*6)	Ethnomethodological ethnography is an effective method for identifying nurses' attitudes.*

Ethnomethodological ethnographic interviews have been an effective method for exploring cultural influences on military nurses' attitudes to post-operative pain assessment. This methodology has had little utilisation within nursing and would be suitable for exploring both military and civilian nurses' taken-for-granted assumptions and common-sense knowledge surrounding other nursing decision making activities. Such studies would increase knowledge and understanding to ensure nurses can offer effective and evidence-based care.

*7)	Cultural and collective stories provided a valuable insight into the highly complex activity of post-operative pain assessment.*

This is the first time that the analysis of cultural and collective stories has been used when exploring nurses' post-operative pain assessment attitudes. Cultural and collective stories provided an alternative and informative insight into how military nurses' rationalise their decisions in the highly complex activity of post-operative pain assessment. Particularly interesting was that military nurses used these stories to justify (account for) any contradictions to McCaffery's well-known phrase that pain is what patients say it is (McCaffery 1968). Further studies are required to identify if civilian nurses tell similar stories when describing how they assess post-operative pain.

8)   Military nurses' expressed attitudes during interviews may not correspond to their actual clinical practice.

The findings from this study relate to military nurses' expressed pain assessment attitudes. While this provided valuable information, it may only represent what military nurses consider is expected and not how they would behave in practice. To validate this, further research is necessary of military nurses' actual pain assessment practices to identify and explore any differences between this and their attitudes. In addition, the collected data, particularly during Stage 2, related to military nurses' own attitudes and those that they considered were generally held within the military, although the latter may not reflect military personnel's actual pain attitudes. This warrants further research, which could also identify different pain terminologies (typifications) used by military personnel, thus providing nurses with a greater understanding of military pain attitudes to ensure that their patients' pain is assessed appropriately.

Overall, this study has contributed to the knowledge surrounding military nurses' assessment of post-operative pain, which has not been studied before. As a two-stage study, Stage 2 provided explanations for the contradictions highlighted in Stage 1 (Table 6.3). In addition, the study has provided a greater understanding of the unique nature of military nursing and how military culture does influence military nurses' post-operative pain assessment, despite military nurses' denials to the contrary.

The study has also shown that military nurses are not a homogenous group and the military nursing sub-culture is experiencing a cultural shift due to increasing integration with the NHS and its different cultural attitudes, including those surrounding pain. As a result, the military taken-for-granted assumption of stoicism is being challenged and replaced by different taken-for-granted assumptions within the civilian nursing culture.

This was the first study to explore the influence of military culture on military nurses when assessing post-operative pain and resulted from the paucity of literature relating to British military nurses and their pain assessment attitudes (see Chapter 2). This highlights the need to develop a specific body of knowledge relating to British military nursing and this has recently been recognised (Harper 2005). It is believed that this study makes a valuable contribution to this specific body of knowledge, particularly relating to military nurses' post-operative pain assessment.

APPENDICES

APPENDIX A.   ETHICAL APPROVAL – LOCAL RESEARCH ETHICS COMMITTEE FOR CIVILIAN NURSES

Southampton University Hospitals NHS Trust	Southampton & S.W. Hants Joint Research Ethics Committee

Trust Management Offices
Mailpoint 18
Southampton General Hospital
Tremona Road
Southampton SO16 6YD

Tel 01703 794912
Fax 01703 798678

Ref: CPW/DBL

11th November 1999

Mr P Harper
Royal Defence Medical College
Fort Blockhouse
Gosport
PO12 2AB

Dear Mr Harper

Submission No:296/99 - Does the milieu of nursing impact upon the nurses' role in acute pain assessment.

Following the conditional approval and in response to your letter dated 5th November 1999, I am pleased to confirm **full approval** having received the amended questionnaire for the above study.

This approval was granted under Chairman's action by Ms Clair Wilkinson and will be brought to the attention of the Committee at their meeting on 24th November 1999.

This committee is fully compliant with the International Committee on Harmonisation/Good Clinical Practice (ICH) Guidelines for the Conduct of Trials involving the participation of human subjects as they relate to the responsibilities, composition, function, operations and records of an independent Ethics Committee/Independent Review Board. To this end it undertakes to adhere as far as is consistent with its Constitution, to the relevant clauses of the ICH Harmonised Tripartite Guideline for Good Clinical Practice, adopted by the Commission of the European Union on 17 January 1997.

Yours sincerely,

Clair Wilkinson (Ms)
Research Ethics Administrator

Royal Defence Medical College

Horton Block, Fort Blockhouse
Gosport PO12 2AB

Telephone:	Mil: 9380 65644
	Civ: 02392 765644
Facsimile:	Mil: 9380 65643
	Civ: 02392 765643

Squadron Leader P Harper	Our Reference:
Health Studies Division	646/1
Royal Defence Medical College	
	4 November 1999

DMSCRC PROTOCOL - DOES THE MILIEU OF MILITARY NURSING IMPACT UPON THE NURSE'S ROLE IN ACUTE PAIN ASSESSMENT

1.   The above protocol has ethical approval from the DMSCRC.

2.   The unique project number is **012**. It would be appreciated if you would submit reports to the RDMC during the study and also confirm the start and end date.

3.   Should you require any assistance do not hesitate to contact this office.

S GRAY
WO1
Secretary DMSCRC
for DPMD

APPENDIX C. PAIN MANAGEMENT QUESTIONNAIRE (MILITARY NURSES)

Commissioned RGN or Non-Commissioned RGN	Ethics Submission No. 012
	Date:

PAIN MANAGEMENT QUESTIONNAIRE

1.   Squadron Leader P J Harper is undertaking a study into nurses' attitudes to post-operative pain assessment. The analysis and dissemination of the results of the study will help to ensure that patients' pain is managed appropriately while in hospital.

2.   To assist with this study, it would be gratefully appreciated if you could complete the following questionnaire and return it to Sqn Ldr Harper in the enclosed envelope as soon as possible.

3.   Please note that all information received will be kept in the strictest confidence and will only be used for the purpose of this study.

4.   There are no right or wrong answers to the questions and completion of the questionnaire should take no more than a few minutes. Please do not discuss the questionnaire with your colleagues, some of whom will also be receiving a copy of this questionnaire.

5.   Please note it is NOT mandatory to participate in this study.

6.   Your assistance with this study is greatly appreciated.

P J HARPER
Sqn Ldr
Senior Lecturer

PAIN MANAGEMENT QUESTIONNAIRE

The first part of this questionnaire asks you to make your own decisions regarding a patient's pain. You are then asked to answer the accompanying questions.

You may add comments on your answers in the spaces provided if you wish or at the end of the questionnaire.

This is Andrew[1] Simpson's first day following abdominal surgery. Your assessment of his vital signs yield the following information: BP = 120/80, HR = 80, R = 18. On a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort), Andrew rates his pain as 8.

1.   On Andrew's chart you must mark his pain using the scale below. Circle the number that <u>YOU THINK</u> represents Andrew's pain:

0	1	2	3	4	5	6	7	8	9	10

No pain/
discomfort

Worst pain/
discomfort

True(T)/False(F)/Unsure(U) – Circle the appropriate answer.

2.   T   F   U   Andrew should be encouraged to endure as much pain as possible before resorting to a pain relief measure.

3.   T   F   U   Comparable stimuli in different people produce the same intensity of pain.

4.   T   F   U   Based on Andrew's cultural beliefs he may think pain and suffering is necessary.

5.   T   F   U   Andrew is likely to over report the level of pain he is experiencing.

6.   T   F   U   If Andrew can be distracted from his pain it means that he does NOT have as high an intensity of pain as he indicates.

7.   T   F   U   Observable signs in Andrew's vital signs or behavioural expressions of pain will be present if he is in severe pain.

---

[1] Half the questionnaires had a male patient, Andrew, and half the questionnaires a female patient, Andrea.

Multiple Choice Questions – Please circle the ONE answer you think is correct.

8.   The <u>most likely</u> explanation why Andrew might request increased doses of pain medication is

      a.   he is experiencing increased pain
      b.   he is experiencing increased anxiety
      c.   he is requesting more staff attention
      d.   other (please specify below)

Reasons for your answer: _____

_____

_____

_____

_____

9.   The most accurate judge of the intensity of Andrew's pain is

      a.   the anaesthetist
      b.   you, as Andrew's primary nurse
      c.   Andrew
      d.   Andrew's spouse or family

Reasons for your answer: _____

_____

_____

_____

_____

10.   Do you think Andrew will report his pain willingly?

      a.   yes
      b.   no

Reasons for your answer: _____

_____

_____

_____

_____

11. **Do you think Andrew is likely to exaggerate his pain?**

      a.   yes
      b.   no

Reasons for your answer: _____

_____
_____
_____
_____

General information about you.

Please circle as appropriate

Sex: M / F

Years qualified: 0 – 4   5 – 10   > 10

Service: RAF/Army/Navy

Commissioned/Non-Commissioned

Additional comments (if any)

Once again many thanks for completing this questionnaire.

Sqn Ldr Harper

APPENDIX D. PAIN MANAGEMENT QUESTIONNAIRE (CIVILIAN NURSES)

PAIN MANAGEMENT QUESTIONNAIRE

My name is Phil Harper and I am a Senior Nurse Lecturer in the Royal Air Force. I am undertaking a study into nurses' attitudes to post-operative pain assessment. The analysis and dissemination of the results of the study will help to ensure that patients' pain is managed appropriately while in hospital.

To assist with this study, I would be grateful if you could complete the following questionnaire and return it to me in the enclosed envelope as soon as possible.

Please note that all information received will be kept in the strictest confidence and will only be used by the researcher for the purpose of this study.

There are no right or wrong answers to the questions and completion of the questionnaire should take no more than a few minutes. Please do not discuss the questionnaire with your colleagues, some of whom will also be receiving a copy of the questionnaire.

Please note it is **NOT** mandatory to participate in this study.

Your assistance with this study is greatly appreciated.

P J Harper
Senior Lecturer

PAIN MANAGEMENT QUESTIONNAIRE

The first part of this questionnaire asks you to make your own decisions regarding a patient's pain. You are then asked to answer the accompanying questions.

You may add comments on your answers in the spaces provided if you wish or at the end of the questionnaire.

This is Andrew[1] Simpson's first day following abdominal surgery. Your assessment of his vital signs yield the following information: BP = 120/80, HR = 80, R = 18. On a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort), Andrew rates his pain as 8.

1.   On Andrew's chart you must mark his pain using the scale below. Circle the number that <u>YOU THINK</u> represents Andrew's pain:

0	1	2	3	4	5	6	7	8	9	10

No pain/   Worst pain/
discomfort   discomfort

True(T)/False(F)/Unsure(U) – Circle the appropriate answer.

2.   T   F   U   Andrew should be encouraged to endure as much pain as possible before resorting to a pain relief measure.

3.   T   F   U   Comparable stimuli in different people produce the same intensity of pain.

4.   T   F   U   Based on Andrew's cultural beliefs he may think pain and suffering is necessary.

5.   T   F   U   Andrew is likely to over report the level of pain he is experiencing.

6.   T   F   U   If Andrew can be distracted from his pain it means that he does NOT have as high an intensity of pain as he indicates.

7.   T   F   U   Observable signs in Andrew's vital signs or behavioural expressions of pain will be present if he is in severe pain.

---

[1] Half the questionnaires had a male patient, Andrew, and half the questionnaires a female patient, Andrea.

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8.   The <u>most likely</u> explanation why Andrew might request increased doses of pain medication is

   a.   he is experiencing increased pain
   b.   he is experiencing increased anxiety
   c.   he is requesting more staff attention
   d.   other (please specify below)

Reasons for your answer: _____

_____

_____

_____

_____

9.   The most accurate judge of the intensity of Andrew's pain is

   a.   the anaesthetist
   b.   you, as Andrew's primary nurse
   c.   Andrew
   d.   Andrew's spouse or family

Reasons for your answer: _____

_____

_____

_____

_____

10.   Do you think Andrew will report his pain willingly?

   a.   yes
   b.   no

Reasons for your answer: _____

_____

_____

_____

_____

11. Do you think Andrew is likely to exaggerate his pain?

    a.   yes
    b.   no

Reasons for your answer: _____

_____

_____

_____

_____

General information about you.

Pease circle as appropriate

Sex: M / F

Years qualified: 0 – 4   5 – 10   > 10

Grade: ....

Additional comments (if any)

Once again many thanks for completing this questionnaire.

Phil Harper
Senior Lecturer

N.B. Questions in bold type were adapted for the current study.

True/False – Circle the correct answer.

T   F   1.   **Observable changes in vital signs must be relied upon to verify a patient's statement that he has severe pain.**

T   F   2.   Because of an underdeveloped neurological system, children under 2 years of age have decreased pain sensitivity and limited memory of painful experiences.

T   F   3.   **If the patient can be distracted from his pain this usually means that he does NOT have high pain intensity.**

T   F   4.   Patients may sleep in spite of severe pain.

T   F   5.   **Comparable stimuli in different people produce the same intensity of pain.**

T   F   6.   Aspirin and other non-steroidal anti-inflammatory agents are NOT effective analgesics for bone pain caused by metastases.

T   F   7.   Non-drug interventions (e.g., heat, music, imagery, etc.) are very effective for mild-moderate pain control but are rarely helpful for more severe pain.

T   F   8.   Respiratory depression rarely occurs in patients who have been receiving opioids over a period of months.

T   F   9.   Aspirin 650 mg PO is approximately equal in analgesic effect to Meperidine (Demerol) 50 mg PO.

T   F   10.   The World Health Organisation (WHO) pain ladder suggests using simple analgesic agents rather than combining classes of drug (e.g. combining an opioid with a non-steroidal agent).

T   F   11.   The usual duration of action of Meperidine (Demerol) IM is 4 - 5 hours.

T   F   12.   Research shows that Promethazine (Phenergan) is a reliable potentiator of opioid analgesics.

T   F   13.   Patients with a history of substance abuse should not be given opioids for pain because they are at high risk for repeated addiction.

T   F   14.   Beyond a certain dosage of morphine increases in dosage will NOT increase pain relief.

| T | F | 15. | Elderly patients cannot tolerate opioids for pain relief. |

| T | F | 16. | **The patient with pain should be encouraged to endure as much pain as possible before resorting to a pain relief measure.** |

| T | F | 17. | Children less than 11 years cannot report pain with reliability and therefore, the nurse should rely on the parents' assessment of the child's pain intensity. |

| T | F | 18. | **Based on one's religious beliefs a patient may think that pain and suffering is necessary.** |

| T | F | 19. | After the initial recommended dose of opioid analgesic, subsequent doses are adjusted in accordance with the individual patient's response. |

| T | F | 20. | The patient should be advised to use non-drug techniques alone rather than concurrently with pain medications. |

| T | F | 21. | Giving patients sterile water by injection (placebo) is often a useful test determine if the pain is real. |

| T | F | 22. | In order to be effective, heat and cold should only be applied to the painful area. |

Multiple Choice – Place a check by the correct answer.

23. The recommended route of administration of opioid analgesics to patients with prolonged cancer-related pain is

_____ a. intravenous
_____ b. intramuscular
_____ c. subcutaneous
_____ d. oral
_____ e. rectal
_____ f. I don't know

24. The recommended route of administration of opioid analgesics to patients with brief, <u>severe pain of sudden onset,</u> e.g. trauma or postoperative pain, is

_____ a. intravenous
_____ b. intramuscular
_____ c. subcutaneous
_____ d. oral
_____ e. rectal
_____ f. I don't know

25. Which of the following analgesic medications is considered the drug of choice for the treatment of prolonged moderate to severe pain for cancer patients?

_____ a. Brompton's cocktail
_____ b. codeine
_____ c. morphine
_____ d. meperidine (Demerol)
_____ e. methadone
_____ f. I don't know

26. Which of the following IV doses of morphine administered over a 4 hour period would be equivalent to 30 mg of oral morphine give q4 hours

_____ a. Morphine 5 mg IV
_____ b. Morphine 10 mg IV
_____ c. Morphine 30 mg IV
_____ d. Morphine 60 mg IV

27. Analgesics for pain should initially be given

_____ a. around the clock on a fixed schedule
_____ b. only when the patient asks for the medication
_____ c. only when the nurse determines that the patient has moderate or greater discomfort

28. A patient with chronic cancer pain has been receiving daily opioid analgesics For 2 months. The doses increased during this time period. Yesterday the patient was receiving morphine 200 mg/hour intravenously. Today he has been receiving 250 mg/hour intravenously for 3 hours. The likelihood of the patient developing clinically significant respiratory depression is

_____ a. less than 1%
_____ b. 1 – 10%
_____ c. 11 – 20%
_____ d. 21 – 40%
_____ e. > 40%

29. Analgesia for chronic cancer pain should be given

_____ a. around the clock on a fixed schedule
_____ b. only when the patient asks for the medication
_____ c. only when the nurse determines that the patient has moderate or greater discomfort

30. **The most likely explanation for why a patient with pain would request increased doses of pain medication is**

_____ **a.** **The patient is experiencing increased pain**
_____ **b.** **The patient is experiencing increased anxiety or depression**
_____ **c.** **The patient is requesting more staff attention.**
_____ **d.** **The patient's requests are related to addiction**

31. Which of the following drugs are useful for treatment of cancer pain?

_____ a. Ibuprophen (Motrin)
_____ b. Hydromorphine (Dilaudid)
_____ c. Amitriptyline (Elavil)
_____ d. All of the above

32. The most accurate judge of the intensity of the patient's pain is

_____ **a. the treating physician**
_____ **b. the patient's primary nurse**
_____ **c. the patient**
_____ **d. the pharmacist**
_____ **e. the patient's spouse or family**

33. Which of the following best describes the best approach for cultural considerations in caring for patients in pain:

_____ a. Because of the diverse and mixed cultures in the United States, there are no longer cultural influences on the pain experience.

_____ b. Nurses should use knowledge that has defined clearly the influence of pain on culture (e.g. Asian patients are usually stoic, Italians are expressive and exaggerate their pain, etc)

_____ c. Patients should be individually assessed to determine cultural influences on pain.

34. What do you think is the percentage of patients who <u>over report</u> the amount of pain they have? Circle the correct answer.

0   10   20   30   40   50   60   70   80   90   100%

35. <u>Narcotic opioid addiction</u> is defined as the psychological dependence accompanied by overwhelming concern with obtaining and using narcotics for psychic effect, not for medical reasons. It may occur with or without the physiological changes of tolerance to analgesia and physical dependence (withdrawal).

Using this definition, how likely is it that opioid addiction will occur as a result it treating pain with opioid analgesics? Circle the number closest to what you consider the correct answer.

< 1%   5%   25%   50%   75%   100%

Case Studies

Two patient case studies are presented. For each patient you are asked to make decisions about pain and medication.

Directions: Please select one answer for each question.

36.   **<u>Patient A:</u> Andrew is 25 years old and this is his first day following abdominal surgery. As you enter his room, he smiles at you and continues talking and joking with his visitor. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8.**

           A.   **On the patient's record you must mark his pain on the scale Below. Circle the number that represents your assessment of Andrew's pain.**

        0   **1**   **2**   **3**   **4**   **5**   **6**   **7**   **8**   **9**   **10**

No pain/discomfort   **Worst pain/discomfort**

           B.   Your assessment, above, is made two hours after he received morphine 2 mg IV. Half hourly pain ratings following the injection ranged from 6 to 8 and he had no clinically significant respiratory depression, sedation, or other untoward side effects. He has identified 2 as an acceptable level of pain relief. His physician's order for analgesia is "morphine IV 1-3 mg q1h PRN pain relief". Check the action you will take at this time:

               ____1) Administer no morphine at this time.
               ____2) Administer morphine 1 mg IV now.
               ____3) Administer morphine 2 mg IV now.
               ____4) Administer morphine 3 mg IV now.

37.   Patient B: Robert is 25 years old and this is his first day following abdominal surgery. As you enter his room, he is lying quietly in bed and grimaces as he turns in bed. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8.

A   On the patient's record you must mark his pain on the scale Below. Circle the number that represents your assessment of Robert's pain.

0   1   2   3   4   5   6   7   8   9   10

No pain/discomfort   Worst
                                                              pain/discomfort

B.   Your assessment, above, is made two hours after he received morphine 2 mg IV. Half hourly pain ratings following the injection ranged from 6 to 8 and he had no clinically significant respiratory depression, sedation, or other untoward side effects. He has identified 2 as an acceptable level of pain relief. His physician's order for analgesia is "morphine IV 1-3 mg q1h PRN pain relief". Check the action you will take at this time:

___1) Administer no morphine at this time.
___2) Administer morphine 1 mg IV now.
_3_) Administer morphine 2 mg IV now.
___4) Administer morphine 3 mg IV now.

APPENDIX F.   PILOT STUDY QUESTIONNAIRE – MILITARY NURSES

Pilot Study	Submission No. 012
	Date:

PAIN MANAGEMENT QUESTIONNAIRE

1.   Squadron Leader P J Harper is undertaking a study into nurses' attitudes to post-operative pain assessment. The analysis and dissemination of the results of the study will help to ensure that patients' post-operative pain is managed appropriately while in hospital.

2.   To assist with this study, it would be gratefully appreciated if you could complete the following questionnaire and return it to Sqn Ldr Harper in the enclosed envelope as soon as possible.

3.   Please note that all information received will be kept in the strictest confidence and will only be used for the purpose of this study.

4.   There are no right or wrong answers to the questions and completion of the questionnaire should take no more than a few minutes. Please do not discuss the questionnaire with your colleagues, some of who will also be receiving a copy of this questionnaire.

5.   Please note it is NOT mandatory to participate in this study.

6.   Your assistance with this study is greatly appreciated.

P J HARPER
Sqn Ldr
Senior Lecturer

PAIN MANAGEMENT QUESTIONNAIRE

General information about you.

Circle as appropriate

Sex: M / F   Years qualified: 0 – 4   5 – 10   > 10

Service: RAF/Army/Navy   Commissioned/Non-Commissioned

The first part of this questionnaire asks you to make your own decision regarding a patient's pain. You are then asked to answer the accompanying questions. You may add comments on your responses in the spaces provided if you wish or at the end of the questionnaire.

This is Andrew[1] Simpson's first day following abdominal surgery. Your assessment of his vital signs yield the following information: BP = 120/80, HR = 80, R = 18. On a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort), Andrew rates his pain as 8.

1.   On Andrew's chart you must mark his pain using the scale below. Circle the number that <u>YOU THINK</u> represents Andrew's pain:

0   1   2   3   4   5   6   7   8   9   10

No pain/   Worst pain/
discomfort   discomfort

True(T)/False(F)/Unsure(U) – Circle the appropriate response.

2.   T   F   U   Andrew should be encouraged to endure as much pain as possible before resorting to a pain relief measure.

3.   T   F   U   Comparable stimuli in different people produce the same intensity of pain.

4.   T   F   U   Based on Andrew's cultural beliefs he may think pain and suffering is necessary.

5.   T   F   U   Andrew is likely to over report the level of pain he is experiencing.

6.   T   F   U   If Andrew can be distracted from his pain it means that he does NOT have as high an intensity of pain as he indicates.

7.   T   F   U   Observable signs in Andrew's vital signs or behavioural expressions of pain will be present if he is in severe pain.

---

[1] Half the questionnaires had a male patient. Andrew. and half the questionnaires a female patient. Andrea.

Multiple Choice Questions – Please circle the answer you think is correct.

8. The <u>most likely</u> explanation why Andrew might request increased doses of pain medication is

    a. he is experiencing increased pain
    b. he is experiencing increased anxiety
    c. he is requesting more staff attention
    d. other (please specify below)

Reasons for your answer: _____

_____
_____
_____
_____

9. The most accurate judge of the intensity of Andrew's pain is

    a. the anaesthetist
    b. you, as Andrew's primary nurse
    c. Andrew
    d. Andrew's spouse or family

Reasons for your answer: _____

_____
_____
_____
_____

10. Do you think Andrew will report his pain willingly?

    a. yes
    b. no

Reasons for your answer: _____

_____
_____
_____
_____

11. **Do you think Andrew is likely to exaggerate his pain?**

    a.   yes
    b.   no

Reasons for your answer: _____

_____

_____

_____

_____

Additional comments (if any)

Once again many thanks for completing this questionnaire.

APPENDIX G.   PILOT STUDY QUESTIONNAIRE – CIVILIAN NURSES

PAIN MANAGEMENT QUESTIONNAIRE

My name is Phil Harper and I am a Senior Nurse Lecturer in the Royal Air Force. I am undertaking a study into nurses' attitudes to post-operative pain assessment. The analysis and dissemination of the results of the study will help to ensure that patients' post-operative pain is managed appropriately while in hospital.

To assist with this study, I would be grateful if you could complete the following questionnaire and return it to me in the enclosed envelope as soon as possible.

Please note that all information received will be kept in the strictest confidence and will only be used by the researcher for the purpose of this study.

There are no right or wrong answers to the questions and completion of the questionnaire should take no more than a few minutes. Please do not discuss the questionnaire with your colleagues, some of who will also be receiving a copy.

Please note it is NOT mandatory to participate in this study.

Your assistance with this study is greatly appreciated.

P J Harper
Senior Lecturer

PAIN MANAGEMENT QUESTIONNAIRE

General information about you.

Circle as appropriate

Sex: M / F   Years qualified: 0 – 4   5 – 10   > 10

Grade: ……………………………………

The first part of this questionnaire asks you to make your own decision regarding a patient's pain. You are then asked to answer the accompanying questions. You may add comments on your responses in the spaces provided if you wish or at the end of the questionnaire.

This is Andrew[1] Simpson's first day following abdominal surgery. Your assessment of his vital signs yield the following information: BP = 120/80, HR = 80, R = 18. On a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort), Andrew rates his pain as 8.

1.   On Andrew's chart you must mark his pain using the scale below. Circle the number that YOU THINK represents Andrew's pain:

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

No pain/   Worst pain/
discomfort   discomfort

True(T)/False(F)/Unsure(U) – Circle the appropriate response.

2.   T   F   U   Andrew should be encouraged to endure as much pain as possible before resorting to a pain relief measure.

3.   T   F   U   Comparable stimuli in different people produce the same intensity of pain.

4.   T   F   U   Based on Andrew's cultural beliefs he may think pain and suffering is necessary.

5.   T   F   U   Andrew is likely to over report the level of pain he is experiencing.

6.   T   F   U   If Andrew can be distracted from his pain it means that he does NOT have as high an intensity of pain as he indicates.

7.   T   F   U   Observable signs in Andrew's vital signs or behavioural expressions of pain will be present if he is in severe pain.

---

[1] Half the questionnaires distributed were identical except the patient's gender was changed to female and called Andrea.

253

Multiple Choice Questions – Please circle the answer you think is correct.

8.   The <u>most likely</u> explanation why Andrew might request increased doses of pain medication is

        a.   he is experiencing increased pain
        b.   he is experiencing increased anxiety
        c.   he is requesting more staff attention
        d.   other (please specify below)

Reasons for your answer: _____

_____

_____

_____

_____

9.   The most accurate judge of the intensity of Andrew's pain is

        a.   the anaesthetist
        b.   you, as Andrew's primary nurse
        c.   Andrew
        d.   Andrew's spouse or family

Reasons for your answer: _____

_____

_____

_____

_____

10.   Do you think Andrew will report his pain willingly?

        a.   yes
        b.   no

Reasons for your answer: _____

_____

_____

_____

_____

11. **Do you think Andrew is likely to exaggerate his pain?**

     a.   yes
     b.   no

Reasons for your answer: _____

_____

_____

_____

_____

Additional comments (if any)

Once again many thanks for completing this questionnaire.

APPENDIX H.   EVALUATION FORM FOR PILOT STUDY

Thank you for completing the enclosed pain questionnaire. To ensure the questionnaire is accurate and unbiased and meets the need intended I would be very grateful if you could complete the following questions and return to me as soon as possible in the enclosed envelope.

1.   How long did it take you to complete the questionnaire?

        ....

2.   Were the instructions at the top of the questionnaire clear?   Yes/No

3.   Were any questions unclear or ambiguous? If so, which ones and why?

        ....

        ....

        ....

4.   Did you object to answering any questions?   Yes/No

      If you answered Yes, which question and why.

      Question Number ....

        ....

        ....

        ....

5.   Was the layout of the questionnaire clear?   Yes/No

      If not, why not and how could it have been improved?

        ....

        ....

        ....

6.   Any other comments you wish to make about the questionnaire?

        ....

        ....

        ....

APPENDIX I. REQUEST TO ACCESS MILITARY NURSES – STAGE 1

Headed Paper	
Senior Military Nurse	RDMC Reference: 150/1
Address	
	Date:

ACUTE PAIN MANAGEMENT RESEARCH.

1.   Sqn Ldr P Harper PMRAFNS is proposing to undertake some research into post-operative pain management. Permission is requested to approach military registered nurses working in a surgical/orthopaedic environment for inclusion in the study.

2.   The research will take the form of self-completed, anonymous questionnaires for all military registered nurses employed in a surgical setting in all military environments. It is also planned to undertake some interviews at a later stage. The research has been approved by the Defence Medical Services Clinical Research Committee, Project No. 012.

2.   If permission is granted to approach military registered nurses it is proposed to send out the questionnaires direct to the wards/clinical settings where military nurses are employed. Distributing questionnaires direct to the wards will minimise disruption to the clinical environments. There will be no compulsion to complete the questionnaire but acceptance to participate in the research will be assumed if respondents return completed questionnaires. Questionnaires will be anonymous and all details will be kept confidential and used for the purpose of the research only.

3.   If further details or clarification is required please contact the undersigned on the above number.

4.   Your assistance with this matter is greatly appreciated.

P J HARPER
Sqn Ldr

APPENDIX J.   REQUEST TO ACCESS CIVILIAN NURSES – STAGE 1

<div align="center">Headed Paper</div>

Assistant Director of Nursing
Address

<div align="right">Date:</div>

Dear ………….,

RE: MPhil/PhD STUDIES AT UNIVERSITY OF SOUTHAMPTON.

I am a nurse tutor currently employed by the Royal Air Force and I have just commenced the above studies. For my research I am proposing to send out postal questionnaires on pain management to at least 250 nurses working within a surgical environment and carry out some interviews later. I have already contacted the Surgical and Orthopaedic Directorate Managers who have agreed in principle to me sending questionnaires to surgical nurses within their directorates.

If you are happy for me to contact your nurses, I will obtain ethics approval from the hospital and the university and I then plan to send out questionnaires later in the year. I would also be grateful if you could advise me if I am required to obtain permission from anyone else.

I enclose a copy of the questionnaire for your information.

My supervisor is ………… who can be contacted at ……………., should you require any further information.

Yours sincerely,

P J HARPER (Mr)

(1)	/Base data
(1 1)	/Base data/Gender
(1 1 1)	/Base data/Gender/FEMALE
(1 1 2)	/Base data/Gender/MALE
(1 2)	/Base data/Branch
(1 2 1)	/Base data/Branch/RAF
(1 2 2)	/Base data/Branch/ARMY
(1 2 3)	/Base data/Branch/NAVY
(1 3)	/Base data/Rank
(1 3 1)	/Base data/Rank/NCO
(1 3 2)	/Base data/Rank/OFFICER
(1 4)	/Base data/Time In Services
(1 4 1)	/Base data/Time In Services/1-5
(1 4 2)	/Base data/Time In Services/5-10
(1 4 3)	/Base data/Time In Services/10+
(1 5)	/Base data/Qualified Yrs
(1 5 1)	/Base data/QualifiedYrs/-1
(1 5 2)	/Base data/QualifiedYrs/1-5
(1 5 3)	/Base data/QualifiedYrs/5-10
(1 5 4)	/Base data/QualifiedYrs/10+
(1 6)	/Base data/Workplace
(1 6 1)	/Base data/Workplace/P
(1 6 2)	/Base data/Workplace/D
(1 6 3)	/Base data/Workplace/H
(1 6 4)	/Base data/Workplace/B
(2)	/Assessing
(2 1)	/Assessing/Normal
(2 1 1)	/Assessing/Normal/Usual assessing
(2 1 2)	/Assessing/Normal/Analysis
(2 2)	/Assessing/Asking
(2 3)	/Assessing/Pain score
(2 4)	/Assessing/Observations
(2 4 1)	/Assessing/Observations/Non-verbal
(2 5)	/Assessing/Believe what patients say
(2 5 1)	/Assessing/Believe what patients say/Not believing
(2 6)	/Assessing/Colleagues assessing
(2 6 1)	/Assessing/Colleagues assessing/Agreeing with patient
(2 6 2)	/Assessing/Colleagues assessing/Disagreeing with patient
(2 7)	/Assessing/Not agreeing with patient
(2 7 1)	/Assessing/Not agreeing with patient/Patient more pain than saying
(2 7 2)	/Assessing/Not agreeing with patient/Patient less pain than saying
(2 8)	/Assessing/Differences Mil and Civilian
(2 8 1)	/Assessing/Differences Mil and Civilian/No differences
(2 8 2)	/Assessing/Differences Mil and Civilian/Differences
(2 9)	/Assessing/Military training
(2 9 1)	/Assessing/Military training/No influence
(2 9 2)	/Assessing/Military training/Influence
(2 10)	/Assessing/Colleagues treating patients
(2 10 1)	/Assessing/Colleagues treating patients/Mil treat mil differently
(2 10 2)	/Assessing/Colleagues treating patients/Mil not treat mil differently
(2 11)	/Assessing/Cultural differences
(2 11 1)	/Assessing/Cultural differences/Military culture
(2 11 1 1)	/Assessing/Cultural differences/Military culture/Roughie-toughie
(2 11 2)	/Assessing/Cultural differences/Other cultures
(2 12)	/Assessing/Rank differences

(2 12 1)	/Assessing/Rank differences/No influence
(2 12 2)	/Assessing/Rank differences/Influence
(2 13)	/Assessing/Military environments
(2 14)	/Assessing/Gender
(2 15)	/Assessing/Age
(2 16)	/Assessing/Difficult
(2 17)	/Assessing/Nursing experience
(2 18)	/Assessing/Conscious level
(2 19)	/Assessing/What pain score mean
(2 20)	/Assessing/Pain is individual
(3)	/McCaffery
(4)	/Stoic
(5)	/Nurses busy
(6)	/Opioids

APPENDIX L.   REQUEST TO ACCESS MILITARY NURSES – STAGE 2.

Headed Paper	
Senior Military Nurse	Ethics Submission No. 012
	Date:

Dear ....,

RESEARCH PROJECT – PAIN ASSESSMENT – SQN LDR P HARPER

The above research project was commenced in 1999 as part of a PhD study through the University of Southampton. The first part consisted of the distribution of questionnaires to nurses working in an acute surgical and orthopaedic clinical environment throughout the Defence Medical Services, including to nurses at your unit.

Following analysis of these questionnaires I now wish to continue with the study by exploring in more depth how nurses assess patients in acute post-operative pain. Permission is requested to approach qualified registered nurses working in surgical and orthopaedic clinical environments at your unit for inclusion in the study. Participation would be entirely voluntary and the interviews should last no more than one and a half hours. I propose to interview ten personnel and, ideally would include commissioned and non-commissioned personnel. Confidentiality will be assured by giving each interviewee a number rather than referring to them by name.

The research project has the approval of the Defence Medical Services Clinical Research Committee (DMSCRC) (Project 012, reference DMTO 150/1 dated .....). As I only intend to interview nurses working in a military environment I trust the approval from the DMSCRC is acceptable but I welcome advice on this.

If permission is granted for this request I propose to carry out the interviews during the week commencing .... (Dates), commencing on the Monday and completing Friday midday. I intend to carry out interviews during the day but could also interview nurses in the evening if this was more convenient.

I look forward to hearing what I hope will be a favourable response to this request.

Thank you in anticipation of your assistance.

Yours sincerely,

P J HARPER
Sqn Ldr
PMRAFNS

APPENDIX M.   INFORMATION LETTER FOR INTERVIEWEES

From: Squadron Leader P J Harper MSc BA (Hons) RNT PMRAFNS

Telephone Number ......   Address
e-mail address ....

                                                               Date

Dear Colleague

POST-OPERATIVE PAIN ASSESSMENT RESEARCH STUDY – SQN LDR HARPER

1.   I am currently undertaking the above research study as part of my PhD with the University of Southampton. I am will be visiting your unit in the near future and I am looking for volunteers (commissioned and non-commissioned RGN's) to interview on a one-to-one basis for this study. I anticipate the interview should last no longer than one hour and I can be flexible about dates and times to meet at your convenience.

2.   I will not be testing your pain assessment knowledge and there will be no right or wrong answers! I am only interested in your own experiences and opinions of post-operative pain assessment. In that respect, if you are willing to be interviewed, it would be useful to discuss some patients who you particularly remember, either because their post-operative pain assessment was straightforward or difficult. If you could keep a brief diary for a few days prior to the interview of your experiences with post-operative pain assessment this would be extremely helpful for use during the interview.

3.   I would prefer to audio tape the interviews so that I can concentrate fully on our discussion rather than writing copious notes. I can assure you that these tapes will be kept for my use only and I will change the names of people and places to protect confidentiality and anonymity.

4.   If you are willing to be interviewed please inform your ward manager who has a table with the dates and times I am available so you can select a date and time suitable for you. However, as stated above I can be flexible outside the times stated.

5.   I appreciate how busy units are, particularly at this time, and I will be very grateful to any personnel who are willing and able to be interviewed. If you have any questions please do not hesitate to contact me as detailed above.

6.   Thank you for your assistance

Yours aye,

Phil Harper

APPENDIX N.   INTERVIEW CONSENT FORM

__Pain Assessment Study.__

A research study being undertaken to fulfil the requirements of PhD with the University of Southampton.

Researcher
Sqn Ldr P J Harper MSc BA (Hons) RNT PMRAFNS

Project Outline
Following an initial study where nurses completed a pain assessment questionnaire, I now wish to explore nurses' experiences of post-operative pain assessment in more detail.

The interview should take no longer than one hour. Please note that there are no right or wrong answers and it is your experiences of post-operative pain assessment that I am interested in. Interviews will be tape recorded and transcribed verbatim into written format afterwards. At a later date, those being interviewed will be asked to read the transcribed interviews, make amendments and additions if necessary to verify that it is a true record of the interview. The tapes and transcripts will not be shared with any other personnel. Those being interviewed may be contacted again if further clarification on any issues raised during interviews is required. The final report will be available to all on completion of the research. Some direct quotes may be included in the research; however, anonymity and confidentiality will be maintained.

This is to certify that I, ...
hereby agree to participate as a volunteer in the above research study.

I have been given the opportunity to ask questions and answers to these questions have been given to my satisfaction.

I understand that I do not need to take part in this study and that I am free to withdraw at any time without having to give a reason and without prejudice.

I understand that I will not be identified in the reporting of this research study.

I hereby agree to be interviewed and for the interview to be audio taped. I understand that eventually the interview tapes will be erased and transcripts shredded. I understand that some aspects of my interview may be published, but my name will not be associated with the research.

Signature of interviewee: ....

Signature of researcher: ....

Date: ....   Research interview number: ....

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