Obstetrical Nurses’ Intentions Toward Collaborating With Midwives

by

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A thesis submitted in conformity with the requirements for the degree of Master of Science
Graduate Department of Nursing
University of Toronto

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Obstetrical Nurses' Intentions Toward Collaborating With Midwives

For the degree of MSc, 1999
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Abstract

Little is known about the collaborative relationships between obstetrical nurses and midwives in Ontario. The Theory of Planned Behaviour (Ajzen, 1985; 1988; 1991) was used to explore obstetrical nurses' intentions toward collaborating with midwives.

Data were collected by mailed questionnaires in three Labour and Delivery Units which provided low-risk care. Responding nurses (N=45; response rate = 45%) were typically 30-39 years old (35.5%), diploma educated (62.2%), and had 6-10 years of obstetrical nursing experience (28.8%).

Intention scores were mostly positive (M = 61.5; s.d. = 30.3). Behavioural attitude and perceived behavioural control, were related to intention scores (r = .67, p<.001; r = .65, p<.001). However subjective norm scores were unrelated to intention (r = .42, ns).
Behavioural attitude scores accounted for a significant amount of the variance in intention scores ($F (1,25) = 23.91, p<.001$); however, subjective norm scores did not contribute ($p=.22, ns$). Perceived behavioural control scores were not included in regression analysis due to high correlation with behavioural attitude scores.

The results indicate that these nurses had positive intentions to collaborate with midwives. These intentions are largely mediated by behavioural attitude. This, in turn, implies that intention to behave collaboratively could be supported by: 1) demonstrating the positive outcomes of collaboration; 2) fostering the change process; and 3) increasing interprofessional interaction. Implications for theory and further research are also described.
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CHAPTER I

Background

The profession of midwifery attained full legal status in Ontario when the Regulated Health Professions Act was proclaimed law on December 31, 1993. Midwifery care is now available in Ontario and covered by the Ontario Health Insurance Plan (OHIP). Midwifery services include primary care during the antenatal period, labour, birth, postpartum period, as well as primary care for the newborn infant (Bowles, 1993; Schlatter, 1991). Midwifery services have and will continue to change the health care system, offering women an alternative to the dominant medical model.

As a new profession entering the health care system, midwifery has been subject to a mix of reactions from other professions, and it will be useful to examine the new developing relationships between professions (Chalmers, Enkin, & Keirse, 1989; Fagin, 1992; Vanwyck, 1992). The focus of this study is on the relationship between nurses and midwives.

Until very recently, obstetrical nurses in Ontario provided all the professional labour support and monitoring of low risk labouring women and their families in the hospital setting. Now midwives' role includes that of primary caregiver to child-bearing women and their infants, professional labour support, and birth attendant to their
clients within the home or hospital. Midwives now have appointments as hospital staff, admitting privileges, and the ability to write orders. Midwives are performing roles in the hospital setting that were previously done only by obstetrical nurses. These changes may be perceived as very threatening to obstetrical nurses (Blais, Maheux, & Lambert, 1992; Vanwyck, 1992).

The roles for midwives and nurses are based on the legal scope of practice set out in the Regulated Health Professions Act (RHPA). The midwives' scope of practice is further elaborated upon by discussions between the College of Nurses and the College of Midwives (Bowles, 1993) and policies outlined in individual hospitals. Obstetrical nurses will be required to work with midwives in specified situations (e.g. caesarean sections, epidural analgesia care, low risk midwifery clients that become high risk, and emergency situations). This new role for obstetrical nurses has been met with a mix of reactions (Kaufman & Renfrew Houston, 1988; Vanwyck, 1992).

Hazle (1985) noted that midwives may create hierarchical relationships with nurses since their role is much like that of physicians, placing the nurse in a subordinate position. Such role changes have been a source of conflict (Hazle, 1985) and have been a barrier to collaboration (Sheer, 1996). Conflict between professions
may lead to duplication of effort, hostility, and energy-depleting discord, and thus poses potential risks to patients (Fagin, 1992).

Health care professions are urged to take a collaborative approach in working with this new regulated health profession as the boundaries of responsibility are redrawn (Lieba, 1993; Rafuse, 1993), instead of protecting their own "turf" and viewing midwifery as a potential threat (Michelson, 1988). Collaboration is a very large concept which implies a process of working together toward shared goals. Individuals in a collaborative relationship have similar philosophies and have an understanding of their own and their partner's professional and individual skills, knowledge, and characteristics (Aradine & Pridham, 1973).

Characteristics of interprofessional collaboration include shared goals, trust, mutual respect, good communication, understanding, joint decision making, joint investment in the clinical process, and joint commitment to high-quality patient outcomes, shared responsibility, and accountability (Aradine & Pridham, 1973; Bushnell & Dean, 1993; Gregson, Cartlidge & Bond, 1991; Henneman, Lee & Cohen, 1995; Makaram, 1995; Michelson, 1988; Pike et al., 1993; Sheer, 1996). Collaboration is based upon non-competitive cooperative behaviour and non-hierarchical organizational structures (Gregson, Cartlidge & Bond, 1991;

The value of interprofessional collaboration is that it can have a positive effect on: patient care, efficiency, productivity, communication, and job satisfaction for health professionals (Aradine & Pridham, 1973; Baldwin, Hutchinson, & Rosenblatt, 1992; Bream & Schapiro, 1989; Bushnell & Dean, 1993; Fagin, 1992; Gregson, Cartlidge & Bond, 1991; Haas & Rooks, 1986; Lappe, 1993; Makadon & Gibbons, 1985; Makaram, 1995; Michelson, 1993; Pike, McHugh, Canney, Miller, Reiley, & Seibert, 1993; Prescott & Bowen, 1985). Therefore, it is important to integrate the practice of nurses, midwives, and the rest of the health care team, in order to provide high quality health care to childbearing women.

Obstetrical nurses' intentions toward collaboration with other health professionals have been described in the anecdotal literature. Nurses have stated that they want to work cooperatively as equal partners with other health care professionals to bring about the best health care possible (Callahan, 1992; Fagin, 1992; Kimbro, 1978; Secretary's Committee to Study Extended Roles for Nurses, 1972; Stein, Watts, & Howell, 1990). Maternity nurses in particular have stated that they want to contribute toward the improvement
of obstetrical care and they want to be essential, functioning team members in health care (Hsia, 1984).

Collaboration between obstetrical nurses and midwives has been described in the literature. Midwives with nursing preparation practising in Ontario have reported good collaborative (not hierarchical) relationships with nursing staff at a hospital which has offered midwifery services for a number of years (Kaufman & Renfrew Houston, 1988; Report of the Task Force on the Implementation of Midwifery in Ontario, 1988).

On the other hand, midwifery is being introduced to a health care system where interprofessional conflict already exists as a result of a lack of collaborative relationships among professions. Conflict has been widely documented between physicians and nurses (Davidson, 1991; Eubanks, 1991; Fagin, 1992; Goldberg, 1991; Heenen & Robinson, 1991; LaCombe, 1988; Makaram, 1995; Pike et al., 1993; Stein, Watts, & Howell, 1990; Vanwyck, 1992). Conflict has been reported among physicians and midwives (Burgin, 1992; Cushner, 1986; Rooks, 1983) and among nurses and midwives (Kaufman & Renfrew Houston, 1988; Kimbro, 1978) in other countries such as the United States of America and Britain. Ambiguity and conflict among health professionals can potentially lead to compromises in patient care (Fagin, 1992; Graham, 1991).
Some nurses may have negative feelings toward midwifery since the midwifery education system in Ontario does not require nursing as a foundation for the program (Muzio, 1991; Vanwyck, 1992). The College of Nurses of Ontario, the Registered Nurses Association of Ontario (RNAO), and the Ontario Nurses' Association (ONA) would have supported midwifery education if it required nursing preparation as a prerequisite (Vanwyck, 1992). However, the Task Force on the Implementation of Midwifery in Ontario (1987) recommended that midwifery education be an entirely separate baccalaureate program. As a result, the professional nurses' associations opposed such an education program (Kaufman, 1991; Vanwyck, 1992). Therefore, nurses may already have negative feelings toward midwives.


In summary, anecdotal literature has shown some obstetrical nurses to have positive intentions toward collaborating with other health professions. However, no systematic survey of obstetrical nurses has been undertaken to determine the likelihood of positive collaborative relationships occurring.

Insight into the relationships between nurses and midwives may be obtained by exploring the determinants of obstetrical nurses' attitudes and their intentions toward working with midwives. The attitudinal data could identify potential areas of strength or conflict within nursing/midwifery relationships. Implementation committees could use this information to foster a smooth integration of midwifery practice by fostering collaborative practices. For patients to receive the best possible health care, collaboration amongst all health professionals should be the objective (Fawcett-Henesy, 1991).

Problem Statement

Midwives have a role in maternity care within hospitals for their clients who have hospital births. Nurses and midwives need to establish positive working relationships. Collaboration is strongly associated with excellent patient outcomes (Aradine & Pridham, 1973; Baggs, Ryan, Phelps,
Richeson, & Johnson, 1992; Bushnell & Dean, 1993; Gregson et al., 1991; Knaus, Draper, Wagner, & Zimmerman, 1986; Michelson, 1988; Pike et al., 1993). Therefore, it is important to examine present relationships and the potential for collaboration between obstetrical nurses and midwives. Determining obstetrical nurses' intentions to collaborate with midwives in the care of midwifery clients, as well as examining obstetrical nurses' beliefs, which are the foundation of their intentions, may provide useful information to those wishing to perpetuate a successful integration process of the profession of midwifery into Ontario's hospitals.

Review of Related Research

The literature review is organised according to relevant areas of research. A summary of methodological considerations of the reviewed literature is included at the end of the literature review. Sections include: Collaboration Between Health Care Professions; Components of Interprofessional Collaboration; Factors Which Inhibit Collaboration, and Relationships Between Health Care Professions.

Limited research existed on interprofessional relationships between obstetrical nurses and midwives. Most of the research reviewed has been done in other countries, since legalised midwifery is so new to Ontario. Although
the models of midwifery practice differ from country to country, the basic philosophy remains similar; thus, research studies using samples from other countries have been included in this review and are considered relevant to this investigation.

Research on relationships between midwives and other health care professionals also has been reviewed. The investigator understands that the results of the reviewed research are not generalizable beyond the samples used; however, information obtained from groups of other health care professions may give insight into relationships and potential collaborative practice between obstetrical nurses and midwives.

Collaboration Between Health Care Professions

Collaboration Between Nurses and Physicians

Gregson et al. (1991) examined collaboration between district nurses (n=167), general practitioners (n=230), and health visitors (home care personnel) (n=178) in Britain. Five methods were used to measure the extent of interprofessional collaboration between the three health professions: a structured interview; a prospective record of consultations, referrals, and meetings; a self-completed questionnaire; a practice questionnaire completed by general practitioners; and structured interviews with a senior community nurse in each district. Health care workers rated
their self-perceived levels of collaboration significantly higher than the interviewers \( p<0.001 \). Collaboration between each of the health care professions was actually found to exist, but at low levels.

**Collaboration Between Midwives and Physicians**

Samples of Certified Nurse-Midwives \((n=280)\) and physicians \((n=46)\) in the U.S.A. were surveyed using questionnaires and interviews to identify and quantify specific factors that influence the success (defined as adequate client population, financial stability, and continuation of practice) of nurse-midwifery practice (Haas & Rooks, 1986). A collaborative relationship between the nurse-midwife and physician was found to be the most important factor for nurse-midwifery success; at the same time, one of the most important problems for midwifery practice was identified as opposition from physicians (Haas & Rooks, 1986).

**Outcomes of Interprofessional Collaboration**

Authors appear to be in unanimous agreement that collaborative relationships lead to positive and progressive outcomes (Baggs & Schmitt, 1997; Baggs et al., 1992; Knaus et al., 1986; Koerner, Cohen & Armstrong, 1986; Williams, Williams, Zimmer, Hall & Podgorski, 1982). These four studies assessed the positive or lack of negative outcomes related to interprofessional collaboration.
Compelling support for the positive outcomes of collaboration comes from a time series study, in which the investigators collected data before and after the implementation of a collaborative practice model by analyzing attitudinal data from physicians (n=112) and nurses (n=26) (Koerner et al., 1986). After engaging in collaborative practices, a) there was greater physician-nurse interaction, b) more professional relationships were promoted, and c) physicians greatly improved their perception of nurses' behaviour. The researchers found that physicians perceived a broader role for nurses which involved more autonomy, increased decision making, and more input into the plan of care within the collaborative practice system. Nurses felt that they had more freedom to apply their knowledge and skills, and the nurses were more frequently asked for their input by physicians in developing plans of care within this environment. Both nurses and physicians believed that collaborative practice facilitated communication, efficiency of staff, and quality of patient care. All nurses and a majority of physicians perceived increased satisfaction in their professional practice when working collaboratively, and all nurses also noticed increased collaboration with other disciplines. Koerner et al. (1986) also reported that nurses clearly experienced greater autonomy, independence, and clinical decision making.
resulting in job satisfaction and greater retention on the unit after the implementation of the collaborative practice model. There was also significantly increased communication between nurses and their patients, families, and physicians. Similarly, the results of Knaus et al.'s (1986) and Baggs et al.'s (1992) studies demonstrated positive outcomes related to interprofessional collaboration. Knaus et al (1986) reported that communication, coordination, and interaction between doctors and nurses in critical care units correlate with positive patient outcomes (i.e. positive differences between predicted and observed death rates). Baggs et al. (1992), in a prospective study, reported that negative patient outcomes (i.e. readmission to the Medical Intensive Care Unit or death) decreased from 16% to 5% when full collaboration existed between nurses and residents in a Medical Intensive Care Unit.

Baggs and Schmitt (1997) used grounded theory to explore the collaborative relationship between intensive care unit nurses and physicians. The major outcomes of collaboration were described as improving patient care, feeling better in the job, and controlling costs. Collaboration amongst nurses and physicians has also been associated with decreased lengths of hospital stays in a geriatric setting (Williams et al., 1987).
**Summary of Collaboration Between Health Care Professions**

Collaboration exists between health professions such as general practitioners and district nurses in Britain, and professional collaboration has been associated with the success of midwifery practices. Thus, interprofessional collaboration has been shown to be important in the success of midwifery practice. However, no research has been done which explores collaborative practices between obstetrical nurses and midwives in Ontario.

Interprofessional collaboration has been associated with many positive results. Investigators found that interprofessional collaboration in samples of nurses and physicians resulted in increased work satisfaction, a climate of confidence and trust among physicians and nurses, and enthusiastic responses from patients to the care they received (Baggs & Schmitt, 1997). Positive outcomes for patients' medical status (death rates being significantly lower) (Knaus, et al., 1986), and decreased lengths of hospital stays in a geriatric setting (Williams et al., 1987) have been demonstrated when collaboration exists between nurses and physicians.

However, some negative statements towards collaboration with nurses were expressed by physicians. Some physicians in the Koerner et al. study (1986) stated that they found collaboration to be time consuming and this decreased their
efficiency. Some other physicians in this sample objected to the close interpersonal contact with nurses that collaborative practice required.

Components of Interprofessional Collaboration

Nurses and Physicians

Weiss and Davis (1985) tested an instrument designed to measure collaborative practice behaviours between physicians (n=94) and nurses (n=95). Certain factors were found to be important to collaboration. These were: a) nurses asserting professional expertise and opinions with physicians about patient care; b) horizontal rather than vertical communication between nurses and physicians; and c) making active and assertive contributions to interprofessional interaction. Behaviours such as: a) open discussion by nurses and physicians about patient care; b) the identification of disparate and common perceptions; and c) the delineation of mutually agreeable goals and responsibilities were also found to be important factors in the process of collaboration. There were positive and significant relationships with level of collaboration when each professional group recognised that the other has distinct areas of expertise, and when each profession actively sought opinions of the other health profession regarding patient care.
Factors associated with collaboration were also investigated by Gregson, Cartlidge, and Bond (1991) in their study involving district nurses (n=167), general practitioners (n=230) and health visitors (n=178) in Britain. Higher levels of collaboration were associated with: a) the members of the collaborative pair meeting frequently at arranged meetings as well as by chance; b) consulting one another frequently; c) referring to one another; and d) consulting one another's records. Precursors to collaboration include a friendly, informal interprofessional relationship, reciprocal use of first names, commenting on one another's work, and understanding one another's responsibilities.

**Summary of Components of Interprofessional Collaboration**

Taken together, these studies demonstrate that certain factors are apparently associated with higher rating of collaboration. Frequent meetings, consultations, and referrals were associated with higher ratings of collaboration (Gregson et al., 1991; Weiss & Davis, 1985), and a friendly informal relationship between professions also seems to be associated with higher ratings of collaboration (Weiss & Davis, 1988). Research was not found investigating the variables associated with collaborative practice between midwives and obstetrical nurses. Although the reviewed research investigated the relationships between
physicians and nurses, these studies described the emotional environment that has existed in health care systems. Trends and patterns in interprofessional relationships in health care systems may influence the development of relationships between nurses and midwives. Therefore, these research results are considered relevant to the current study.

Factors Which Inhibit Collaboration

Nurses, Midwives and Physicians

Beaver et al. (1986) investigated midwife/nurse/physician conflict and "burnout" in a randomly selected stratified sample of U.S.-educated and employed certified nurse-midwives (n=98). Burnout was measured with a 22 item questionnaire which included questions on three components of burnout: a) emotional exhaustion; b) depersonalization; and c) personal accomplishments. Burnout was more likely to occur in nurse-midwives who were newly employed in large services and who lacked physician and nurse support.

Nurses and Physicians

Two studies identified factors which appear to be negatively associated with collaborative practices between physicians and nurses (Gregson et al., 1991; Robinson et al., 1993). Gregson et al. (1991) observed that poor mutual understanding was found to be associated with lower ratings of collaboration. For example, twenty-two percent of district nurses and 42% of health visitors (home care
personnel) felt that their general practitioner partner did not understand the responsibilities of their profession, and this perception was associated with lower ratings of collaboration.

Robinson et al. (1993) surveyed general practitioners' (n=2013) attitudes toward practising British nurses. Factors perceived as barriers to the extension of the practice nurse's role included: a) nurses having no desire or need to extend their role; b) confusion about the roles of the nurse and the doctor; c) nurses' lack of time, and d) nurses' lack of self confidence.

Summary of Factors Inhibiting Collaboration

Poor interprofessional relationships have been associated with lower ratings of collaboration and have led to interprofessional conflict (Gregson et al., 1991). Burnout in midwives was associated with non-supportive relationships (Beaver et al., 1986). Factors such as role confusion between the professions of nursing and midwifery, obstetrical nurses' lack of desire to create new relationships, obstetrical nurses' lack of confidence, and the busy job of an obstetrical nurse may be related to poor interprofessional relationships between obstetrical nurses and midwives. As no research was found specifically exploring the interprofessional relationship between obstetrical nurses and midwives, investigation is warranted.
to explore factors which may influence obstetrical nurses' collaboration with midwives.

Relationships Between Health Care Professions

Relationships Between Midwives and Obstetrical Nurses

The Groupe de Recherche Interdisciplinaire en Sante (GRIS) (Blais, Lambert, Maheux, Loiselle, Gauthier, & Framarin, 1991) conducted a survey to explore attitudes toward midwifery implementation in Quebec. A theoretical framework was not specified. Results were obtained by Likert scales from a sample of doctors who provide primary obstetric care (n=597), obstetrical nurses, perinatal nurses (n=723), and midwives (n=70). The physicians’ results are not reviewed since the nurse-midwife data are more relevant to this literature review.

Thirty-eight percent of hospital nurses and 80 percent of community nurses believed there was a need for midwives in Quebec because medicine has an overly pathologic view of childbirth. Forty-five percent of hospital nurses and 12 percent of community nurses believed that the arrival of midwives would represent a threat to the role of the nurse. Forty nine percent of nurses in obstetrics and twenty percent of community nurses believed that birth of an infant without the help of a doctor is dangerous for the health of the mother and child. Most hospital and community nurses believed that midwives should have formal training which
would require a master's degree, with a bachelor's degree in nursing.

While most nurses endorsed the idea that midwifery could improve maternity care, community based perinatal nurses were clearly more favourable about midwives than the hospital based nurses. All nurses saw midwives as more of a threat to the physicians than to themselves. There was a consensus among all groups that midwives should work in close collaboration with current maternity care personnel. **Relationships Between Nurse-Midwives and Nurses**

Hazle (1985) obtained a randomly selected sample of nurse-midwives (n=100) and obstetric nurses (n=100) in the U.S.A., and used Likert scales to investigate role relationships and conflict between the two professions. Both nurses and nurse-midwives had basically positive views of one another; however, some degree of interrole conflict was found to be present between these two professions. **Relationships Between Nurses and Physicians**

Robinson, Beaton, and White (1993) surveyed the attitudes of a randomly selected sample of general practitioners (n=2013) toward the extended role of practice nurses (i.e. nurses with extended roles in general practice) in Britain. The concepts under consideration in this study were the expansion of the clinical role for nurses in general practice and the adoption of the role of an
independent nurse practitioner (a new health care profession). This research is considered relevant to this study because the introduction of hospital midwifery practice was an extension of the midwifery role as well as a new regulated health care profession. These investigators, as well as Beaton et al. (1991), reported that the important factors which might prevent the extension of the role of practice nurses were the attitudes of other health professions (such as physicians) towards this new role. Robinson et al. (1993) reported that general practitioners' attitudes toward practice nurses, nurses' attitudes to practice nurses, and nursing managers' attitudes toward practice nurses were perceived barriers to the extension of the practice nurse's role.

**Summary of Relationships Between Health Care Professions**

In summary, it appears that obstetrical nurses have reported both positive and negative attitudes toward midwives. However, hospital-based obstetrical nurses had a less positive attitude toward midwifery than community nurses (Blais et al, 1991). Negative attitudes have been documented as a perceived barrier to a new role in a health care system (Robinson et al., 1993). Positive attitudes have been important to new roles entering a health care system. No studies were found that explored attitudes of
obstetrical nurses in Ontario toward collaborating with midwives.

**Overall Summary of Literature Review**

There were very few empirical studies done on interprofessional collaboration in the health care setting, and even fewer studies have examined the relationship between obstetrical nurses and midwives. Regulated midwifery was a new profession in the Ontario health care system, and this provided new opportunities for exploring the development of interprofessional relationships.

Interprofessional collaboration has been shown to have many positive results; it therefore is a desirable goal for obstetrical nurses and midwives to obtain. The reviewed research demonstrates that collaboration between obstetrical nurses and midwives has been important in the success of midwifery practices. No studies were available that investigate the collaborative relationship between obstetrical nurses and midwives in Ontario.

While examining the methodology of the reviewed research, it became evident that many studies did not have a specified theoretical framework. Two frameworks that were used were grounded theory (Baggs & Schmitt, 1997) and role theory (Hazle, 1985). Three other studies developed a framework from the results of the studies. A framework of burnout was described by Beaver et al. (1986); a framework
of collaboration was described by Ben-Sira and Szyf (1992); and a framework of critical care nursing was described by Mitchell, Armstrong, Simpson and Lentz (1989). The diversity of the many theoretical frameworks has led to many different study methods as well as inconsistent definitions of terms.

In the four studies investigating attitudes (Blais et al., 1991; Hazle, 1995; Koerner et al., 1986; and Robinson et al., 1993), role theory was the only specified theory used (Hazle, 1995). Thus, in each study the definition of "attitude" and the process of collecting attitudinal data were different. The definition of attitude was not defined at all in the study by Blais et al. (1991).

**Study Rationale**

**Study Purpose**

The immediate purpose of this study was to gain insight into some of the factors that may underlie obstetrical nurses' collaborative relationships with midwives. This study was also done to fill the gap in the literature on collaborative relationships between obstetrical nurses and midwives in Ontario.

**Expected Contribution**

The legalisation of the profession of Midwifery in Ontario has raised much debate among professional associations, but very little was known about nurses'
present relationships with midwives and their intentions to collaborate with midwives in the care of midwifery clients. Since midwives have now taken a new role in maternity care within hospitals, the opinions of nurses toward working with midwives should be documented. The exploration of obstetrical nurses' intentions in terms of their attitude, subjective norm, and perceived behavioural control could help identify areas of potential support or conflict. Then, in the long run, collaborative practices could be enhanced by strengthening positive beliefs and/or intentions and trying to alter negative beliefs and/or intentions. Thus, the ultimate motivation for this work was to seek information that may be useful to midwifery task forces, professional nursing associations, and hospital administrations to best enable a successful integration of the profession of midwifery within Ontario's health care system.
CHAPTER II
Conceptual Framework

Overview of the Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) (Ajzen, 1985; 1988) was used as the conceptual framework for this investigation.

The Theory of Planned Behaviour is an extension of Ajzen and Fishbein's (1975) Theory of Reasoned Action (TRA). The TRA assumes that human beings rationally combine information about expected outcomes and about expected social pressure, to arrive at a decision about whether or not they will perform a given behaviour. The TPB goes beyond this formulation, by adding the element of behavioural control. This is done in terms of perceived rather than actual control, since sometimes the behaviour of interest is not completely under volitional control. The elements of the TPB are outlined following the model of the Theory of Planned Behaviour (see Figure 1).
Figure 1. Theory of Planned Behaviour.
Adapted from Ajzen (1985; 1988; 1991)
Behavioural Intention

A central element in the TPB is the postulation that the attempt to perform a certain behaviour is a function of an individual's intention to perform that behaviour. These intentions remain dispositions until, at the appropriate time and opportunity, an attempt is made to translate the intention into action (Ajzen, 1985; 1988; 1991; Fishbein & Ajzen, 1980). At this point, the behavioural intention is the immediate determinant of a person's attempt to perform a behaviour (Ajzen, 1985; 1988; 1991).

Intention, in turn, is determined by: a) the individual's "behavioural attitude"; b) his/her "subjective norm"; and c) his/her "perceived behavioural control" (see figure 1). Furthermore, "behavioural attitude", "subjective norm", and "perceived behavioural control" are each in turn determined by a set of underlying beliefs and their associated modifiers.

Behavioural attitude is the individual's positive or negative evaluation of the act of performing the behaviour (Ajzen, 1985; 1988; 1991; Fishbein & Ajzen, 1980). According to the TPB, behavioural attitude is a function of two components. These are: a) the individual's expectation that the behaviour will lead to particular salient outcomes (i.e. "behavioural beliefs"); and b) the individual's evaluation of the desirability or undesirability of each of
these outcomes ("outcome evaluations") (Ajzen, 1985; 1988; 1991; Fishbein & Ajzen, 1980). According to the theory, if a person believes that performing the behaviour leads to positive outcomes, his/her attitude is more favourable.

Fishbein and Ajzen (1980) argued that an important preliminary step in conceptualising the behavioural attitude component of the TPB, for a particular clinical context, is first to identify the salient outcomes. This preliminary step was not undertaken by this investigator, but was derived from data previously collected by colleagues in an earlier investigation (see below in the Methods chapter).

Subjective norm refers to the individual's perception of the social pressures put on him/her to perform or abstain from the behaviour under consideration. According to the TPB, subjective norm is a function of two components. These are: a) the person's estimation of the likelihood that important referent others think they should perform the behaviour (i.e. "normative beliefs"); and b) the person's motivation to comply with the referents in question ("motivation to comply") (Ajzen, 1985; 1988; 1991; Fishbein & Ajzen, 1980). According to the theory, if a person believes that important others think the individual should perform the behaviour and the individual is willing to comply with these social expectations, their subjective norm is more favourable. Fishbein and Ajzen (1980) also argued
that an important preliminary step in conceptualising the subjective norm component of the TPB, for a particular clinical context, is first to identify the salient referents.

Perceived behavioural control refers to a person's perception of the ease or difficulty of performing the behaviour of interest. According to the TPB, perceived behavioural control is a function of two components. These are: a) the individual's estimation of the likelihood that he/she can control important factors that could promote or undermine the performance of the behaviour (i.e. "control beliefs"); and b) the individual's perception of the promoting or undermining capabilities of these factors ("perceived power") (Ajzen, 1985; 1988; 1991). According to the theory, if a person believes that there are numerous promoting factors and he/she can control any undermining factors, the level of perceived behavioural control is more favourable.

Perceived behavioural control is assumed to reflect past experience as well as anticipated impediments and obstacles (Ajzen, 1988; 1991). Ajzen (1991) stated that "these control beliefs may be based in part on past experience with the behaviour, but they will usually also be influenced by second-hand information about the behaviour, by the experiences of acquaintances and friends, and by
other factors that increase or reduce the perceived difficulty of performing the behaviour in question" (p. 196).

In many situations, perceived control may not be realistic. This is likely to occur when the individual has little information about the behaviour, when requirements or available resources have changed, or when new or unfamiliar elements have entered the situation (Beck & Ajzen, 1991). A direct path from perceived behavioural control to the behaviour is therefore expected to emerge only when there is some agreement between perceptions of control and the person's actual control over the behaviour. An important preliminary step in conceptualising the perceived behavioural control components of the TPB, for a particular clinical context, is to first identify the salient control factors.

**Some Additional Considerations**

Clearly, intentions can change over time; the longer the time interval, the greater the likelihood that unforeseen events will produce changes in intentions (Fishbein & Ajzen, 1980; Ajzen, 1985; 1988; 1991). However, barring unforeseen events, a person will usually act in accordance with his or her intention (Ajzen, 1988).

The TPB also recognises that the degree of success in performing the behaviour depends not only on one's intention
but also on non-motivational factors such as the availability of requisite opportunities and resources (e.g. time, money, skills, cooperation of others) (Ajzen, 1985). The resources and opportunities available to a person must to some extent dictate the likelihood of performing the behaviour (called actual control).

The Theory of Planned Behaviour does not include: traditional attitudes such as attitudes toward objects, people, and institutions; or variables such as personality traits, or demographic variables. These are referred to as "external variables" by the authors (Ajzen & Fishbein, 1980). According to the theory, external variables may indeed influence behaviour, but only to the extent of influencing an individual's salient beliefs and/or their modifiers.

Application of the Theory of Planned Behaviour to the Present Study

Figure 2 displays how the Theory of Planned Behaviour was used to guide the formulation of the research hypotheses and question, the development of the data-collecting instruments, and the derivation of the data analysis plan. Thus, according to Figure 2, obstetrical nurses' intentions to collaborate with midwives in the care of midwifery clients are postulated as determined by their behavioural
attitude, subjective norm, and perceived behavioural control regarding collaboration with midwives.

These three independent variables could be measured directly. They could also be derived indirectly, using measures developed in accordance with the underlying structure of the TPB, which postulates that: a) obstetrical nurses' behavioural attitude is determined by the sum of the products of their behavioural beliefs and their evaluations of the outcomes of collaboration; b) their subjective norm is determined by the sum of the products of their normative beliefs and their motivation to comply with their normative referents; and c) their perceived behavioural control is determined by the sum of the products of the control beliefs and their judgements of the power of the control factors under consideration.

In addition, selected variables that are "external" to the TPB merit exploration -- in particular, personal variables like age, education, experience, and participation in the planning process. External variables such as these have been associated with the abilities of some groups of health professionals to collaborate with others.

Finally, although it would be most desirable to undertake a study design in which actual collaborative behaviour could be examined in the clinical setting, this investigation did apply the TPB to this fullest extent
possible. When this study was launched, midwifery was just beginning to be integrated into the hospitals. Thus, many nurses did not have ample opportunities to develop collaborative relationships with midwives at the time of data collection.
Figure 2. Application of Theory of Planned Behaviour to Study of Obstetrical Nurses’ Intention to Collaborate with Midwives
Hypotheses and Questions

Research Hypotheses

Primary Hypotheses

The two primary hypotheses are concerned with testing the relationships between intention and its determinants, as postulated by the TPB:
1. Obstetrical nurses employed in selected hospital settings where midwives have active staff appointments will report positive intentions to collaborate with midwives in the care of midwifery clients; and
2. Their scores for reported intention will be positively associated with directly-measured and with indirectly-derived scores for their behavioural attitude, subjective norm, and perceived behavioural control.

Secondary Hypothesis

The secondary hypothesis is concerned with the concurrent validity of the direct and indirect approaches to measuring the major determinants of intention:
1. Their directly-measured scores for behavioural attitude, subjective norm, and perceived behavioural control will be positively correlated with their indirectly-derived scores for each of these variables.
Research Questions

Primary Question.

To what extent do obstetrical nurses' directly- and indirectly-measured scores for: a) behavioural attitude toward collaborating with midwives; b) subjective norm; and c) perceived behavioural control account for the variance in strength of their intention to collaborate with midwives in the care of midwifery clients?

Secondary Question.

To what extent have obstetrical nurses collaborated with midwives in the care of midwifery clients since the implementation of midwifery in the hospital setting?

Definitions of Terms

Midwives. Persons who are registered with the Ontario College of Midwives.

Obstetrical Nurse. A registered nurse, working full-time or part-time in one of the designated hospital's Birthing Unit in the province of Ontario, who has completed the three month probationary period prior to permanent employment.

Dependent Variable

Intention to collaborate with midwives in the care of midwifery clients refers to the degree of effort obstetrical nurses will put forth in a interprofessional relationship
with midwives when a midwifery client is hospitalised for a birth.

In this study, strength of intention was assessed using a single linear analogue scale to elicit a single global score (Appendix A).

Predictor Variables

**Behavioural Attitude** refers to an obstetrical nurse's positive or negative evaluation or appraisal of collaborating with midwives.

In this study, attitude score was assessed by using **direct** and **indirect** measurement strategies.

*Direct Measurement of Behavioural Attitude*

Two different direct measures were used: a) responses were obtained on semantic differential scales and then summed (Appendix B, part a); and b) a global score was obtained on a single linear analogue scale (Appendix B, part b).

*Indirect Measurement of Behavioural Attitude*

This strategy was based on the TPB's postulated determinants of behavioural attitude—that is, behavioural beliefs and outcome evaluations.

A **behavioural belief** refers to an individual's reported likelihood or expectation that a given behaviour will lead to a particular salient outcome. In this study, these
behavioural beliefs were assessed using Likert scales (Appendix C).

An outcome evaluation refers to the subjective importance or value that an individual places on a particular salient outcome. In this study, these evaluations were assessed using Likert scales (Appendix C).

Then, for each respondent, an attitudinal score was derived by summing the products obtained when each reported behavioural belief is multiplied by its associated outcome evaluation.

(Note that the particular salient outcomes were derived in a separate research project; see Methods.)

Subjective Norm refers to an obstetrical nurse's perception of the social pressures put on him/her to perform or not to perform the behaviour under consideration (Ajzen, 1988; 1991).

In this study, subjective norms were assessed using direct and indirect measurement strategies.

Direct Measurement of Subjective Norm

One direct measure was used; a response was obtained on a single linear analogue scale (Appendix D).

Indirect Measurement of Subjective Norm

This strategy was based on the TPB's postulated determinants of subjective norms--that is, normative beliefs and motivation to comply.
A normative belief refers to an individual's reported likelihood or expectation that a salient referent (an individual or group) thinks the person should or should not perform the behaviour (Ajzen 1985; 1988; 1991). In this study, these normative beliefs were assessed using Likert scales (Appendix E).

Motivation to comply refers to the subjective importance or value that an individual places on behaving in a manner that is consistent with the individual's assumption about a salient referent. In this study, these motivations were assessed using Likert scales (Appendix E).

Then, for each respondent, a subjective norm score was derived by summing the products obtained when each reported normative belief is multiplied by the nurse's reported motivation to comply with that referent.

Perceived Behavioural Control refers to an obstetrical nurse's perception of the ease or difficulty of performing the behaviour of interest.

In this study, perceived behavioural control was assessed using direct and indirect measurement strategies. Direct Measurement of Perceived Behavioural Control

One direct measure was used; a response was obtained on a single linear analogue scale (Appendix F).
Indirect Measurement of Perceived Behavioural Control

This strategy was based on the TPB's postulated determinants of perceived behavioural control--that is, control beliefs and perceived power.

A control belief refers to an individual's reported likelihood or expectation that he or she can control the presence or absence of a salient factor (resource or opportunity) that can support or block the behaviour (Ajzen, 1985; 1988; 1991). These beliefs "may be based on past experience with the behaviour, and will usually be influenced by second-hand information about the behaviour, by experiences of acquaintances and friends, and by other factors that increase or reduce the perceived difficulty of performing the behaviour in question" (Ajzen, 1991, p. 196). In this study, control beliefs were assessed using Likert scales (Appendix G).

Perceived power refers to the respondent's subjective judgement of the strength of the factor's ability to support or block the behaviour (Ajzen, 1991). In this study, these perceptions were assessed using Likert scales (Appendix G).

Then, for each respondent, a perceived behavioural control score was derived by summing the products obtained when each reported control belief is multiplied by the nurse's reported perceived power score for that factor.
**External Variables.** For the purpose of this study, obstetrical nurses' age, sex, education, obstetrical nursing experience, experience with midwives during hospital births, and participation during the process of midwifery implementation were assessed (Appendix H).
CHAPTER III

Methods

Study Design

A descriptive cross-sectional design was used to explore determinants of obstetrical nurses' intentions to collaborate with midwives in the care of midwifery clients. Data were collected using a self-report questionnaire.

Setting

The study was conducted in the labour and delivery units of three hospitals in Metropolitan Toronto which provide obstetrical services mainly for low risk patients. These hospitals were chosen because they had granted midwives hospital privileges and had active midwifery practices. Therefore, obstetrical nurses would have had some opportunities to interact with midwives in the care of midwifery clients.

Sample

The population of interest for the study was obstetrical nurses in Ontario who were working with midwives in the care of midwifery clients. The study population was obstetrical nurses in Ontario who worked in one of the three designated hospitals. A convenience sample limits the generalizability of results beyond the sample being studied, but it has the advantages of feasibility and lower cost.
(Polit & Hungler, 1991). One hundred obstetrical nurses were accessible in the hospitals chosen for this study.

**Sampling Criteria**

Registered Nurses who worked in one of the three hospitals chosen for this investigation were eligible to participate in the study if they were employed as a staff nurse or charge nurse/team leader, worked full-time or part-time in one of the labour and delivery units, and had completed the hospital's three-month probationary period prior to data collection.

**Data Collection Strategy**

Following approval of the study by the University of Toronto's Office of Research Services, a letter requesting permission to conduct the study was sent to the Ethics Review Committees at each hospital, to the Nursing Unit Administrators (NUA's or Head Nurses) of each labour and delivery unit at the three hospitals involved, and to other key persons identified by the hospital. After permission was granted, individually addressed questionnaires were delivered by the investigator through each unit's mail delivery system at each hospital. Personal presentation of questionnaires to individual respondents has been found to have a positive effect on the rate of return (Polit & Hungler, 1991); however, each of the three Nursing Unit Administrators preferred that the investigator deliver the
questionnaires via each unit's mail distribution system. The nurses who were not reached by the investigator were able to receive their package from the NUA. A large poster was hung above the questionnaire return box to remind the staff to complete their questionnaires. The poster also instructed staff, who had lost or not received a copy of the questionnaire, to obtain a copy from the Nursing Unit Administrator. The standard procedure for distribution of a questionnaire is to include a cover letter (Appendix I), an addressed return envelope (Polit & Hungler, 1991), and an instruction form (Appendix J), each of which were included. No names or codes were placed on the questionnaires. Completion of the questionnaire implied consent. Respondents refusing to participate in the study were asked to place a check mark in the appropriate box on the information sheet. Participants placed their completed questionnaires in the enclosed addressed envelope and deposited this in a large sealed labelled box in each labour and delivery unit, to be retrieved by the investigator.

**Instrument Development**

Data were collected using a self-administered questionnaire. To the investigator's knowledge, there had not been any instruments developed that could have been used specifically for this study, therefore, the questionnaire was developed by the investigator.
At various points in the data-collection questionnaire, Likert, linear analogue, and semantic differential scales were used. Each type of scale is briefly described below.

**Likert Scales**

The Likert scale is an example of a direct estimation method scale (Streiner & Norman, 1989) and is named after its developer Renis Likert (1932). The Likert scale can be used to elicit a negative or positive viewpoint regarding the construct under investigation by asking respondents to indicate the degree to which they agree or disagree with the opinion expressed in the item statement (Streiner & Norman, 1989). Degrees of agreement/disagreement are indicated with descriptive terms and rated numerically; the respondent's score for that item is determined accordingly.

This technique has been applied to many different constructs in nursing research, especially behavioural beliefs and attitudes (Ajzen, 1988; Fishbein & Ajzen, 1980; Streiner & Norman, 1989; Woods & Catanzaro, 1988), and is advocated as the evaluative scale of choice by Ajzen (1991) for measuring salient beliefs. Likert scales are easily understood by subjects and are easy to administer (Streiner & Norman, 1989).
Linear Analogue Scales

The linear analogues scale consists of a line, usually 100mm in length, which is anchored on each end by a positive and a negative statement. The participant is asked to make a mark, usually a stroke, through the line at the point which represents his/her response to the question (Streiner & Norman, 1989).

Linear analogue scales have been used in to measure subjective experiences in many settings and have the merit of simplicity (Polit & Hungler, 1991; Streiner & Norman, 1989). These scales have demonstrated feasibility, reliability, and validity (Selby, Chapman, Etazadi-Amoli, Dalley & Boyd, 1984; Sutherland, Walker, and Till, 1988) for the assessment of values and symptom severity.

Semantic Differential Scales

Semantic differential scales ask respondents to give a judgement of something along an ordered dimension (Polit and Hungler, 1991). The respondent is asked to place a check in the appropriate area that extends from one extreme of the characteristic or dimension in question to the other extreme (Streiner & Norman, 1989). Semantic differential scales consist of bipolar adjectives that specify two opposite ends of a continuum.

Semantic differential scales are usually assigned scores from one to seven, and the positively worded
adjective is associated with the higher score. Polit and Hungler (1991) note that the semantic differential is versatile; however, respondents can become confused or bored with these questions and may respond by placing all their check marks in the middle-scale position.

The semantic differential is a technique that is often used to measure attitudes (Polit & Hungler, 1991). This type of scale has the advantage of being easy to construct and highly flexible (Polit & Hungler, 1991).

**Preliminary Steps**

"Salient" beliefs. The theory of planned behaviour deals with the antecedents of attitude, subjective norm, and perceived behavioural control, which determine intentions and actions. The theory postulates that these antecedents consist of salient beliefs relevant to the behaviour in question. Three kinds of beliefs are distinguished: behavioural beliefs which are assumed to influence attitude, normative beliefs which are the underlying determinants of subjective norm, and control beliefs which provide the basis for perceived behavioural control. "Salient" beliefs are those beliefs that are most important in influencing the individual's attitudes, subjective norm and perceived behavioural control. Thus, identifying the "salient" beliefs for each underlying determinant is an important step
towards drawing inferences about consequent behavioural intention.

Ajzen (1991) advocated that statements about salient beliefs first must be elicited from the respondents themselves, or in pilot work from a sample of respondents that is representative of the research population.

Boyle and Hickey (1993) collected statements about the salient beliefs regarding working with midwives from a sample of obstetrical nurses from a metropolitan Toronto tertiary care centre (n=11). These data were collected by Boyle and Hickey (1993) using open ended questions.

The raw data were analysed by this investigator and R. Hickey according to the following steps. A content analysis of the behavioural beliefs that had been elicited about working with midwives was performed. The responses were organised so that beliefs that referred to similar outcomes were grouped together, then the frequency counts for each of the behavioural beliefs were determined. Since this investigator believed that these raw belief statements would be representative of the salient beliefs of obstetrical nurses in the study hospitals, these were used to develop the data-collecting items in the behavioural beliefs section (questions 2a, 5a, 6a, 10a, 11a and 12a) (Appendix C), control beliefs section (question 8a) (Appendix G), and
attitude section (question 6) (Appendix B) of the questionnaire used in the study reported here.

Note that, according to Ajzen and Fishbein (1980), the set of beliefs chosen to represent the behavioural beliefs in a population must account for 75% of all beliefs elicited. However, since Boyle and Hickey's sample size was very small (n=11), all beliefs (100%) related to collaboration with midwives were taken into consideration by this investigator and included in the questionnaire.

Blais et al. (1991) conducted a survey to explore the attitudes of obstetrical nurses toward midwifery implementation in Quebec, and this investigator considered some of their survey topics to be relevant to the current study. Blais et al. (1991) developed their questionnaire on the basis of 30 study interviews with health care personnel from the three designated study groups. This investigator reviewed the question topics and concluded that 6 topics were relevant to the current study. These formed the basis for one salient behavioural belief item (question 5a) (Appendix C), and five salient control belief items (questions 3a, 5a, 6a, 8a and 9a) (Appendix G) in the questionnaire used here.
Outcome Evaluations, Motivation to Comply, and Perceived Control

As described in the TPB, the strength of each salient belief is combined in a multiplicative fashion with its modifier (i.e. behavioural belief x outcome evaluation; subjective norm x motivation to comply; and control belief x perceived control). Questions representing these modifiers were developed by extrapolation from the belief questions as described by Ajzen (1988; 1991).

Transformation of Indirectly-Measured Independent Variables

The sum-of-products method of computation to determine scores has been associated with methodological difficulties (Lauver & Knapp, 1993). Lauver and Knapp (1993) noted that such sum-of-products variables often have unusual ranges and rather unusual distributions. The continuum of scores above the theoretical neutral point to the maximum score is much larger than the continuum of scores below the theoretical neutral point. This oddity was apparent in this study's data for the indirect-measurements of the independent variables. Similarly, Evans (1991) argued against using multiplicative composites (sum-of-products variables) in simple regression or bivariate correlational analyses.

To correct for this inflation, the raw summed scores were transformed. Each of the raw summed scores was divided
by the scale's total score minus the number of questions per scale, then multiplied by 100.

**Draft Revision**

After the identification of salient beliefs from the open ended questions by this investigator and R. Hickey, and the consideration of the topics from the Blais et al. (1991) study, the questionnaire for the study was drafted (see Appendix A-H and K). After the questionnaire was drafted, five obstetrical nurses were given a copy of the draft to identify any gaps in the content regarding salient beliefs, and to check face validity.

**Data Collection Questionnaire**

There were ten sections to the questionnaire (see Appendix A-H and K). Both direct and indirect assessments were made of the independent variables in the Theory of Planned Behaviour. This was done to test the entire Theory of Planned Behaviour as well as to provide insight into the salient beliefs of each of the theoretical constructs.

**Section I: Measuring Previous Collaborative Practice**

A linear analogue scale was used to measure participants' previous collaborative efforts while caring for midwifery clients since the implementation of midwifery in the participants' hospitals (Young, Lierman, Powell-Cope, Kasprzyk, & Benoliel, 1991) (see Appendix K). Each participant was presented with a 100mm line. The left end
of the scale (0), labelled "no collaborative effort", represented the least amount of collaborative effort previously provided. The right end of the scale (100), labelled "full collaborative effort", represented the most amount of collaborative effort previously provided. Subjects were asked to place a mark through or across the scale at the point most closely representing the amount of previous collaborative effort engaged in with midwives while caring for a midwifery client.

Section II: The Indirect Measurement of Behavioural Attitude

An indirect measurement of behavioural attitude was obtained based on the TPB's postulated determinants of behavioural attitude -- that is, behavioural beliefs and outcome evaluations. Likert scales were used to measure these behavioural beliefs and outcome evaluations, as recommended by Ajzen (1985; 1988; 1991).

The questions assessing behavioural beliefs included statements that related to obstetrical nurses' expectations regarding the likelihood that collaboration with midwives would produce a particular outcome. The strength of each salient belief (part "a" of each of these questions) is linked to the outcome evaluation of the belief's attribute as recommended by Ajzen (1991) (part "b" of all questions). Behavioural belief questions 2a, 5a, 6a, 10a, 11a, and 12a were developed from beliefs statements obtained by Boyle and
Hickey (1993). Behavioural belief questions 1a, 3a, 4a, 7a, 8a, and 9a were developed from topics seen as relevant from the investigator's personal experience (Appendix C).

On positively phrased belief statements, answers of "very strongly agree" were scored as 7, and answers of "very strongly disagree" were scored as 1. However, on negatively phrased questions, "very strongly disagree" was scored as 7, and "very strongly agree" was scored as 1.

The questions assessing outcome evaluations included statements that related to the nurses' judgement about the relative desirability/undesirability of each possible outcome. This evaluation of each outcome was measured by a seven point Likert scale labelled "not important to me" on one side and "very important to me" on the other. Positively phrased questions were scored 7 for "very important to me" and 1 for "not important to me". Scoring was reversed for negatively phrased statements.

Ajzen (1991) recommended that these two scores be multiplied and that the products be summed to result in a total score for behavioural attitude. However, the data were then transformed as previously described. Thus the transformed total score, representing the indirect measure of behavioural attitude, could range from 1 to 100.
Section III: The Direct Measurement of Behavioural Attitude

Two direct measures of behavioural attitude were used: a) responses were obtained on semantic differential scales then summed; and b) a global score was obtained on a single linear analogue scale.

a) Semantic Differential Scales

Ajzen (1991) suggested that behavioural attitude be measured by semantic differential scales (Ajzen, 1991; Young et al., 1991). This direct measure of behavioural attitude was calculated by using a set of seven, seven-point semantic differential scales that asked about a participant's evaluation of collaboration with midwives (see Appendix B). The sixth scale was developed from the Boyle and Hickey (1993) data, and the others were developed by the investigator according to Ajzen (1991) and Ajzen and Madden (1986). In each of the seven scales, the most positive response was scored 7, and the most negative response was scored 1. The sum of these responses served as a direct measure of behavioural attitude; the total score could range from 7 to 49.

b) Global Linear Analogue Scale

A single linear analogue scale was also used as a direct measure of behavioural attitude toward collaborating with midwives. Participants were presented with a 100mm linear analogue scale (see Appendix B). The left end of the
scale (0), labelled "absolutely unimportant", represented the least favourable attitude toward collaborating with midwives. The right end of the scale (100), labelled "absolutely essential", represented the most favourable attitude toward collaborating with midwives. Subjects were asked to place a mark through or across the scale at the point most closely representing the strength of their attitude toward collaborating with midwives in the care of midwifery clients. The participant's score was calculated by measuring, in millimeters, from the zero-valued end.

Section IV: The Indirect Measurement of Subjective Norm

An indirect measurement of subjective norm was obtained based on the TPB's postulated determinants--that is, normative beliefs and motivation to comply. As recommended by Ajzen (1991), 1) normative beliefs were measured by seven point Likert scales, 2) motivation to comply was measured by seven point Likert scales, 3) the strength of each normative belief was multiplied by the person's motivation to comply, and 4) that the products were summed to obtain a total score (Appendix E). The data were then transformed as previously described.

The seven-point Likert scales measuring normative beliefs and motivation to comply were presented with "very strongly disagree" on one end and "very strongly agree" on the other. A response of "very strongly agree" was scored
as seven. The scores from belief items were multiplied by the motivations to comply. The transformed score served as an indirect measure of subjective norm; the total score could range from 1 to 100.

Section V: The Direct Measurement of Subjective Norm

Ajzen (1991) recommended obtaining a direct measure of subjective norm by asking respondents to rate the extent to which "important others" would approve or disapprove of their performing the given behaviour. A single 100mm linear analogue scale was used for this direct measure of subjective norm (Appendix D). The scale was presented with "disapprove" on the left end, representing the least amount (0) of approval; "approve" on the right end of the scale, representing the most amount of perceived approval (100) from important others to collaborate with midwives. Participants were asked to place a mark on or through the line which best represented the extent to which they perceived that "important others" approved or disapproved of their collaborating with midwives in the care of midwifery clients.

Section VI: The Indirect Measure of Perceived Behavioural Control

An indirect measure was obtained according to the TPB's postulated determinants of perceived behavioural control—that is, control beliefs and perceived power. As
recommended by Ajzen (1991), control beliefs were measured by seven point Likert scales. Each control belief was measured by a seven point Likert scale labelled "very strongly disagree" on the left side and "very strongly agree" on the right side. Positively worded questions were scored as 7 for "very strongly agree. Negatively worded questions were scored as 7 for "very strongly disagree". Perceived power was measured on seven point Likert scales labelled "likely" on the left side and "unlikely" on the right side. Positively worded questions were scored as 7 for "likely". Negatively worded questions were scored as 1 for "unlikely". Each control belief was multiplied by the perceived power score, and the products were summed. The data were then transformed as previously described, yielding an indirect measure of perceived behavioural control; the transformed score could range from 1 to 100 (Appendix G).

Control belief question 8a was developed from the data from Boyle and Hickey (1993), as well as from a topic from the Blais et al. (1992) questionnaire. Topics for control belief questions 3a, 5a, 6a, and 9a (Appendix G) were developed from the Blais et al. (1992) questionnaire and were modified to be relevant for the current study. The remaining questions 2a, 4a, 7a, and 10a were developed by the investigator (Appendix G). Questions for perceived power were developed by the investigator as extensions of
the control belief topics as described by Ajzen and Madden (1986).

Section VII: The Direct Measurement of Perceived Behavioural Control

The direct measure of perceived behavioural control was obtained, as recommended by Ajzen (1991) (see Appendix F). A single 100mm linear analogue scale, labelled "difficult" (0) at the left end and "easy" (100) at the right end, was presented; respondents were asked to place a mark through the line which best represented their perceived ease or difficulty in collaborating with midwives.

Section VIII: Measurement of Intention to Collaborate

A single linear analogue scale was used to measure participants' degree of intention to collaborate with midwives in the care of midwifery clients (see Appendix A). Participants were presented with a 100mm linear analogue scale. The left end of the scale (0), labelled "not at all", represented the least intent to collaborate with midwives. The right end of the scale (100), labelled "fully", represented the participant's greatest intent to collaborate with midwives. Subjects were asked to place a mark through or across the scale at the point most closely representing the strength of their intention to collaborate with midwives in the care of midwifery clients.
Section IX: Personal Data Form

Information was also collected on age, sex, education levels, previous obstetrical nursing experience, previous experience practising midwifery, experience working with midwives in the care of midwifery clients, participation in integration of midwifery, and opportunity to practice with midwives (see Appendix H).

Assessing Content Validity

Content validity was established for the entire questionnaire by three methods. 1) Salient beliefs of obstetrical nurses were obtained from the Boyle and Hickey (1993) data as described earlier (page 43), and these were used to prepare a draft form of the questionnaire. 2) Five obstetrical nurses from another tertiary care obstetrical unit were interviewed by the investigator and were asked open ended questions to elicit salient beliefs. No additional belief items were identified from these interviews. These five nurses were then given the questionnaire to review. These nurses were asked by the investigator to verify the fact that the questionnaire addressed their salient beliefs about collaborating with midwives. These nurses all agreed that the questionnaire did contain items which addressed their salient beliefs. 3) Finally, four experts in the field of obstetrics (3 clinical nurse specialists in labour and delivery, and 1 clinical
teacher in labour and delivery) were asked to review the questions and their suggestions were also included in the questionnaire.

**Assumptions**

The following assumptions are central to this study:

1. Obstetrical nurses employed in selected hospital labour and delivery units have been working with midwives in the care of midwifery clients.
2. Respondents have behavioural attitudes, subjective norms, perceived behavioural control, and intentions to collaborate with midwives in the care of midwifery clients in the hospital setting.
3. Respondents will report these behavioural attitudes, subjective norms, perceived behavioural control, and intentions to the best of their ability.
4. Salient behavioural, normative, and control beliefs (obtained from the questionnaire distributed by Boyle & Hickey (1993) to obstetrical nurses in a tertiary care centre in Metropolitan Toronto) are representative of the salient behavioural, normative, and control beliefs of obstetrical nurses in the study hospitals.
5. The behavioural belief and control belief topics identified by this investigator (using the responses collected by Blais et al. (1994)) are representative of the
behavioural beliefs and control beliefs held by the obstetrical nurses in the study hospitals.

6. The transformation done on all the indirectly-measured independent variables produced a data set which accurately reflected the opinions of the respondents.

Protection of Participants' Rights

Informed Consent

The subjects were given an information sheet with the questionnaire (see Appendix I) which described the details about participating in the study. This cover letter reassured the participants that there would be no consequences from their decision to participate or to not participate in the study. Subjects were informed in this letter that they were able to refuse to participate at any time. Informed consent was defined in the letter as completing and returning the questionnaire.

Confidentiality

The subjects were assured of confidentiality in their responses to the questionnaire. Participants were informed in the cover letter (see Appendix I) that there were no identifying marks on the questionnaire to link any questionnaire to any individual. Subjects were instructed not to add any identifying marks to the questionnaire. Participants were asked to complete the questionnaire in a location which was private and at a time which was
convenient to them. Each participant was asked to seal her completed questionnaire in the envelope which was provided and to deposit the questionnaire in the sealed box placed in each labour and delivery unit. Completed questionnaires were kept in the investigator's home, in a locked filing cabinet.

Risks and Benefits

Subjects participating in the study were not exposed to any direct risks or benefits. However, they were informed that the information obtained from the study may assist hospital administration with integration strategies for the midwifery profession (see Appendix I), as well as providing a basis for further research in this area.

Data Analysis

Data for this study were organised and analysed using the Statistical Product and Service Solutions (SPSS) for Windows (1995) statistical software package.

Descriptive Statistics

Research Hypotheses and Questions

Primary Research Hypotheses

1. The dependent variable, intention, was measured with a single linear analogue scale and was treated as interval level data (Ajzen & Fishbein, 1980; Nunnally, 1978; and
Streiner & Norman, 1989). This variable was described in terms of frequency, mean, and standard deviation.

2. The main variables of the model [a) behavioural attitude (direct and indirect measures), b) subjective norm (direct and indirect measures), and c) perceived behavioural control (direct and indirect measures)] were treated as interval level data (Ajzen & Fishbein, 1980; Nunnally, 1978; and Streiner & Norman, 1989). These variables were described in terms of frequencies, means, and standard deviations. A Kolomogorov-Smirnov Goodness of Fit Test was performed on each of the variable distributions to determine if it was a normal data distribution.

The data distributions for the indirect measures of behavioural attitude, subjective norm, and perceived behavioural control (transformed data only) were described using frequencies, means, and standard deviations. These variables were also described after being transformed to normalise score distributions. Only the transformed data are reported in the results section and are used for all statistical analyses.

The Pearson product-moment correlation coefficient was used to assess the relationship between scores for intention and (both directly-measured and indirectly-derived) scores for behavioural attitude, subjective norm, and perceived behavioural control.
Secondary Hypothesis

The Pearson product-moment correlation coefficient was used to assess the relationship between the directly-measured scores and indirectly-derived scores for each of the following: behavioural attitude, subjective norm, and perceived behavioural control.

Research Questions

Primary Question

To assess the contribution of the scores for directly-measured behavioural attitude and subjective norm to intention to collaborate, a forced entry linear regression was performed as per Ajzen (1988). Directly-measured scores for behavioural attitude were entered as the first step, and the directly-measured scores for subjective norm as the second step.

To assess the contribution of the indirectly-measured independent variables to intention to collaborate, a forced entry linear regression was performed using the transformed scores. The transformed indirectly-measured scores for behavioural attitude were entered as the first step, and the transformed indirectly-measured scores for subjective norm as the second step.
Secondary Question

Descriptive statistics (mean, mode, and standard deviation) were used to describe obstetrical nurses' retrospective collaborative efforts with midwives while caring for midwifery clients.

Demographic Data

Demographic data were also described in terms of frequencies, means, and standard deviations.

Limitations of the Study

Limitations of this study include:
1. Lack of random selection of the sample precludes generalizations beyond the sample used for this investigation.
2. The sample was self-selected, which may have introduced potential sample bias. It is possible that many and/or only the nurses with very strong attitudes completed and returned their questionnaires.
3. A convenience sample of Toronto hospitals was used. Thus, the sample may not be representative of the larger population which includes tertiary care centres. This limits generalizability of results beyond the sample.
4. The sample size was very small (N=45).
5. The questionnaire was not tested for reliability and construct validity.
6. Actual collaborative behaviour was not investigated in the current study because, at the time of data collection, some nurses may not have had adequate opportunity to form collaborative relationships with midwives.

7. Collaborative behaviour is a concept that requires the participation of both obstetrical nurses and midwives. This study only explored the intentions of obstetrical nurses.
CHAPTER IV

Results

Characteristics of the Participants

Ninety-six questionnaires were delivered by the method chosen by each Nursing Administrator, and 49 questionnaires were returned. Forty-five female obstetrical nurses completed the questionnaire and four nurses submitted refusals to participate, therefore the response rate was 46.9 percent.

The characteristics of the participants are summarised in Table 1. Participants ranged from 22 to 54 years of age, with a mean age of 37.9 years (s.d. = 9.3). The modal age of the sample (35.5%) was 30 - 39 years.

The majority of participants reported having diploma-level education (62.2%). The remainder of the sample reported achieving or acquiring a Bachelor of Science Degree in Nursing (17.8%), or a nursing diploma as well as a non-nursing Baccalaureate degree (4.4%).

Participants reported years of obstetrical nursing practice that ranged from one to 30 years ($M = 11.5$, s.d. = 8.0). The modal response to work experience (28.8%) was six to ten years of obstetrical nursing experience, and the majority of nurses were employed full time (68.8%). The majority of nurses (32) reported not having participated in
the planning process for the introduction of midwifery within their hospitals.

Twelve obstetrical nurses (29.3%) reported having midwifery experience in another country ranging from one to 9 years (M = 1.2, s.d. = 2.5).

Table 1. Characteristics of Participants (N=45)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>M</th>
<th>s.d.</th>
<th>Min-Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE:</td>
<td>33</td>
<td>37.9</td>
<td>9.3</td>
<td>22-54</td>
</tr>
<tr>
<td>YEARS OBSTETRICAL NURSING EXPERIENCE:</td>
<td>39</td>
<td>11.5</td>
<td>8.0</td>
<td>1-30</td>
</tr>
<tr>
<td>YEARS MIDWIFERY EXPERIENCE</td>
<td>12</td>
<td>1.22</td>
<td>2.5</td>
<td>1-9</td>
</tr>
<tr>
<td>EDUCATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diploma</td>
<td>28</td>
<td>62.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BScN</td>
<td>8</td>
<td>17.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baccalaureate</td>
<td>7</td>
<td>15.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PARTICIPATION IN MIDWIFERY INTEGRATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROCESS</td>
<td>9</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>32</td>
<td>71.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMPLOYMENT STATUS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Time Employment</td>
<td>31</td>
<td>68.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part Time Employment</td>
<td>7</td>
<td>15.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casual Employment</td>
<td>2</td>
<td>4.4%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Research Hypotheses

1. Obstetrical nurses employed in selected hospital settings where midwives have active staff appointments will report positive intentions to collaborate with midwives in the care of midwifery clients.

This hypothesis was addressed by examining the distribution, mean, and standard deviation of the scores obtained on the linear analogue scale (LAS) assessing intention (see Table 2).

The reported scores ranged from one to 100 (n=38). The Kolmogorov-Smirnov Goodness of Fit Test indicated a normal data distribution (K-S Z = .653, p = .787). The mean score was 61.6 (s.d. = 30.3) and this implied that, as a group, the nurses held overall positive intentions toward collaborating with midwives. (It should be noted that over one fifth of the sample (22.2%) reported scores which indicated highly positive intentions (90-100) toward collaborating with midwives in the care of midwifery clients.) Thus, the positive mean on the LAS supported Hypothesis 1.
Table 2. Intention to Collaborate: Distribution of LAS Scores (N=45; n=38; 7 missing scores) (M = 61.5, s.d. = 30.3)

<table>
<thead>
<tr>
<th>Score</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>3</td>
<td>7.9</td>
</tr>
<tr>
<td>10-19</td>
<td>1</td>
<td>2.6</td>
</tr>
<tr>
<td>20-29</td>
<td>3</td>
<td>7.9</td>
</tr>
<tr>
<td>30-39</td>
<td>2</td>
<td>5.3</td>
</tr>
<tr>
<td>40-49</td>
<td>3</td>
<td>7.9</td>
</tr>
<tr>
<td>50-59</td>
<td>6</td>
<td>15.8</td>
</tr>
<tr>
<td>60-69</td>
<td>2</td>
<td>5.3</td>
</tr>
<tr>
<td>70-79</td>
<td>5</td>
<td>13.1</td>
</tr>
<tr>
<td>80-89</td>
<td>3</td>
<td>7.9</td>
</tr>
<tr>
<td>90-100</td>
<td>10</td>
<td>26.3</td>
</tr>
<tr>
<td>Unreported</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>100%</td>
</tr>
</tbody>
</table>

2. Scores for reported intention will be positively associated with directly-measured and with indirectly-derived scores for behavioural attitude, subjective norm, and perceived behavioural control.

This hypothesis was addressed by: a) examining the frequency distributions, means, and standard deviations of the scores from the direct and indirect measurement of behavioural attitude, subjective norm, and perceived behavioural control; and b) computing correlations between intention scores and the directly-measured and indirectly-derived scores for behavioural attitude, subjective norm, and perceived behavioural control, respectively.
Measurement of Behavioural Attitude

Direct Measurement of Behavioural Attitude

a) Semantic Differential Scales

There were 7 bipolar semantic differential scales related to attitude toward collaborating with midwives. The forty summative total semantic differential scores ranged from 7 to 49 ($M = 27.3$, $s.d. = 9.7$); there were 5 missing scores. The mean represents a fairly neutral score for behavioural attitude by this sample since the neutral-point of the scale was 28. The Kolmogorov-Smirnov Goodness of Fit Test demonstrated a normal data distribution ($K-S Z = .492$, $p = .969$). See Appendix L for the results of the individual semantic differential questions.

b) Global Linear Analogue Scale

On the Global Attitude Linear Analogue Scale, the 40 scores ranged from 0 to 100 ($M = 43.4$, $s.d. = 33.1$) (see Table 3). The mean of this scale represents a slightly negative score for behavioural attitude. Note that 11 (27.5%) participants provided very negative scores for overall attitude (scores <9).

Scores from participants with completed data on both the linear analogue and semantic differential scales were examined by computing correlations between these two scores. The Behavioural Attitude Linear Analogue and the scores on
the Semantic Differential Scales were moderately correlated \((r = .75, p<.01, n = 40)\).

**Table 3. Direct Measurement of Behavioural Attitude:**

_Distribution of Global LAS Scores_ (N=45; n=40; 5 incomplete scales) (M = 43.2, s.d. = 33.1)

<table>
<thead>
<tr>
<th>Scores</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 9</td>
<td>11</td>
<td>27.5</td>
</tr>
<tr>
<td>10 - 19</td>
<td>2</td>
<td>5.0</td>
</tr>
<tr>
<td>20 - 29</td>
<td>2</td>
<td>5.0</td>
</tr>
<tr>
<td>30 - 39</td>
<td>3</td>
<td>7.5</td>
</tr>
<tr>
<td>40 - 49</td>
<td>3</td>
<td>7.5</td>
</tr>
<tr>
<td>50 - 59</td>
<td>5</td>
<td>12.5</td>
</tr>
<tr>
<td>60 - 69</td>
<td>4</td>
<td>10.0</td>
</tr>
<tr>
<td>70 - 79</td>
<td>2</td>
<td>5.0</td>
</tr>
<tr>
<td>80 - 89</td>
<td>3</td>
<td>7.5</td>
</tr>
<tr>
<td>90 - 100</td>
<td>5</td>
<td>12.5</td>
</tr>
<tr>
<td>Total=40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LAS Scores</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incomplete</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Total=45</td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

**Indirect Measurement of Behavioural Attitude**

The transformed scores for the indirect measurement of behavioural attitude were computed as described in the Methods chapter (see page 48). These indirectly-derived scores could range from 1 to 100; the observed scores ranged from 13.4 to 71.5 (see Table 4). The mean was 36.6 (s.d. = 15.95, n = 27). The observed mean was below the theoretical neutral point of the scale, which is 50. Thus, the
indirectly-measured mean score represents a somewhat negative behavioural attitude in this sample. The Kolmogorov-Smirnov Goodness of Fit Test demonstrated a normal test distribution (K-S Z = .900, p = .393). Separate examination of each of the 12 beliefs and outcome evaluations is reported in Appendix M.

Table 4. Indirect Measurement of Behavioural Attitude (N=45; n=27; 18 missing scores)

<table>
<thead>
<tr>
<th>Transformed Data</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scores</td>
<td>Freq</td>
</tr>
<tr>
<td>0-9</td>
<td>0</td>
</tr>
<tr>
<td>10-19</td>
<td>3</td>
</tr>
<tr>
<td>20-29</td>
<td>9</td>
</tr>
<tr>
<td>30-39</td>
<td>4</td>
</tr>
<tr>
<td>40-49</td>
<td>5</td>
</tr>
<tr>
<td>50-59</td>
<td>3</td>
</tr>
<tr>
<td>60-69</td>
<td>2</td>
</tr>
<tr>
<td>70-79</td>
<td>1</td>
</tr>
<tr>
<td>80-89</td>
<td>0</td>
</tr>
<tr>
<td>90-100</td>
<td>0</td>
</tr>
<tr>
<td>n=27</td>
<td></td>
</tr>
</tbody>
</table>
Measurement of Subjective Norm

Direct Measurement of Subjective Norm

Twenty-nine complete LAS scores were obtained (16 incomplete scales), and ranged from 4 to 94 (M = 53.7, s.d. = 21.9) (see Table 5). This mean represents a slightly positive subjective norm held by this sample. The Kolmogorov-Smirnov Goodness of Fit Test demonstrated a normal data distribution (K-S Z = .568, p = .904).

Table 5. Direct Measurement of Subjective Norm: Distribution of LAS Scores (N=45; n=29; 16 incomplete scales) (M = 53.7, s.d. 21.9)

<table>
<thead>
<tr>
<th>Score</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 9</td>
<td>1</td>
<td>3.4</td>
</tr>
<tr>
<td>10 - 19</td>
<td>2</td>
<td>6.9</td>
</tr>
<tr>
<td>20 - 29</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30 - 39</td>
<td>3</td>
<td>10.3</td>
</tr>
<tr>
<td>40 - 49</td>
<td>5</td>
<td>17.2</td>
</tr>
<tr>
<td>50 - 59</td>
<td>5</td>
<td>17.2</td>
</tr>
<tr>
<td>60 - 69</td>
<td>6</td>
<td>20.7</td>
</tr>
<tr>
<td>70 - 79</td>
<td>3</td>
<td>10.3</td>
</tr>
<tr>
<td>80 - 89</td>
<td>1</td>
<td>3.4</td>
</tr>
<tr>
<td>90 - 100</td>
<td>2</td>
<td>6.9</td>
</tr>
<tr>
<td>Total=29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Incomplete LAS Scales

<table>
<thead>
<tr>
<th>Total</th>
<th>45</th>
<th>100%</th>
</tr>
</thead>
</table>
Indirect Measurement of Subjective Norm

The transformed data for the indirect measurement of subjective norm were computed as described in the Methods chapter. Theoretically, these indirectly-measured scores could range from 1 to 100; the observed raw scores ranged from to 17.5 to 47.9, with a mean of 28.9 (s.d. = 6.0, n = 38) (see Table 6). The observed mean was below the theoretical neutral point of the scale, which is 50. Thus, the mean score implies that this sample of obstetrical nurses may not have been very concerned that specific individuals or groups think that they should collaborate with midwives and/or may not have been likely to comply with these significant others. Note that all scores fell below the theoretical neutral point on the scale. The Kolmogorov-Smirnov Goodness of Fit Test demonstrated a normal data distribution (K-S Z = .528, p = .943). A separate examination of normative belief scores and motivation to comply scores is described in Appendix N.
Table 6. Indirect Measurement of Subjective Norm (N=45; n=27; 18 missing scores)

<table>
<thead>
<tr>
<th>Transformed Data Distribution</th>
<th>Scores</th>
<th>Freq</th>
<th>Mean</th>
<th>s.d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>0</td>
<td>28.9</td>
<td>6.0</td>
<td></td>
</tr>
<tr>
<td>10-19</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-39</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-49</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50-59</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-69</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70-79</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80-89</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90-100</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n=27</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Measurement of Perceived Behavioural Control

Direct Measurement of Perceived Behavioural Control

The 33 reported scores ranged from 1 to 94 (12 unreported scores) with an overall mean of 40.6 and a standard deviation of 28.1 (see Table 7). This mean score implies a somewhat negative evaluation of perceived behavioural control by this sample. The Kolmogorov-Smirnov Goodness of Fit Test demonstrated a normal data distribution (K-S Z = .858, p = .454).
Table 7. **Direct Measurement of Perceived Behavioural Control: Distribution of LAS Scores** (N=45; n=33; 12 incomplete scales) (M = 40.6, s.d. = 28.1)

<table>
<thead>
<tr>
<th>Score</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 9</td>
<td>4</td>
<td>12.1</td>
</tr>
<tr>
<td>10 - 19</td>
<td>6</td>
<td>18.2</td>
</tr>
<tr>
<td>20 - 29</td>
<td>4</td>
<td>12.1</td>
</tr>
<tr>
<td>30 - 39</td>
<td>3</td>
<td>9.0</td>
</tr>
<tr>
<td>40 - 49</td>
<td>4</td>
<td>12.1</td>
</tr>
<tr>
<td>50 - 59</td>
<td>2</td>
<td>6.1</td>
</tr>
<tr>
<td>60 - 69</td>
<td>2</td>
<td>6.1</td>
</tr>
<tr>
<td>70 - 79</td>
<td>5</td>
<td>15.1</td>
</tr>
<tr>
<td>80 - 89</td>
<td>2</td>
<td>6.1</td>
</tr>
<tr>
<td>90 -100</td>
<td>1</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

| Unreported   | 12        |
| **Total**    | **45**    | **100%**|

**Indirect Measurement of Perceived Behavioural Control**

The transformed data for the indirect measurement of perceived behavioural control were computed as described in the Methods chapter. Theoretically, these indirectly-measured scores could range from 1 to 100; the observed raw scores ranged from 9 to 60 (n = 32, 13 unreported scores), with a mean of 36.2 (s.d. = 12.3) (Table 8). The observed mean was below the theoretical neutral point of the scale, which is 50. Thus, the scores imply that this sample of obstetrical nurses had slightly negative control beliefs toward collaborating with midwives. The Kolmogorov-Smirnov
Goodness of Fit Test demonstrated a normal data distribution (K-S Z = .481, p = .975). A separate examination of control beliefs scores and the perceived power scores is described in Appendix O.

Table 8. Indirect Measurement of Perceived Behavioural Control (N=45; n=32; 13 missing scores)

<table>
<thead>
<tr>
<th>Transformed Data Distribution</th>
<th>Scores</th>
<th>Freq</th>
<th>Mean</th>
<th>s.d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>0</td>
<td>36.2</td>
<td>12.3</td>
<td></td>
</tr>
<tr>
<td>10-19</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-39</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-49</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50-59</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-69</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70-79</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80-89</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90-100</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

n=32
Correlations

Directly-Measured Independent Variables

Significant Pearson Product-Moment coefficients indicated that the scores for behavioural attitude (as directly measured on the semantic differential scale) \( r = .67 \) and for the direct measurement of perceived behavioural control \( r = .65 \) were related to the scores for intention to collaborate \( p<.001 \). These correlation coefficients support Hypothesis 2 (see Table 9). On the other hand directly-measured scores for subjective norm were not significantly correlated with the scores for intention to collaborate \( r = 0.42, p=.05, \text{ ns} \), which doesn't support the Hypothesis 2.
Table 9. Correlation Coefficients of Scores for Directly-Measured Independent Variables and Intention

<table>
<thead>
<tr>
<th>Independent Variable:</th>
<th>Correlation With Intention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Measurement of Behavioural Attitude - Semantic</td>
<td>.67**</td>
</tr>
<tr>
<td>Differentials</td>
<td>n=35</td>
</tr>
<tr>
<td>Direct Measurement of Behavioural Attitude - Global LAS</td>
<td>.72**</td>
</tr>
<tr>
<td></td>
<td>n=38</td>
</tr>
<tr>
<td>Direct Measurement of Subjective Norm</td>
<td>.42</td>
</tr>
<tr>
<td></td>
<td>n=29</td>
</tr>
<tr>
<td>Direct Measurement of Perceived Behavioural Control</td>
<td>.65**</td>
</tr>
<tr>
<td></td>
<td>n=33</td>
</tr>
</tbody>
</table>

2-tailed significance: * p<.01  ** p<.001

Indirectly-Measured Independent Variables

Significant Pearson Product-Moment coefficients indicated that the indirectly-derived scores for behavioural attitude \( r = .64, p<.01 \) and perceived behavioural control \( r = .79, p<.001 \) were related to the scores of intention to collaborate (Table 10). These correlation coefficients support Hypothesis 2. On the other hand, indirectly-derived scores for subjective norm were not significantly related to intention scores \( r = .19, \text{ns} \), which does not support Hypothesis 2.
Table 10. Correlation Coefficients of Scores for Indirectly-Measured Independent Variables and Intention

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Correlation With Intention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect Measurement of Behavioural Attitudes</td>
<td>.64*</td>
</tr>
<tr>
<td></td>
<td>n=24</td>
</tr>
<tr>
<td>Indirect Measurement of Subjective Norm</td>
<td>.19</td>
</tr>
<tr>
<td></td>
<td>n=36</td>
</tr>
<tr>
<td>Indirect Measurement of Perceived Behavioural Control</td>
<td>.79**</td>
</tr>
<tr>
<td></td>
<td>n=27</td>
</tr>
</tbody>
</table>

2-tailed significance: * p<.01  ** p<.001

Secondary Hypothesis

1. This sample of obstetrical nurses' directly-measured scores for behavioural attitude, subjective norm, and perceived behavioural control will be positively correlated with their indirectly-derived scores for each of these variables.

The relationships between directly and indirectly-measured independent variables were explored using Pearson Product-Moment correlation coefficients and are reported in Table 11. The indirectly-measured scores for behavioural attitude were significantly correlated with the directly-measured semantic differential scores (r = .55, p<.01) and the Global LAS scores (r = .87, p<.001)(Table 11). These
correlation coefficients support the secondary hypothesis. Similarly, the indirectly-measured scores for perceived behavioural control were significantly correlated with the directly-measured scores ($r = .76, p<.001$). This correlation coefficient also supports the secondary hypothesis (see Table 11). On the other hand, the scores for the indirect measurement of subjective norm were not significantly correlated with the directly-measured subjective norm scores ($r = .29, \text{ns}$) (Table 11), which does not support the secondary hypothesis.
### Table 11. Correlational Matrix of Directly- and Indirectly-Measured Scores for Behavioural Attitude, Subjective Norm, and Perceived Behavioural Control

<table>
<thead>
<tr>
<th></th>
<th>Direct Measure of Behavioural Attitude - Semantic Differentials</th>
<th>Direct Measure of Subjective Norm</th>
<th>Direct Measure of Perceived Behav Control</th>
<th>Direct Measure of Beh. Attitude LAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect Measure of Behav. Attitude -</td>
<td>.55* n=26</td>
<td>.40 n=20</td>
<td>.58* n=22</td>
<td>.87** n=25</td>
</tr>
<tr>
<td>Indirect Measure of Subj. Norm</td>
<td>.41 n=35 p=.01</td>
<td>.29 n=28</td>
<td>.43 n=31 p=.01</td>
<td>.35 n=37 p=.03</td>
</tr>
<tr>
<td>Indirect Measure of Perceived Behavioural Control</td>
<td>.64** n=30</td>
<td>.27 n=22</td>
<td>.76** n=25</td>
<td>.85** n=25</td>
</tr>
</tbody>
</table>

2-tailed significance: * p<.01 ** p<.001

**Primary Research Question**

1. To what extent do obstetrical nurses' directly- and indirectly-measured scores for: a) behavioural attitude toward collaboration with midwives; b) subjective norm; and c) perceived behavioural control account for the variance in scores for their intention to collaborate with midwives in the care of midwifery clients?
Direct-Measurement of Independent Variables

The directly-measured scores for behavioural attitude contributed significantly \( F(1,25) = 23.91, p < .001 \) towards explaining 49% of the variance in the intention scores (Table 12). The directly-measured scores for subjective norm contributed an additional 3% \( (p=.22, \text{ns}) \) of the variance in intention scores, and the two variables together accounted for 52% of the variance \( F(2,24) = 13.06, p<.001 \). The directly-measured scores for perceived behavioural control were not entered in the regression analysis because they were highly correlated with the directly-measured scores for behavioural attitude \( (r = .73, p<.001) \) and thus were considered collinear.

In summary, it appears that much of the variance in the intention to collaborate with midwives was due to behavioural attitude toward collaborating with midwives in the care of midwifery clients. Subjective norm made a small contribution to the variance of intention. This is not surprising since subjective norm was not significantly correlated with intention (see Table 12).
Table 12. Multiple Regression Equations: Contributions of Directly-Measured Scores for Behavioural Attitude and Subjective Norms to Variance in Intention Scores (n=26)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Regres. Coeff.</th>
<th>$R^2$</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Measur. of Beh. Attitude</td>
<td>.70</td>
<td>.49</td>
<td>1,25</td>
<td>23.91</td>
<td>&lt;.001</td>
<td>.64</td>
</tr>
<tr>
<td>Direct Measur. Of Subject. Norm</td>
<td>.72</td>
<td>.52</td>
<td>2,24</td>
<td>13.06</td>
<td>&lt;.001</td>
<td>.19</td>
</tr>
</tbody>
</table>

Indirectly-Measured Independent Variables

The scores for the indirectly-measured behavioural attitude contributed significantly ($F (1,22) = 15.37, p<.001$) towards explaining 41% of the variance in scores for intention (see Table 13). Scores for indirectly-measured subjective norm contributed an additional 1% ($p=.54$, ns) of the variance in intention scores; the two variables together accounted for a total of 42% of the variance in intention ($F (2,21 ) = 7.67, p<.01$) (see Table 13).

The scores for indirectly-measured perceived behavioural control were not entered in the regression analysis because they were highly correlated with the scores
for the indirectly-measured behavioural attitude ($r = .74$, $p<.001$) and were considered collinear. The results of this analysis should also be viewed with caution given the small sample size.

Table 13. **Multiple Regression Equations: Contributions of Indirectly-Measured Scores for Behavioural Attitude and Subjective Norm to Variance in Intention Scores (n=23)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Regres. Coeff.</th>
<th>$R^2$</th>
<th>df</th>
<th>$F$</th>
<th>$p$</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect Measur. of Beh. Attitude</td>
<td>.64</td>
<td>.41</td>
<td>1,22</td>
<td>15.37</td>
<td>&lt;.001</td>
<td>.62</td>
</tr>
<tr>
<td>Indirect Measur. Of Subject. Norm</td>
<td>.65</td>
<td>.42</td>
<td>2,21</td>
<td>7.67</td>
<td>&lt;.003</td>
<td>.11</td>
</tr>
</tbody>
</table>

2. To what extent have obstetrical nurses collaborated with midwives in the care of midwifery clients since the implementation of midwifery in the hospital setting?

Since it was not possible to measure obstetrical nurses' actual collaborative behaviour with midwives, an attempt was made to examine obstetrical nurses' past collaborative efforts with midwives, for the purpose of describing the sample.
The 37 scores ranged from a minimum of 0 to 100 on the Retrospective Measure of Previous Collaborative Practice Linear Analogue Scale (see Table 14). The mean (\(M = 74.4\), s.d. = 26.8) represents a very positive report of past collaborative behaviour. It should be noted that fourteen obstetrical nurses (37.8%) reported very high scores (90-100) indicating that they had previously provided almost full collaborative effort with midwives.

Ajzen (1991) noted that past behaviour may reflect the impact of factors that influence later behaviour. Past behaviour may have a small, but possibly significant residual effect, beyond the predictor variables in a theoretical model. However, Ajzen (1991) also stated that past behaviour cannot be considered a causal factor in its own right. Therefore, no presumptions can be made from this sample's mean score. However, the mean score indicates that this sample reported having provided a large amount of previous collaborative effort in the past, and this past behaviour may positively influence future collaborative behaviour.
Table 14. Scores for the Retrospective Measure of Previous Collaborative Effort Linear Analogue Scale (N=45; n=37; 8 incomplete scales) (M = 74.4, s.d. = 26.8)

<table>
<thead>
<tr>
<th>Value</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>1</td>
<td>2.7</td>
</tr>
<tr>
<td>10-19</td>
<td>2</td>
<td>5.4</td>
</tr>
<tr>
<td>20-29</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30-39</td>
<td>1</td>
<td>2.7</td>
</tr>
<tr>
<td>40-49</td>
<td>3</td>
<td>8.1</td>
</tr>
<tr>
<td>50-59</td>
<td>3</td>
<td>8.1</td>
</tr>
<tr>
<td>60-69</td>
<td>2</td>
<td>5.4</td>
</tr>
<tr>
<td>70-79</td>
<td>2</td>
<td>5.4</td>
</tr>
<tr>
<td>80-89</td>
<td>9</td>
<td>24.3</td>
</tr>
<tr>
<td>90-100</td>
<td>14</td>
<td>37.8</td>
</tr>
<tr>
<td>Unreported Scores</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>100%</td>
</tr>
</tbody>
</table>

Additional Analyses

Reliability Coefficients

Direct Measurement of Behavioural Attitude-Semantic Differentials

The Cronbach's alpha coefficient for the semantic differential scale was .80 (n=40).
Indirectly-Measured Independent Variables

Table 15 presents the Cronbach's alpha coefficients indicating the internal consistency for the Likert scales in the present study. The scores for the multiplicative composite (belief item x its moderator) were used to explore internal consistency. The internal consistency coefficient was the highest for the indirect measurement of behavioural attitude (alpha = .83) (see Table 15). The internal consistency coefficient was lowest for the indirect measurement of perceived behavioural control (alpha = .60).

The negative Cronbach’s alpha coefficient observed for the indirect measurement of subjective norm implied that the scale may not be measuring a unidimensional construct. This is a notable issue since the existence of disparate constructs within this set of scales makes the assessment of internal reliability inappropriate.
Table 15. Reliability Coefficients for the Likert Scales

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Cronbach's alpha</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect Measurement of Behavioural Attitude</td>
<td>.83</td>
<td>n=27</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18 incomplete scales</td>
</tr>
<tr>
<td>Indirect Measurement of Subjective Norm</td>
<td>-.98</td>
<td>n=30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 incomplete scales</td>
</tr>
<tr>
<td>Indirect Measurement of Perceived Beh. Control</td>
<td>.60</td>
<td>n=32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13 incomplete scales</td>
</tr>
</tbody>
</table>

Notable Items:

For all indirectly-measured independent variables, interesting results were obtained on the items assessing beliefs and their modifiers. These results are described in detail in Appendices N-P. The most notable items for each indirectly-measured variable are described below.

Indirect Measurement of Behavioural Attitude

Note that the most highly rated belief item in this section referred to obstetrical nurses’ ability to teach certain skills to/share knowledge with midwives ($M = 5.8$, s.d. = 1.0) (Appendix N). The lowest attitudinal mean was observed for the question that referred to the legal responsibility to the midwifery client ($M = 2.2$, s.d. = 1.6). The highest mean among the outcome evaluation
questions was obtained on the item which assessed the importance of job satisfaction to the obstetrical nurse ($M = 6.0$, s.d. $= 1.8$). The lowest evaluative mean was obtained on the question which referred to the importance of legal responsibility to the midwifery client ($M = 1.4$, s.d. $= 0.9$).

*Indirect Measurement of Subjective Norm*

Note that the Nursing Unit Administrator ($M = 5.3$, s.d. $= 1.0$) was scored as the most important normative referent and that the physicians ($M = 2.9$, s.d. $= 1.4$) were scored as the least important normative referents (Appendix O). On the motivation to comply questions, this sample’s highest mean score was obtained for the Nursing Unit Administrator ($M = 4.5$, s.d. $= 1.8$), and the lowest mean was obtained for nursing colleagues ($M = 2.4$, s.d. $= 1.2$).

*Indirect Measurement of Perceived Behavioural Control*

Note that the highest mean was obtained on the belief question which referred to obstetrical nurses midwives holding a similar philosophy of care ($M = 5.0$, s.d. $= 1.7$), and the lowest mean was obtained on the belief question which referred to nursing as foundation for midwifery education ($M = 1.9$, s.d. $= 1.4$) (Appendix P). The highest mean on the perceived power questions was 5.3. This observation appeared on two questions; the first referred to collaboration being mandatory for obstetrical nurses ($M = 5.3$).
5.3, s.d. = 1.7), and the second stated "I do not collaborate with midwives because nurses may lose jobs because of midwives" ($M = 5.3$, s.d. = 1.8). The lowest mean was obtained on the perceived power question which referred to midwives' orders being carried out by obstetrical nurses ($M = 3.3$, s.d. = 2.1).
Chapter V

Discussion

The results of this investigation will be discussed in relation to the Theory of Planned Behaviour (Ajzen, 1985; 1988; 1991). This theory was chosen for its consideration of factors of volitional control over an intended behaviour. Caution must be used in interpreting the results of this study, since the small convenience sample limits their generalizability. However, some notable observations were made and several of the hypothesised relationships were supported.

The Sample

The characteristics of the sample indicate that it was drawn from an exclusively female population (100%) of generally experienced obstetrical nurses ($M = 11.5$ years), most of whom were employed mainly full time (68.8%), and were aged 30 - 39 years ($M = 37.9$ years). This sample included several nurses (12) who had midwifery training and experience in countries other than Canada (29.3%) (Table 1).

The response rate was 45%, which approximately met the standard for mailed questionnaires (Polit & Hungler, 1991). If a second mailing of the questionnaire had been done, the response rate may have been improved (Wilson, 1987).

Sampling bias may be present in this study. It is possible that the respondents who chose to participate in
this study may have held either strong positive or strong negative feelings related to midwifery and thus chose to complete the questionnaire. Therefore, it should be noted that the opinions of the study sample may not be representative of the opinions of the larger group (Nunnally, 1970) of obstetrical nurses. Following this logic, the results from this study are not generalizable beyond the sample studied.

**Behavioural Attitude**

Three measurements of respondents' behavioural attitude toward collaborating with midwives were obtained in this study. Two involved direct measurement--1) a global attitude score using a LAS, and 2) a score derived by semantic differentials. A third, indirect, measure consisted of scores derived from behavioural beliefs and evaluations of outcomes.

**Directly-Measured Scores for Behavioural Attitude**

**Global Attitude Linear Analogue Scale**

The mean score on the Global Attitude Linear Analogue Scale was 43.4 (s.d. = 33.2) out of a possible score of 100, which indicates that this sample held a slightly negative evaluation of collaboration with midwives (Table 3). A biasing effect may have been induced by providing the rater with the particular definition of collaboration used here (see Appendix B, part b).
Semantic Differentials

The mean score on the attitude semantic differentials was 27.35 (s.d. = 9.66), out of a possible 49 (mid range of scale = 28). This indicates that many obstetrical nurses in this sample held neutral if not slightly negative attitudes toward collaborating with midwives. The overall slightly negative impression of the reports from this sample was primarily created by the "good-bad" and "easy-difficult" semantic differentials (for more detailed results of semantic differentials see Appendix L). It is understandable that the sample of nurses would find it "difficult" to undertake collaboration with a new group of health professionals. However, the investigator was surprised that many nurses selected the "collaboration with midwives is bad" response. The other five semantic differential scales were scored very neutrally by the sample. These ambivalent or neutral feelings toward midwifery were evident in many of the comments written on the questionnaires. Many comments written on the questionnaires (see Appendix P) described this sample's negative attitudes about the ongoing changes.

Summary of Directly-Measured Scores for Behavioural Attitude

The two directly-measured scores were moderately correlated (r = .75, p < .001); this indicates that they may be measuring the same concept. The neutral to slightly
negative scores on the direct measures of behavioural attitude did not result in a neutral or slightly negative intention to collaborate with midwives.

**Indirectly-Derived Scores for Behavioural Attitude**

Since the sum-of-product method of computation tends to inflate the scores above the theoretical neutral point, these raw scores were not reported (see discussion in Methods chapter). However, the mean transformed score for the indirectly-measured behavioural attitude (36.6) indicates that the respondents held negative behavioural beliefs and outcome evaluations towards collaborating with midwives (see Table 4). This transformed mean appears to be consistent with the somewhat negative scores of the two directly measured means for behavioural attitude.

It should be noted that the validity of the indirect measure of behavioural beliefs has not been established. However, it is reassuring that the Cronbach's alpha coefficient for this scale was .83, and that the indirect and direct-measures for behavioural attitude were moderately correlated ($r = .55$, $p< .01$).

There may have been an unknown order effect induced here, in that the behavioural belief items were immediately followed by the outcome evaluation items. However, the means of the outcome evaluation items were not scored consistently higher or lower than the means of the belief
items. Similarly, the standard deviations of the outcome evaluation questions were not consistently higher or lower than the standard deviations of the belief items. At the same time, it is still possible that some type of order effect may have occurred even though it is not readily apparent. For example, if an obstetrical nurse held a very strong positive or negative belief about a particular item, the immediately-following second opportunity to evaluate the same topic may have resulted in a more extreme evaluative answer. However, it is also possible that the nurse could become bored with answering an outcome evaluation question about the same topic as the belief question, and therefore answer more neutrally. If this study were to be repeated, to mitigate a possible order effect, the behavioural belief items should appear together as a set, followed by the set of outcome evaluation questions.

**Summary of Behavioural Attitude**

The indirectly-derived scores for behavioural attitude were moderately to highly correlated with: 1) the directly-measured scores of the behavioural attitude semantic differentials; and 2) the directly-measured LAS scores for behavioural attitude. These two directly-measured scores for behavioural attitude were significantly correlated. The indirectly-derived scores for behavioural attitude were significantly correlated with scores for intention. Also,
both of the directly-measured scores for behavioural attitude were significantly correlated with scores for intention. These hypothesised relationships support the Theory of Planned Behaviour (Ajzen, 1985).

**Subjective Norm**

Two measures of respondents' subjective norm related to collaboration with midwives were obtained in this study. A directly-measured score was obtained using a LAS, and indirectly-measured scores derived from normative beliefs and motivations to comply were also obtained.

**Directly-Measured Scores for Subjective Norm**

The mean score on the direct measure of subjective norm reflected a fairly neutral response by this sample \( M = 53.7 \). This neutral mean may indicate that either: 1) many nurses in this sample believed that important others neither approved or disapproved of them collaborating with midwives in the care of midwifery clients; or 2) this sample felt that some referents approved of them collaborating, and other referents disapproved of them collaborating with midwives.

**Indirectly-Derived Scores for Subjective Norm**

The mean score for the indirect measurement of subjective norm was 28.9 \( (s.d. = 6.9) \). These results imply a somewhat negative subjective norm score for this sample since the theoretical neutral point was 50. According to
the TPB (1985), the respondents' scores indicate that they did not perceive that important others believed that they should collaborate with midwives; thus, by inference, they did not perceive social pressure to do so.

The mean from this sample may be: a) reflective of the independent thinking and autonomous practice behaviours of many obstetrical nurses; and/or b) reflective of nurses who do not wish to perform their nursing care in order to please certain referents. See “Implications” (p. 115) for more detailed account of the normative beliefs and motivation to comply items.

Again, it should be noted that there may be an unknown order effect related to the sequence of questions for the indirect measure of subjective norm. The logic for this potential scoring bias is comparable to that described earlier regarding the indirect measurement of behavioural attitude. The mean for each motivation to comply question was lower than the mean for the normative belief question; it is unclear whether this is related to the order of the questions. If this study were to be repeated, to offset this possible bias, it is suggested that the set of normative beliefs questions should appear in the questionnaire before the set of motivation to comply questions.
Summary of Subjective Norm

Indirectly- and directly-measured scores for subjective norm were not correlated in this sample \( r = .29, \text{ ns} \). The lack of relationship may be due to the motivation to comply aspect of the indirect measure of subjective norm, the items of which were rated more negatively than the belief items (see Appendix N). Hence, since the linear analogue for subjective norm did not take motivation to comply into account, it was not surprising that the direct measure was not correlated with the indirect measure of subjective norm.

The direct measure of subjective norm has been measured many different ways. A direct measure of subjective norm was calculated with a single scale by Young et al. (1991). Ajzen and Driver (1992) and Ajzen and Madden (1986) used two scales to directly measure subjective norm; however, Ajzen and Madden (1986) used one of the scales to assess motivation to comply. Thus, since there has been no consistency or "gold standard" in the method for directly measuring subjective norm, the method used here should not be dismissed as invalid. However, the inclusion of an item to assess motivation to comply within the direct measure of subjective norm is suggested for further research.
Perceived Behavioural Control

Two measures of perceived behavioural control were obtained in this study: 1) a direct measure; and 2) and indirect measure (based on control beliefs and perceived power).

Directly-Measured Scores for Perceived Behavioural Control

The mean directly-measured score for perceived behavioural control \( (M = 40.6, \text{ s.d.} = 21.9) \) demonstrates a somewhat negative evaluation of control factors by this sample of nurses (middle point of scale = 50). The distribution of scores indicates that the sample may have felt it had been difficult to collaborate with midwives. When the data were collected, midwives had hospital privileges for a few months only and the collaboration process was still being established. Collaboration with midwives is a behavioural goal over which obstetrical nurses have only limited volitional control. Collaboration depends on the participation of both members of an interprofessional relationship, thus limiting volitional control. Change is a difficult process, and incorporation of a new health profession has been documented in the literature as a time of conflict (Blais et al., 1991; Haas & Rooks, 1986; Hazle, 1985; Robinson et al., 1993).

Ajzen (1985) notes that some behaviours are more likely to present problems of control than others. Collaboration
may be a behaviour that presents some problem of control in that true collaboration also depends on the other member of the interprofessional relationship. Ajzen (1985) notes that "an inability to carry out an intention because of dependence on others may have little effect on the underlying motivation" (p. 29). Thus, if an intention to perform a behaviour, like collaboration, fails because of dependence on others, repeated efforts will be made or a more compliant partner may be sought. The intention remains unchanged unless repeated efforts to perform the behaviour fail, at which point potentially more fundamental changes in intentions can be expected (Ajzen, 1985).

Ajzen and Madden (1986) used three questions relating to control issues about performing the behaviour. These included: 1) "How much control do you have over (the behaviour of interest)"; 2) "If I wanted to I could (perform the behaviour of interest)"; and 3) an "ease/difficult" question similar to the one included in this study. Ajzen and Driver (1992) used two questions. These included: 1)"I believe I have the resources needed to (perform the behaviour in question)"; and 2) an "ease/difficult" question similar to the one included in this study. Young et al. (1991) used one question inquiring about the ease/difficulty of performing the behaviour of interest, and stated that it is an appropriate direct measure of PBC. Thus, there has
been no consistency or "gold standard" in measurement
techniques for directly-measured perceived behavioural
control. Therefore, the method used in this study should
not be dismissed as invalid, however, in future research,
the inclusion of two additional questions (such as "How much
control do you have over whether you do or do not
collaborate with midwives" and "If I wanted to I could
easily collaborate with midwives") is suggested for the
direct-measurement of PBC.

Indirectly-Derived Scores for Perceived Behavioural Control

The mean indirectly-derived score for PBC implies a
somewhat negative response by this sample of obstetrical
nurses ($M = 36.2$, s.d. = 12.3) (middle point of scale =50).
This means that the participants reported responses which
reflected negative control beliefs and/or negative perceived
power. This is not a surprising result, since some issues
of collaborating with midwives are beyond the obstetrical
nurses' control.

All of the questions used for the indirect measure of
PBC were based on issues that make it "easy" or "difficult"
to collaborate with midwives (Appendix O). The ten
questions all have a very tenuous link to the concept of
"control". Therefore, this part of the questionnaire should
be considered a potentially less valid method of assessing
perceived behavioural control. However, the indirect
measure of PBC used in this study was moderately and significantly correlated with the scores of the direct measure of PBC ($r = .76, p<.001$) and intention scores ($r = .79, p<.001$). The items included for the indirect measure of PBC may not accurately represent perceived behavioural control; however, they may be important in determining intention scores. These items may actually be items that could be included in the indirect measure of behavioural attitude, since they are significantly correlated to the scores of the indirect measure of behavioural attitude ($r = .74, p<.001$).

There may be an unknown order effect induced by the sequence of questions for the indirect measure of perceived behavioural control. The logic for this potential scoring bias is comparable to that described earlier regarding the indirectly-measured behavioural attitude. The means of the perceived power questions were neither consistently higher or lower than the scores for the control belief items. However, the standard deviations were consistently wider than the standard deviations for the belief questions. This may indicate more extreme responses for the perceived power questions. However, it is uncertain whether this widening of the standard deviation is related to the order of the questions in this questionnaire or related to the questions themselves. If this study were to be repeated, it is
suggested that the set of control belief questions appear before the set of perceived power questions.

**Summary of Perceived Behavioural Control**

Both the indirectly- and directly-measured mean scores reflected a somewhat negative evaluation of perceived behavioural control. There was a significant correlation between the two measures ($r = .76, p<.001$), as hypothesised. However, this should be viewed with caution, since the items included for the indirect measure of PBC may have a tenuous link to the concept of "control".

It is suggested that, for future research, other LAS questions should be included to complement the "ease/difficulty" LAS question in a direct-measure of perceived behavioural control. This is supported by Ajzen and Madden (1985), who included three LAS questions for the direct measurement of perceived behavioural control, and Ajzen and Driver (1992), who included two LAS questions to assess the direct measurement of perceived behavioural control.

In support of the Theory of Planned Behaviour (Ajzen, 1985), both the directly- and indirectly-measured scores for perceived behavioural control were moderately and significantly correlated with intention to collaborate with midwives ($p<.001$).
**Intention**

Intention was measured with a single linear analogue scale. Intention scores in this sample were mostly positive ($M = 61.5$, s.d. = 30.3) (middle point of scale = 50) (Table 2). Forced entry regression analysis revealed that the direct measurement of behavioural attitude and the direct measurement of subjective norm each contributed to the variance in the intention scores. The direct measurement of behavioural attitude contributed towards 49% of the variance in intention ($p<.001$) (see Table 12), subjective norm accounted for an additional 3% of the variance in intention scores, and the two independent variables accounted for a total of 52% of the variance ($p<.001$).

The direct measurement of perceived behavioural control was not added to the regression analysis since it was highly correlated with the direct measurement of behavioural attitude, and given the small sample size ($n = 25$), it was not possible to include another independent variable to regression analysis. When perceived behavioural control was not included in the regression model, the theory actually tested was the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1980). The TRA was supported with the two independent variables explaining the a notable percentage of the variance in intention scores.
In conclusion, the Theory of Planned Behaviour was supported by the statistically significant correlation coefficients for the relationships between intention and the direct measurements of behavioural attitude and perceived behavioural control. The Theory of Reasoned Action was supported by the significant contribution of the direct measurements of behavioural attitude and subjective norm to the variance in intention. However, the TPB and the TRA were not fully supported in that the direct and indirect measurements of subjective norm were not significantly correlated. Similarly, the two theories were not fully supported in that neither the direct and indirect measurements of subjective norm were significantly correlated with intention.
CHAPTER VI

Summary, Implications, and Conclusions

Summary

A number of studies have demonstrated the positive outcomes associated with collaborative practice among health professionals (Baggs & Schmitt, 1997; Baggs et al., 1992; Knaus et al., 1986; Koerner et al., 1986; Williams et al., 1982). However, in Ontario there have been few empirical studies of obstetrical nurses’ attitudes towards collaborating with midwives. This study explored this gap in the literature, using the Theory of Planned Behaviour (TPB) (Ajzen, 1986; 1988; 1991) as a means of investigating collaboration between obstetrical nurses and midwives. The TPB maintains that directly- and indirectly-measured behavioural attitude, subjective norm, and perceived behavioural control can account for reported intention, which in turn can predict behaviour (Ajzen; 1985; 1988; 1991).

A descriptive correlational design was used with a convenience sample of 45 obstetrical nurses from three hospital settings which had midwives with hospital admitting privileges. Data were collected using self-administered questionnaires which were returned anonymously to a collection box. The questionnaire sought demographic information as well as responses to direct and indirect
measures of behavioural attitude, subjective norm, and perceived behavioural control, as well as intentions toward collaborating with midwives in the care of midwifery clients.

Data for the study were analysed using the SPSS statistical software package. The sample included obstetrical nurses who tended to be 30-39 years old (35.5%), diploma educated (62.2%), and with 6-10 years of obstetrical nursing experience (28.8%). Twelve nurses in the sample (26.5%) had 1-10 years of midwifery practice in another country.

Ajzen has advocated the sum-of-products method of computation for the indirectly-measured independent variables. However, in this study all indirectly-measured independent variables were transformed in order to compensate for the inflation of the high scores that are induced by the sums-of-products method of computation.

Then, the Pearson's Product Moment Correlation coefficient (r) was used to assess the relationships among the independent variables of the theoretical framework, in order to advance our understanding of obstetrical nurses' intentions toward collaborating with midwives in the care of midwifery clients.

Overall, the mean score for intention reflected slightly positive intentions to collaborate with midwives in
the care of midwifery clients. However, the mean scores for most of the predictor variables were slightly negative. This was observed for: a) the mean scores for the indirect and direct measure (LAS) of behavioural attitude; b) the indirect measure of subjective norm; and c) both the indirect and direct measure of perceived behavioural control. Note that caution must be taken when interpreting scores from the indirect-measure of perceived behavioural control. The questionnaire items for this measure may have a tenuous link to the concept of "control", and therefore its' scores may not be clearly valid. The mean scores for the direct measurement of behavioural attitude (semantic differentials) and subjective norm were neutral.

Interprofessional collaboration is dependent upon all members of the health care team. The nurses in this sample tended to have scores that were either slightly above or below the neutral score for all variables in the framework. The mean scores for the three direct measures of the concepts of the TPB hovered around the theoretical neutral points of the scales. This may indicate that this sample was neither terribly enthusiastic nor very opposed to collaborating with midwives.

Support For the Theory of Planned Behaviour

According to the theory, the results obtained on the indirect and direct measure of behavioural attitude,
subjective norm, and perceived behavioural control should be correlated (Ajzen & Madden, 1986). This prediction was largely supported in this study. Indirect and direct measures for behavioural attitude were moderately correlated. Indirect and direct measures of perceived behavioural control (PBC) were also moderately correlated. However, since the validity of the indirect measure of PBC is questionable, this relationship should be viewed with caution. Furthermore, the relationship between indirect and direct measures of subjective norm was not significant.

Highly significant relationships were found between attitude and intention, as well as between perceived behavioural control and intention.

In support of the Theory of Planned Behaviour, the direct measure of behavioural attitude made the most significant contribution towards accounting for the variance in the intention scores. The direct measurement of subjective norm made a very small non-significant contribution in the intention scores.

Implications for Practice and Research

Implications for practice, theory, and research should be considered with caution, due to the small sample size. The results are not generalizable beyond the sample studied.
Practice

Midwives need supportive and collaborative relationships with obstetrical nurses for midwifery to be successful in the hospital setting. It is of concern that the directly- and indirectly-measured behavioural attitude scores were either neutral or negative in nature. These somewhat negative attitudes were also reflected in the comments that were written on the questionnaires (see Appendix P). The intention scores were the most positive out of all the measured concepts. For the purpose of smoothly integrating the profession of midwifery into the hospital setting, efforts should be made to support collaborative relationships between obstetrical nurses and midwives.

Collaboration contributes to excellent patient care and a rewarding work environment. To achieve these results, nurses need to improve their behavioural attitudes about collaborative practice. Attaining more positive attitudes toward collaboration may translate into more positive intentions to do so.

It should be noted that interprofessional collaboration requires the participation of all parties to contribute toward achieving the same goals. This study only explored the collaborative intentions of obstetrical nurses. The beliefs and intentions of midwives were not explored. Thus,
the implications derived from this study, are only directed at obstetrical nurses.

Three practice implications are suggested to increase positive collaborative intentions: 1) assist obstetrical nurses and midwives to understand the concepts of collaboration; 2) foster the change process; and 3) provide opportunities for interprofessional interaction.

1) Understanding the Concepts of Collaboration

To increase understanding of the collaborative process, Koerner et al. (1986) advocate theoretical, conceptual and clinical skill preparation to enhance the practical day-to-day opportunities for collaborative practice. This could be done through seminars and workshops in which the concepts of collaborative practice are reviewed. Through group participation, goals could be set, attitudes and behaviours could be explored, and expectations about collaboration could be addressed. Published research results could be supplied and reviewed in these seminars to increase staff awareness of the benefits of collaboration. These interactions may lead to increased respect for each other's roles and increased sensitivity to each other's perspectives (Pike et al., 1993).

2) Fostering the change process

The change process could be fostered by involving obstetrical nurses and midwives in the development of unit
policies. This would provide opportunities for the two professions to interact outside the clinical setting and provide an opportunity to develop mutual respect, understanding and cooperation (Bushnell & Dean, 1993; Lieba, 1993). Opportunities to address the emotions associated with the change process could be given to obstetrical nurses (Perlman & Takacs, 1990) through staff meetings and brainstorming sessions. Supporting positive interprofessional relationships in such a manner may increase the success of the integration of midwifery into the hospital setting. Collaboration cannot exist if only one discipline is committed to it. Therefore, both nursing and midwifery should be involved in the nurturing of their interprofessional relationships.

3) Increasing interprofessional interactions

Increasing interprofessional interactions has been associated with increased collaborative practice behaviours (Gregson et al., 1991; Weiss & Davis, 1985). This could be achieved by having open discussions between nurses and midwives about patient care and clinical practice issues, and about the delineation of goals and responsibilities. Collaborative intentions and practice behaviours may be increased by forming committees including both midwives and obstetrical nurses and by providing opportunities for face-to-face interactions (Gregson et al., 1991; Weiss & Davis,
1985). Social events including both professions may increase communication and provide opportunities for interaction.

**Practice Implications Derived From Indirectly-Measured Independent Variables**

Practice implications are derived from the results observed for each indirectly-measured independent variable. These are described below.

**Implications From the Indirectly-Derived Behavioural Attitude Scores**

Nursing Managers may find the scores from the indirectly-derived behavioural attitude scales helpful for understanding the behavioural beliefs and outcome evaluations of the sample. These data may provide insight into some areas of positive and negative feelings.

Some very positive feelings were identified in the following areas. The behavioural belief item that was scored most positively by this sample of obstetrical nurses referred to obstetrical nurses' ability to teach certain skills to/share knowledge with midwives ($M = 5.8$, s.d. = 1.0) (see question 8a in Appendix C). The respondents also positively scored the belief item and outcome evaluation item that referred to the achievement of better quality maternal care resulting from collaboration ($M = 4.8$, s.d. = 2.0 and $M = 5.1$, s.d. =
1.8) (see questions 1a and b in Appendix C). This sample responded very positively to the outcome evaluation item that referred to enhanced job satisfaction from collaboration with midwives ($M = 6.0$, s.d. = 1.8) (see question 4b in Appendix C).

These data support reports by Baggs & Schmitt (1987), Corless, (1982), Koerner et al. 1986) and Stein et al. (1990) which demonstrated increased job satisfaction from interprofessional collaboration. Similarly, the data support the study by Blais et al. (1991) which found that obstetrical nurses endorsed the idea that midwifery could improve maternity care.

Nursing managers in the study hospitals could use these very positively scored belief and outcome evaluation items to provide positive feedback to their staff. Positive reinforcement might perpetuate and strengthen collaborative behaviour. Positively reinforcing these collaborative behaviours could be done personally by the NUA in staff meetings.

The most negative score was attributed to the belief item and outcome evaluation that referred to the legal responsibility for the midwifery client ($M = 2.2$, s.d. = 1.6 and $M = 1.4$, s.d. = 0.9) (see questions 11a and b in Appendix C). The question was scored negatively if the participant documented a "very important to me" answer.
This was done because the legal responsibility for the client is well defined in the scenario of transfer of care, and thus should not be an issue to the obstetrical nurse. However, obstetrical nurses may have concerns related to their legal responsibility for all clients under their care. The belief item and outcome evaluation may have been misunderstood by the respondents and the two questions' inclusion in the questionnaire should be evaluated.

The NUA could examine the negatively scored behavioural belief and outcome evaluation items to assess learning needs. The NUA could create a presentation related to the legal issues surrounding midwifery care to meet this need.

Implications From the Indirectly-Derived Subjective Norm Scores

The mean subjective norm scores for this sample indicated that many nurses felt their Nursing Unit Administrators ($\bar{M} = 5.3$, s.d. = 1.0) and Hospital Administration ($\bar{M} = 5.4$, s.d. = 1.3) believed that obstetrical nurses should collaborate with midwives (see Appendix E). However, few participants indicated that the physicians that they work with ($\bar{M} = 2.9$, s.d. = 1.4), their nursing colleagues ($\bar{M} = 3.4$, s.d. = 1.6), or their charge nurse/team leader ($\bar{M} = 3.6$, s.d. = 1.5) felt that
obstetrical nurses should collaborate with midwives (see Appendix E).

Similarly, this sample of obstetrical nurses felt motivated to comply only with their Nursing Unit Administrators ($M = 4.5$, s.d. = 1.8) (see Appendix E). The mean for this sample’s motivation to comply with their NUA is just slightly over the neutral point. This indicates that they did comply with their NUA’s wishes for them to collaborate with midwives; however, they were only motivated to do so at a low level. This may be reflective of the hierarchical structure of the nursing unit and the power structure for nurses within the hospital.

Taken together, the normative belief and the motivation to comply scores for the NUA indicate that, for obstetrical nurses, she was the most influential individual for fostering collaborative practices. Thus, the NUA could potentially influence her staff to increase collaborative practice with midwives. This could be done by encouraging collaborative practices with midwives through seminars, staff meetings, bulletins, and committees.

Implications From the Indirectly-Derived Scores for Perceived Behavioural Control

The mean scores for the questions in the indirectly-measured perceived behavioural control section provide
insight into issues which make collaborating with midwives easy or difficult for obstetrical nurses.

The most positively scored perceived behavioural control items indicate that this sample: a) did not feel that the practice of midwifery was dangerous to mothers and their infants (M = 5, s.d. = 1.8); b) did not feel obligated to collaborate with midwives and do try to obtain a positive working relationship with them (M = 5.3, s.d. = 1.7); and c) did not feel that they will lose jobs because of midwives (M = 5.3, s.d. = 1.8) (see Appendix G).

The most negatively scored response in the indirect measure was to the question relating to the current midwifery education requirements. Many nurses in the sample felt that midwives should have nursing as a foundation for midwifery education (M = 1.9, s.d. = 1.4). Many obstetrical nurses in this sample (12) had midwifery education and experience in a country other than Canada. Some of these midwives felt very strongly about having nursing as a foundation for midwifery (see comments in Appendix O).

The negatively answered items in the indirectly-measured perceived behavioural control section may indicate areas of learning needs or areas of misunderstanding. These needs could be addressed by the NUA through staff meetings. The negative scores for the question related to nursing education as a foundation for midwifery may demonstrate a
need for nurses to vent their frustration with the "grandmothering" process which occurred. Obstetrical nurses may need an outlet for their frustration with the midwifery integration process. This frustration was apparent in the written comments which appeared on the questionnaires (see Appendix 0). This frustration could be addressed through developing a interprofessional committee including all professions involved in maternal care. This committee would be a venue to provide feedback for all professions and to look at practice issues within the professions.

**Research**

There are a number of implications for theory and research that stem from the results of this study:

1) Qualitative research could be conducted on the topic of obstetrical nurses' collaboration with midwives. It would be important to see what the experience of obstetrical nurses is in relation to the initiation of midwifery into the current health care system. This could give more detailed insight into the collaborative practices between these two professions. Qualitative research may bring insight into the historically negative feelings obstetrical nurses hold about previous midwifery practice in Ontario. These negative beliefs may be items included in future measures of perceived behaviour control and may have influence on obstetrical nurses' intentions to collaborate.
2) Parts of the questionnaire should be modified. This should be done in three ways.

A) The definition of collaboration should be clarified by including a statement that states that collaboration occurs after transfer of care.

B) The phrasing of some belief items and outcome evaluation items for the indirect measure of behavioural attitude (Appendix C) should be modified as described below.

i) Question 9a should read, "I believe that nurses and midwives are considered equals when collaborating together", since the original wording of the question may have been confusing. Question 9b should read, "Being considered an equal to a midwife is..", to be consistent with the changes in the belief question.

ii) Question 10a should be changed to, "Collaborating with midwives leads to having a higher risk patient assignment." The wording of this question may have been confusing. This was evident by the observation that the reliability coefficient would have been higher if this item had been removed. Question 10b should be changed to, "Having a higher risk patient assignment is...", in order to be consistent with the belief question.

iii) Question 11a should appear as "Collaboration with midwives decreases territoriality between nurses and midwives over patient care." The original wording of this
question may have been confusing to the reader. This was evident by the reliability coefficient which would have been higher if this question had been deleted. Question 11b should be changed to "decreasing territoriality through collaboration is ...", in order to be consistent with the belief question.

iv) Question 12 should be deleted entirely, since this belief is addressed by question 10. The reliability coefficient would have been higher if this question had been deleted.

C) The order in which the belief and modifier questions are asked within the questionnaire should be altered so that the modifier question does not follow directly after the related belief question. This would eliminate any possible order effects. The order of the questions in this questionnaire may have potentially induced responses that were either more invariant or more extreme; however, whether or not this actually occurred in the study is unknown.

3) Further studies could explore other populations of obstetrical nurses. Populations of obstetrical nurses practising in hospitals without midwifery privileges could be compared to hospitals with midwifery practices. The positive effects of collaborative relationships have been well documented in the literature. It is possible that samples of obstetrical nurses who are currently engaged in
collaborative practices with midwives would have more positive attitudes and intentions toward collaboration than samples of obstetrical nurses who do not have opportunities to collaborate with midwives.

4) Further research including measurement of actual existence of collaborative behaviour between obstetrical nurses and midwives is warranted. In a study which measures actual collaborative behaviour, the relationship between perceived behavioural control and actual collaborative behaviour could be explored.

5) Replication of this study is recommended. This would allow for investigation of the possibility of stronger intentions to collaborate. Since some time has passed and obstetrical nurses have had increased opportunities for collaborative behaviour, their intentions may have become stronger.

6) A larger sample size is also recommended so that all direct-measurements of the independent variables could be included in a regression analysis.

Conclusion

This descriptive correlational study has attempted to explore obstetrical nurses' direct and indirect reports of their behavioural attitude, subjective norm, and perceived behavioural control, as well as their intentions toward collaborating with midwives in the care of midwifery
clients. This study was performed to explore the relationships between obstetrical nurses and midwives in Ontario hospitals, and to fill a gap in the literature.

Results indicated that intentions were associated with the direct measurement of behavioural attitude and that the direct measurement of subjective norm made a very small contribution to accounting for the variance in intention scores. The mean intention score was rated relatively positively. The direct measure of subjective norm scores were slightly positive. The direct measure of behavioural attitude (semantic differentials) was neutral. The direct measure of behavioural attitude (LAS) and direct measure of perceived behavioural control and were scored relatively negatively.

This study also highlights salient beliefs and their moderators, which are the basis for the direct measures of the independent variables.

It should be noted that it has been four years since midwifery proclamation. Since the time of data collection, obstetrical nurses' intentions toward collaborating with midwives may have changed.

Collaboration is a conscious, learned behaviour that must be constantly nurtured, reinforced, and supported, since it holds great promise for patients, providers, and professional personnel (Makadon, 1995). Interprofessional
collaboration should be the goal for all health care providers since has been associated with such positive outcomes.
References


_Nursing Times, 87_(10), 25-27.


APPENDICIES A-H

Questionnaire Distributed to all Potential Participants
Appendix A: Measurement of Intention to Collaborate

This line represents your present and future intention to collaborate with midwives in the care of midwifery clients. Please make a mark through or across that part of the line that best represents your intention to continue to collaborate with midwives.

I intend to collaborate with midwives in the care of midwifery clients:

0

Not at all

100

Fully
Appendix B: The Direct Measurement of Behavioural Attitude

a) Semantic Differential Scales

Please place a check mark through the line which reflects your attitude toward collaborating with midwives.

Collaborating in an interprofessional relationship is characterized by a sense of colleagueship and an absence of opposing interests and conflicts.

Obstetrical nurses collaborating with midwives in the care of midwifery clients will be:

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<td>to patient care</td>
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Appendix B: The Direct Measurement of Behavioural Attitude

b) Global Linear Analogue Scale

This line represent your overall attitude toward collaborating with midwives in the care of midwifery clients. Please place a mark through or across that part of the line which best represents your opinion of the importance of collaborating with midwives.

Collaborating with midwives is:

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<th>100</th>
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<tbody>
<tr>
<td>Absolutely Unimportant</td>
<td>Absolutely Essential</td>
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Appendix C: The Indirect Measurement of Behavioural Attitude

Please indicate your agreement or disagreement with the following statements by circling the most appropriate response number. Please do not circle between numbers.

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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<tbody>
<tr>
<td>very strongly disagree</td>
<td>strongly disagree</td>
<td>disagree</td>
<td>neutral</td>
<td>agree</td>
<td>strongly agree</td>
<td>very strongly agree</td>
</tr>
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</table>

1a) Midwifery clients will receive better quality care if nurses and midwives collaborate together while providing care.

1  2  3  4  5  6  7

1b) Quality maternal care resulting from collaboration is:

not important ___ ___ ___ ___ ___ ___ ___ very important to me

2a) Midwifery clients will experience more satisfaction in their childbirth experience if obstetrical nurses and midwives collaborate in their care.

1  2  3  4  5  6  7

2b) Midwifery clients' satisfaction in childbirth is:

not important ___ ___ ___ ___ ___ ___ ___ very important to me

3a) Obstetrical nurses and midwives will develop better interprofessional relationships if they collaborate together in providing care.

1  2  3  4  5  6  7
3b) Good interprofessional relationships with midwives are:

not important ____ ____ ____ ____ ____ ____ very important to me

4a) Obstetrical nurses will experience better job satisfaction if they collaborate with midwives.

1 2 3 4 5 6 7

4b) Job satisfaction is:

not important ____ ____ ____ ____ ____ ____ very important to me

5a) Collaborating with midwives in the care of midwifery clients requires a lot of my time.

1 2 3 4 5 6 7

5b) The amount of my time spent collaborating with midwives in the care of midwifery clients is:

not important ____ ____ ____ ____ ____ ____ very important to me

6a) The role of the obstetrical nurse will change when obstetrical nurses collaborate with midwives in the care of midwifery clients.

1 2 3 4 5 6 7

6b) Change in the role of the obstetrical nurse is:

not important ____ ____ ____ ____ ____ ____ very important to me
7a) Obstetrical nurses may learn certain skills from working with midwives.

1 2 3 4 5 6 7

7b) Learning skills from midwives is:

not important ________ very important to me

8a) Obstetrical nurses may be able to teach certain skills to midwives.

1 2 3 4 5 6 7

8b) Teaching skills to midwives is:

not important ________ very important to me

9a) I believe that obstetrical nurses and midwives are considered colleagues.

1 2 3 4 5 6 7

9b) Being considered a colleague by a midwife is:

not important ________ very important to me

10a) The obstetrical nurse will not get to provide care for as many uncomplicated births if they collaborate with midwives in the care of midwifery clients.

1 2 3 4 5 6 7
10b) Providing care for uncomplicated births is:

not important ____ ____ ____ ____ ____ ____ very important to me

11a) I am concerned about who has legal responsibility for the patient if I am caring for a midwifery client.

12a) The obstetrical nurse will have to care for midwifery patients admitted to the hospital after a home birth has developed complications.

12b) Helping midwives with clients who had intended a home birth but developed complications is:

not important ____ ____ ____ ____ ____ ____ very important to me
Appendix D: The Direct Measurement of Subjective Norm

This line represents your rating of the extent to which important others (e.g. nursing unit manager, team leader, hospital administration, physicians, nursing colleagues) approve or disapprove of you collaborating with midwives. Please make a mark through or across that part of the line which best represents the extent to which "important others" approve or disapprove of you collaborating with midwives in the care of midwifery clients.

I feel that "important others"

Disapprove

0

Approve

100

of me collaborating with midwives in the care of midwifery clients.
Appendix E: The Indirect Measurement of Subjective Norm

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<tr>
<td>strongly disagree</td>
<td>very strongly disagree</td>
<td>strongly disagree</td>
<td>neutral</td>
<td>agree</td>
<td>strongly agree</td>
<td>very strongly agree</td>
</tr>
</tbody>
</table>

1a) My nursing unit manager thinks that I should collaborate with midwives.
1 2 3 4 5 6 7

1b) I collaborate with midwives because my nursing manager thinks I should.
1 2 3 4 5 6 7

2a) The hospital administration thinks that I should collaborate with midwives.
1 2 3 4 5 6 7

2b) I collaborate with midwives because the hospital administration thinks I should.
1 2 3 4 5 6 7

3a) The physicians I work with think that I should collaborate with midwives.
1 2 3 4 5 6 7

3b) I collaborate with midwives because the physicians I work with think I should.
1 2 3 4 5 6 7
4a) My nursing colleagues think that I should collaborate with midwives.

1 2 3 4 5 6 7

4b) I collaborate with midwives because my nursing colleagues think I should.

1 2 3 4 5 6 7

5a) My charge nurse/team leader thinks that I should collaborate with midwives.

1 2 3 4 5 6 7

5b) I collaborate with midwives because my charge nurse/team leader thinks I should.

1 2 3 4 5 6 7
Appendix F: The Direct Measurement of Perceived Behavioral Control

This line represents your evaluation of whether it is easy or difficult to collaborate with midwives in the care of midwifery clients. Please place a mark through or across that part of the line that best represents your perceived ease or difficulty in collaborating with midwives.

Collaborating with midwives is:

0 100
Difficult Easy
Appendix G: The Indirect Measurement of Perceived Behavioural Control

Please indicate your agreement or disagreement with the following statements by circling the most appropriate response number. Please do not circle between numbers.

1. Obstetrical nurses and midwives hold a similar philosophy of care (i.e. continuity of care, low interventions, support during labour).

1  2  3  4  5  6  7

1b) I collaborate with midwives because midwives hold a similar philosophy of care:

likely ____ ____ ____ ____ ____ ____ unlikely

2. I have had previous positive experiences with midwives.

1  2  3  4  5  6  7

2b) I collaborate with midwives because of my previous experience with midwives.

likely ____ ____ ____ ____ ____ ____ unlikely

3a) Obstetrical nurses believe that midwifery care is an exciting alternative to the medical model.

1  2  3  4  5  6  7

3b) I collaborate with midwives because I feel that midwifery care is an exciting alternative to the medical model.

likely ____ ____ ____ ____ ____ ____ unlikely
4a) Obstetrical nurses will collaborate with midwives after a transfer of care because collaboration respects the midwife as primary caregiver, and this allows for continuity of care.

1 2 3 4 5 6 7

4b) I collaborate with midwives after a transfer of care because I respect them as primary caregiver.

likely ___ ___ ___ ___ ___ ___ unlikely

5a) I feel that the practice of midwifery is dangerous to the health of mothers and their infants.

1 2 3 4 5 6 7

5b) I do not collaborate with midwives because I feel that the practice of midwifery is dangerous to the health of mothers and babies.

likely ___ ___ ___ ___ ___ ___ unlikely

6a) I feel that midwifery education should require a nursing degree as a prerequisite.

1 2 3 4 5 6 7

6b) I do not collaborate with midwives because I believe that midwifery education should require a nursing degree as a prerequisite.

likely ___ ___ ___ ___ ___ ___ unlikely

7a) I feel that nursing should be a foundation for midwifery education.

1 2 3 4 5 6 7
<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>7b) I do not collaborate with midwives because I believe that nursing should be a foundation for midwifery education.</td>
<td>likely</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>unlikely</td>
</tr>
<tr>
<td>8a) I am obligated to work with midwives in the care of midwifery clients.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8b) I may be obligated to work with midwives, but I do not try to attain a positive working relationship with them.</td>
<td>likely</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>unlikely</td>
</tr>
<tr>
<td>9a) Obstetrical nurses may lose their jobs because of the legalization of midwifery.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9b) I do not collaborate with midwives because obstetrical nurses may lose their jobs because of midwives.</td>
<td>likely</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>unlikely</td>
</tr>
<tr>
<td>10a) Obstetrical nurses have difficulty collaborating with midwives because they feel that home births are unsafe.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>10b) I do not collaborate with midwives because I believe home births are unsafe.</td>
<td>likely</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>unlikely</td>
</tr>
</tbody>
</table>
11a) Obstetrical nurses feel comfortable carrying out orders written by midwives.

1 2 3 4 5 6 7

11b) I carry out orders written by midwives.

likely ___ ___ ___ ___ ___ ___ ___ unlikely
Appendix H: Personal Data Form

Please answer the following questions.

1. Age: __________________

2. Sex: Male_____ Female_____

3. Please indicate all of your levels of education:
   ___ diploma program
   ___ BScN
   ___ Baccalaureate degree (non nursing)
   ___ Midwife
   ___ MScN or MN
   ___ Masters (non nursing)
   ___ PhD (nursing)
   ___ PhD (non nursing)
   ___ other please specify__________________________

4. Years of obstetrical nursing experience________________________

5. Years of other nursing experience______________________________

6. Years (if any) of previous experience in practising midwifery in a Country other than Canada___________________________

7. Have you worked with a midwife in the care of a midwifery client who had a hospital birth yes_______ no__________

8. Did you participate in the planning process about the integration of midwifery to your hospital?
   yes_______ no__________
Appendix I

Letter of Explanation for Potential Participants
Appendix I: Letter of Explanation for Potential Participants

Dear Participant,

My name is Nancy Schottle and I am a registered nurse enrolled in the Master of Science in Nursing Program at the University of Toronto, under the supervision of Dr. Karyn Kaufman. As part of my program requirements, I am conducting a study for my thesis project.

The profession of midwifery attained full legal status in Ontario when the Regulated Health Professions Act was proclaimed law on Dec 31, 1994. Midwives have applied and received privileges at your hospital to practice midwifery. The purpose of this study is to examine nurses' attitudinal basis for collaborating with midwives. For the purpose of this study, collaboration between nurses and midwives will be defined as a relationship characterized by a sense of colleagueship and an absence of opposing interests and conflicts. This study may assist hospital staff in the integration process of this new profession in Ontario.

Participation in this project will involve the completion of the Questionnaire (attached), which will take approximately 15 minutes of your time. Participation is completely voluntary and you may refuse to participate or answer any question. The questionnaire is anonymous and your responses will remain confidential. There is no way to link a questionnaire to a respondent. Please do not add any identifying marks to the questionnaire. Returning the questionnaire is considered your consent to participate. If you do not consent to take part in this study, it would be appreciated if you would place a check mark in the appropriate box (see ).

Although you will not benefit directly from your participation in this study, it is anticipated that you will contribute significantly to the integration strategies for the profession of midwifery. Results from this project will be shared with all units upon completion of this project.
If you have any questions about completing this questionnaire, you may contact me directly at (519) 471-1578 or Dr. Karyn Kaufman at (416) 522-1155 x5224. Please complete the questionnaire at a location which is private, at a time which is convenient to you, and deposit it in the sealed box located on your unit. Thank you for helping me with this project. Your time and effort are appreciated,

Sincerely,

Nancy Schottle

Nancy Schottle, B.ScN., R.N.

Refusal to Participate

I have read the information letter and I choose not to participate in this study

Place check mark in box
Appendix J

Instructions to Complete Questionnaire Given to Potential Participants
Appendix J: Instructions Given to Participants

Instructions to Answer Items:

Answer items below by circling the number which represents your beliefs. Example:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>very strongly disagree</td>
<td>strongly disagree</td>
<td>neutral</td>
<td>agree</td>
<td>strongly agree</td>
<td>very strongly agree</td>
<td></td>
</tr>
</tbody>
</table>

A. I like chocolate ice cream.

1 2 3 4 5 6 7
The circle above would mean that you strongly agree that you like chocolate ice cream.

Answer items below by making a check mark on or through the answer line. Example:

B. Having a vacation during the summer is very important ___ ___ ___ ___ ___ ___ not important to me

The check mark above would mean that having a summer vacation is somewhat important to you.

Please answer the items on the next pages now. All items are to be answered. If you need any help, please ask the researcher. If you received this package from your charge nurse/team leader and you have any questions about the items or how to answer them please call the researcher at (519) 471-1578 and reverse the charges. She will be happy to assist you.

Thank you for your time and participation!
Appendix K

Measurement of Previous Collaborative Practice-
Part of Participant Questionnaire
Appendix K: Measuring Previous Collaborative Practice

This line represents your efforts to date to collaborate with midwives in the care of midwifery clients. Please place a mark through or across that part of the line which best represents the amount of your past effort in collaborating with midwives in the care of midwifery clients.

Since the introduction of legalized midwifery to my hospital, I have provided:

<table>
<thead>
<tr>
<th>0</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Collaborative Effort</td>
<td>Full Collaborative Effort</td>
</tr>
</tbody>
</table>

When caring for a midwifery client.
Appendix L

Results of Direct Measurement of Behavioural Attitude-Semantic Differential Scales
Appendix L: The Direct Measurement of Behavioural Attitude: Means and Standard Deviations on the Semantic Differential Scales

<table>
<thead>
<tr>
<th>Semantic Differential</th>
<th>n</th>
<th>M</th>
<th>s.d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>good - bad</td>
<td>40</td>
<td>3.7</td>
<td>2.7</td>
</tr>
<tr>
<td>harmful-beneficial</td>
<td>39</td>
<td>5.0</td>
<td>2.2</td>
</tr>
<tr>
<td>pleasant - unpleasant</td>
<td>41</td>
<td>4.2</td>
<td>2.0</td>
</tr>
<tr>
<td>desirable - undesirable</td>
<td>41</td>
<td>4.5</td>
<td>2.0</td>
</tr>
<tr>
<td>difficult - easy</td>
<td>42</td>
<td>2.9</td>
<td>2.0</td>
</tr>
<tr>
<td>threatening - non-threatening</td>
<td>41</td>
<td>4.1</td>
<td>2.1</td>
</tr>
<tr>
<td>important - unimportant</td>
<td>41</td>
<td>4.0</td>
<td>2.1</td>
</tr>
</tbody>
</table>
Appendices M-O

Results of Indirectly-Measured Independent Variables
Appendix M: The Indirect Measurement of Behavioural Attitude: Means and Standard Deviations

<table>
<thead>
<tr>
<th>Behavioural Belief</th>
<th>n</th>
<th>M</th>
<th>s.d.</th>
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</thead>
<tbody>
<tr>
<td>Belief: Better Quality Maternal Care from Collaboration</td>
<td>44</td>
<td>4.8</td>
<td>2.0</td>
</tr>
<tr>
<td>Evaluation: Better Quality Maternal Care from Collab</td>
<td>41</td>
<td>5.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Belief: Increased Client Satisfaction from Collab</td>
<td>42</td>
<td>4.2</td>
<td>2.0</td>
</tr>
<tr>
<td>Evaluation: Increased Client Satisfaction</td>
<td>44</td>
<td>4.6</td>
<td>2.1</td>
</tr>
<tr>
<td>Belief: Improved Interprofessional Relations</td>
<td>45</td>
<td>4.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Evaluation: Improved Interprofessional Relations</td>
<td>45</td>
<td>4.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Belief: Enhanced Job Satisfaction</td>
<td>39</td>
<td>3.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Evaluation: Enhanced Job Satisfaction</td>
<td>44</td>
<td>6.0</td>
<td>1.8</td>
</tr>
<tr>
<td>Belief: Collab is Time Consuming</td>
<td>42</td>
<td>3.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Evaluation: Collab is Time Consuming</td>
<td>44</td>
<td>4.4</td>
<td>2.0</td>
</tr>
<tr>
<td>Belief: Collab requires Role Change</td>
<td>41</td>
<td>4.3</td>
<td>2.1</td>
</tr>
<tr>
<td>Evaluation: Collab requires Role Change</td>
<td>43</td>
<td>2.6</td>
<td>2.1</td>
</tr>
<tr>
<td>Belief: Nurses can learn from midwives</td>
<td>42</td>
<td>3.2</td>
<td>2.1</td>
</tr>
<tr>
<td>Evaluation: Nurses can learn from midwives</td>
<td>44</td>
<td>3.3</td>
<td>2.3</td>
</tr>
<tr>
<td>Belief: Nurses can share knowledge to midwives</td>
<td>42</td>
<td>5.8</td>
<td>1.0</td>
</tr>
<tr>
<td>Evaluation: Nurses sharing knowledge to midwives</td>
<td>45</td>
<td>4.3</td>
<td>2.1</td>
</tr>
<tr>
<td>Belief: Nurses and midwives are considered colleagues</td>
<td>43</td>
<td>4.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Evaluation: Being considered colleagues</td>
<td>45</td>
<td>3.8</td>
<td>2.3</td>
</tr>
<tr>
<td>Belief: Caring for uncomplicated births</td>
<td>39</td>
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<td>1.7</td>
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<tr>
<td>Evaluation: Uncomplicated births are important</td>
<td>44</td>
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<td>1.9</td>
</tr>
<tr>
<td>Belief: Legal Responsibility of client</td>
<td>42</td>
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<td>1.6</td>
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<tr>
<td>Evaluation: Legal responsibility is important</td>
<td>44</td>
<td>1.4</td>
<td>0.9</td>
</tr>
<tr>
<td>Belief: Midwifery leads to home birth complications</td>
<td>42</td>
<td>2.7</td>
<td>2.0</td>
</tr>
<tr>
<td>Evaluation: Home birth complications are impt</td>
<td>44</td>
<td>4.9</td>
<td>2.0</td>
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Appendix N: The Indirect Measurement of Subjective Norm: Mean Scores and Standard Deviations

<table>
<thead>
<tr>
<th>Normative Beliefs</th>
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<tr>
<td>Nursing Unit Administrator</td>
<td>40</td>
<td>5.3</td>
<td>1.0</td>
</tr>
<tr>
<td>Motivation to Comply</td>
<td>43</td>
<td>4.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Hospital Administration</td>
<td>43</td>
<td>5.4</td>
<td>1.3</td>
</tr>
<tr>
<td>Motivation to Comply</td>
<td>42</td>
<td>3.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Physicians</td>
<td>43</td>
<td>2.9</td>
<td>1.4</td>
</tr>
<tr>
<td>Motivation to Comply</td>
<td>43</td>
<td>2.7</td>
<td>1.4</td>
</tr>
<tr>
<td>Nursing Colleagues</td>
<td>43</td>
<td>3.4</td>
<td>1.6</td>
</tr>
<tr>
<td>Motivation to Comply</td>
<td>43</td>
<td>2.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Charge Nurse/Team Leader</td>
<td>42</td>
<td>3.6</td>
<td>1.5</td>
</tr>
<tr>
<td>Motivation to Comply</td>
<td>43</td>
<td>2.5</td>
<td>1.2</td>
</tr>
</tbody>
</table>
Appendix 0: The Indirect Measurement of Perceived Behavioural Control: Means and Standard Deviations

<table>
<thead>
<tr>
<th>Control Belief</th>
<th>n</th>
<th>M</th>
<th>s.d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belief: Nurses have similar philosophy</td>
<td>43</td>
<td>5.0</td>
<td>1.7</td>
</tr>
<tr>
<td>Perceived Power: Nurses have similar philosophy</td>
<td>42</td>
<td>4.4</td>
<td>1.9</td>
</tr>
<tr>
<td>Belief: Previous positive experience with midwives</td>
<td>41</td>
<td>4.3</td>
<td>1.8</td>
</tr>
<tr>
<td>Perceived Power: Previous positive experience</td>
<td>42</td>
<td>3.6</td>
<td>2.2</td>
</tr>
<tr>
<td>Belief: Midwifery as alternative to Medicine</td>
<td>42</td>
<td>3.5</td>
<td>1.9</td>
</tr>
<tr>
<td>Perceived Power: Midwifery as alternative to Meds</td>
<td>42</td>
<td>3.6</td>
<td>2.1</td>
</tr>
<tr>
<td>Belief: Collab allows for continuity of care</td>
<td>41</td>
<td>3.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Perceived Power: Continuity of care</td>
<td>41</td>
<td>3.3</td>
<td>2.0</td>
</tr>
<tr>
<td>Belief: Midwifery is dangerous practice</td>
<td>38</td>
<td>4.2</td>
<td>1.5</td>
</tr>
<tr>
<td>Perceived Power: Midwifery is dangerous</td>
<td>40</td>
<td>5.0</td>
<td>1.8</td>
</tr>
<tr>
<td>Belief: Nursing should be foundation to midwifery</td>
<td>41</td>
<td>1.9</td>
<td>1.4</td>
</tr>
<tr>
<td>Perceived Power: Nursing as foundation to midwifery</td>
<td>40</td>
<td>4.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Belief: Nurses are obligated to collaborate</td>
<td>40</td>
<td>3.1</td>
<td>1.5</td>
</tr>
<tr>
<td>Perceived Power: Being obligated to collaborate</td>
<td>40</td>
<td>5.3</td>
<td>1.7</td>
</tr>
<tr>
<td>Belief: Nurses will lose jobs because of midwifery</td>
<td>41</td>
<td>3.9</td>
<td>1.8</td>
</tr>
<tr>
<td>Perceived Power: Nurses losing jobs</td>
<td>41</td>
<td>5.3</td>
<td>1.8</td>
</tr>
<tr>
<td>Belief: Home births are unsafe</td>
<td>40</td>
<td>3.6</td>
<td>1.8</td>
</tr>
<tr>
<td>Perceived Power: Home births being unsafe</td>
<td>41</td>
<td>4.6</td>
<td>2.0</td>
</tr>
<tr>
<td>Belief: Nurses will have orders from midwives</td>
<td>40</td>
<td>3.0</td>
<td>1.9</td>
</tr>
<tr>
<td>Perceived Power: Taking orders from midwives</td>
<td>40</td>
<td>3.3</td>
<td>2.1</td>
</tr>
</tbody>
</table>
Appendix P

Transcribed Comments From Questionnaires
Appendix P: Comments Written on the Questionnaires

Comments about Planning Process

* "We were not asked. Our opinion didn't matter"
* "Participation was not offered"

Comments About Collaboration

* "I collaborate with midwives because I feel comfortable with it. Collaborate because it's the law"
* "I consider the midwives to be part of the 'team' but many of their clients who plan a home birth, and for one of many reasons are admitted to hospital for hand over of care, it's the client, I find, the most difficult to build a relationship with. The client must see nursing as interventionalists, unfortunately we (nursing) are not treated kindly by the clients. The client is usually very upset that their birthing plans did not go as hoped."
* "Midwife and pt should form their interpersonal relationship from the beginning of pregnancy to the end. So nurses should not get involved as a 3rd party"
* "But we have NO choice. The patient is important to us"
* "I do not have a choice"

Comments About the Questionnaire

* "This survey will be inaccurate as all questions are written with a slant"
* "This questionnaire is very bias and shows that the person for these questions is not well informed on the topic"
* "Questions don't work because only work with midwives when care handed over because of problems"
Comments About Midwifery Education

* "We would like the midwives to view background course of British trained midwives. Trained midwives should be able to cope in all aspect of care just as RN's do"

* "We may not share midwives' views!! A lot of us nurses are trained midwives. Why when midwifery was being implemented were we not asked to qualify as midwives? But now, we should share our expertise. That's not ethical. We are human beings!!"

* "We could teach midwives some skills. We have years of experiences as certified midwives"

* "Since the nurse is the super experienced person they should have been allowed to be grand mothered in as midwives. Midwives should take care of the total pt care. The pt will see who is the expert!!"

* ....nursing should be a foundation for midwifery education. " YES, DEFINITELY!!"

Comments About Job Satisfaction

* "We are happy doing what we are doing. We do not need to learn anything from midwives. The babies I delivered are now teenagers"

Comments About Midwives

* "So called midwives have a chip on their shoulders"

* "I may not agree on midwives' judgement"

* "Patient's with good insight will realize that after all nurses are the more experienced person to give total care"

* "Primary caregiver should be capable to give TOTAL CARE"