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RUNNING HEAD: Birth attendant choice and satisfaction

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Birth attendant choice and satisfaction with antenatal care: The role of birth philosophy,  
relational style, and health self-efficacy

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## Abstract

Maternity caregivers play an important role in women's pregnancy and childbirth experiences yet little is known about the psychosocial factors associated with the choice of birth attendant or the satisfaction with the care received during the antenatal period. The purpose of this study was to examine the role of women's birth-related beliefs and expectations in the choice of a midwife or obstetrician birth attendant, and her satisfaction with antenatal care. Data were collected from 133 women with a low-risk pregnancy who had at least three consultations with their chosen birth attendant, and who lived in one of four Canadian provinces that publicly funded midwifery. A new birth philosophy scale was developed and tested, with natural and medical birth philosophies emerging as separate factors. Univariate analyses indicated that women with a midwife scored higher on natural birth philosophy, health self-efficacy, egalitarian relational style preference, and openness than women with an obstetrician as caregiver. Multivariate analysis revealed that natural birth philosophy was the only significant factor distinguishing the choice of birth attendant. Women with a midwife scored higher on all satisfaction dimensions, and natural birth philosophy was a significant correlate of satisfaction in the multiple regression. For women with an obstetrician, satisfaction was linked to self-efficacy and openness. Findings suggest that women's beliefs about pregnancy and childbirth are more sophisticated than a simple dichotomy of the natural versus the medical, and highlight the importance of 'fit' between a woman and her maternity caregiver.

In preparation for birth a woman makes many decisions that can shape her experience. Among these decisions is the choice of maternity caregiver that will provide information and support during pregnancy and delivery. Rather than obstetrics care, some women may choose a midwife as their primary birth attendant and antenatal caregiver. For example, midwifery is the maternity care of choice in many countries such as the United Kingdom, where almost two-thirds of births are attended by midwives (Richardson & Mmata, 2007), and Finland, where midwives attend nearly 80% of births (Benoit, Wrede, Bourgeault, Sandall, De Vries, & van Tiejlingen, 2005). In Canada, obstetricians currently attend more births than midwives, although interest in midwifery care is rapidly increasing (Adams & Bourgeault, 2004).

Despite this rising interest, little is known about the psychosocial factors associated with women's choice of birth attendant and her evaluation of care during pregnancy. Investigations have instead focused on the beliefs and expectations regarding labour and birth (Callister, 1995; Christiaens & Bracke, 2007; Fenwick, Hauck, Downie, & Butt, 2005; Melender, 2006). The aim of the current study was to address these gaps in the literature by examining the role of women's birth-related beliefs and expectations in the choice of maternity caregiver, and her satisfaction with antenatal care.

#### *Midwives and Obstetricians as Birth Attendants*

Historically in western culture, the practice of attending to births was a woman's domain. Midwives and female social supports generally assisted births until the mid 1800s (Ehrenreich & English, 1973). In the late 1700s and early 1800s, male attendants increasingly supervised birth, and began to take over the work of the traditional midwife. The modern medical movement gained strength throughout the 19<sup>th</sup> and early 20<sup>th</sup> centuries. Birth was seen as a medical and pathological event to be handled by a doctor in a hospital setting. In recent decades midwifery

has re-emerged as a legitimate alternative to the medical model of maternity care in North America. Since the 1970s, several Canadian provinces have recognized midwifery as a profession through the introduction of legislation. In Canada, midwifery is regulated by provincial and territorial authorities, with four provinces (British Columbia, Manitoba, Ontario, Quebec) and one territory (Northwest Territories) publicly funding midwifery care as of 2007, and Saskatchewan publicly funding midwifery as of 2008 (Canadian Association of Midwives, 2008).

Several differences between obstetrics and midwifery are apparent which reflect the different models of care associated with each. Obstetrics, which tends to follow the medical model of care, takes a ‘problem management’ approach to women’s maternity care, resulting in frequent medical interventions and greater reliance on technology (Howell-White, 1997; Lothian, 2001; Oakley et al., 1996). Controlling for factors like cost and medical complications during birth, obstetricians tend to use more resources than midwives, and they perform more invasive procedures during labour and delivery (Oakley et al., 1996; Rosenblatt et al., 1997). Conversely, midwifery follows a biopsychosocial model of care, considering a woman’s entire set of attitudes and feelings about birth in a way that is more ‘holistic’ than mainstream obstetrics (Howell-White, 1997). In terms of care during pregnancy and childbirth, women who are cared for by midwives tend to have lower rates of interventions such as ultrasounds, epidural anaesthesia, continuous fetal monitoring, caesarean section, and induction of labour (Callister, 1995; Oakley et al., 1996; Turnbull et al., 1996).

#### *Women’s Choice of Birth Attendant*

In recent decades midwifery has been regaining popularity in Canada (Adams & Bourgeault, 2004), although the reasons for this demand are not fully understood. In Ontario for

example, demands for midwifery care exceed the availability of midwives (Auditor General of Ontario, 2002). There was seven-fold increase in the number of births attended by midwives in Ontario hospitals between 1994-1995 and 2000-2001 (Canadian Institute of Health Information, 2004). Increased interest in midwifery may be part of a larger movement toward a more holistic conceptualization of health and health-care that emphasizes low technology, natural interventions over high technology medical interventions.

Consistent with this proposition, it has been suggested that women's beliefs about childbirth as either a medical or natural event may guide the choice of a birth attendant (Howell-White, 1997). In one of the few studies that examined how beliefs about childbirth influence birth attendant choice, women who believed childbirth to be a risky process and who were more accepting of technology were more likely to choose an obstetrician, whereas women who perceived childbirth to be natural and normal were more likely to choose a midwife as a birth attendant (Howell-White, 1997). An unexpected finding was that women who desired more control over the delivery process were more likely to choose an obstetrician than a midwife, perhaps because they wanted control over specific aspects of labour such as pain and possible complications during childbirth (Howell-White, 1997). Control was assessed with a single item related to labour specifically (reflecting control by the birth attendant) rather than to aspects of antenatal care, or health in general. Other research has found that women who choose a midwife have stronger beliefs in personal control whereas women who choose an obstetrician believe more in control by powerful others (Aaronson, 1987). Because perceptions of control can be concerned with various aspects of pregnancy and childbirth (Gibbins & Thomson, 2001), control over "what" then becomes an important issue when considering the role of control beliefs in the choice of birth attendant.

Women's expectations regarding the role of the birth attendant in antenatal care and childbirth may also guide the choice of caregiver. For example, being treated in a client-centred way by the birth attendant was perceived as a key element of Finnish women's expectations for a good birth (Melender, 2006). And among primiparae women with a midwife birth attendant, receiving information and being included in decision-making during labour were important expectations for childbirth that enhanced feelings of being in control (Gibbins & Thomson, 2001). Similarly, a comparison of women with a midwife versus a physician caregiver found that women with a midwife caregiver had more active participation in childbirth care decisions (Callister, 1995). Indeed, midwifery is known to have a 'woman-centred' approach in which maternity care choices are guided by a woman's definition of childbirth rather than by the mainstream medical culture (Adams & Bourgeault, 2004; Howell-White, 1997). Midwives also tend to have longer and more personal visits than obstetricians (De Koninck, Blais, Joubert, & Gagnon, 2001), and include more counselling and education in their interaction with clients (Paine et al., 2000). Accordingly, women's expectations for a more egalitarian or client-centred caregiver may play a role in the decision to choose a midwife rather than an obstetrician.

Despite evidence that personality plays a role in health-care choices (Honda & Jacobson, 2005; Sirois & Gick, 2002), the relation of personality to women's choice of birth attendant has not been previously explored. Although midwifery is viewed as an acceptable and respected form of maternity care in many parts of the world, it has not been fully embraced as a form of maternity care in North America (Goodman, 2007). For example, Canada is one of the last developed countries to legally recognize midwifery as a legitimate profession (Midwives Association of British Columbia, 2007). Openness, a tendency towards being intellectually curious and willing to experiment (Costa & McCrae, 1999), is one trait from the five-factor

model of personality that has been linked to choosing non-mainstream forms of health-care in previous studies (Hildreth & Elman, 2007; Sirois & Gick, 2002). Thus, women who score high on this personality trait may be more inclined to choose midwifery rather than obstetrics care.

#### *Satisfaction with Birth Attendant*

Although several studies have examined factors that contribute to women's satisfaction with their birth experience, fewer have focused explicitly on satisfaction with the caregiver during antenatal care. Research comparing satisfaction with midwifery versus obstetrician care has found that although satisfaction with both types of care tends to be generally high, women who received midwifery care tend to be more satisfied with the care they receive (De Koninck et al., 2001; Harvey, Rach, Stainton, Jarrell, & Brant, 2002; Oakley et al., 1996; Turnbull et al., 1996).

Perceptions of control, involvement and participation, and feeling empowered and supported by the birth attendant have also been linked to more satisfying birth experiences in several studies (Hodnett, 2002). In one study of Belgian and Dutch women, higher self-efficacy was associated with a greater degree of satisfaction with midwife and physician-related aspects of birth (Christiaens & Bracke, 2007), suggesting that this particular control belief may be important for understanding satisfaction with the birth attendant.

Research on satisfaction with childbirth indicates that fulfilment of prenatal expectations is one of the most consistent predictors of satisfaction with maternity care (Christiaens & Bracke, 2007; Fenwick et al., 2005). Prenatal expectations about the birth attendant may therefore also be important for understanding women's satisfaction with their chosen birth antenatal caregiver. Personality may also play a role in evaluating care, as openness has been linked to satisfaction with other health-care services (Block, Erickson, Carney-Doebbling, Gordon, Fallon, & Konety,



2007; Green, Hadjistavropoulos, & Sharpe, 2008).

### *The Present Study*

The goals of this study were threefold. The first was to examine the factors associated with women's choice of either an obstetrician or midwife birth attendant. Although there is limited research in this area, we expected that similar to previous research (Howell-White, 1997), women who believed birth was a natural event would be more likely to choose a midwife, whereas women who believed birth was a medical event would choose an obstetrician as a birth attendant. We also expected that, given the women-centered nature of midwifery, women who preferred an egalitarian rather than authoritarian relational style with health-care professionals would be more likely to choose midwifery. We also tested the role of health self-efficacy as this particular control belief has been linked to satisfaction with other aspects of maternity care (Christiaens & Bracke, 2007). Openness to new experiences was also included given previous research linking this personality trait to other health-care choices.

The second aim was to explore the role of these same factors in satisfaction with the chosen birth attendant. There is little if any research on the determinants of satisfaction with birth attendant care in the antenatal period. In line with previous research on the role of prenatal expectations for satisfaction (Christiaens & Bracke, 2007), we expected that the psychosocial factors associated with birth attendant choice would also be determinants of satisfaction with the type of caregiver chosen.

The one study that examined the role of birth philosophy the choice of birth attendant did so by assessing women's perceptions of risk during pregnancy and birth with a six-item unidimensional scale (Howell-White, 1997). Although risk is an important dimension of women's definition of childbirth (Annandale, 1988), it has been argued that a "natural"

childbirth is social in nature and includes the social practices of the woman and her caregivers (Fenwick et al., 2005; Mansfield, 2008). Thus, the third aim of this study was to develop and test a new measure of birth philosophy that included items capturing the social aspects of birth along with dimensions related to risk.

## Method

### *Participants*

The main inclusion criteria were being currently pregnant and residing and planning to give birth in one of the four Canadian provinces that publicly funded midwifery services at the time of the study: British Columbia (BC), Manitoba (MB), Quebec (QC), and Ontario (ON). A minimum of three consults with their midwife or obstetrician was also required to allow participants adequate time to evaluate their antenatal care. Women who indicated that their pregnancy was high risk were excluded from the analysis.

### *Procedure*

An on-line survey was used as this method allowed for anonymous data collection and more convenient access to potential participants residing in one of the four provinces with publicly funded midwifery care. Following approval from the institutional research ethics board, participants were recruited through advertisements distributed in several ways. Packages containing a recruitment letter, a display sign, and 15 tearsheets listing the study website were mailed to 100 midwife (39 BC, 9 MB, 6 QC, 46 ON) and 133 obstetrician (46 BC, 2 MB, 6 QC, 77 ON) practices in the four designated provinces. Recruitment letters were emailed to moderators of Internet forums (administrators of on-line communities) for pregnant women and mothers. Fifteen moderators gave permission to advertise the study and the link to the survey was posted on those discussion boards. The study was also advertised on two social science

research websites, and on free classified ad sites in the four target provinces. Finally, a teacher of a prenatal course in the community distributed flyers to expectant mothers enrolled in the course.

Women interested in participating visited the study welcome page which provided a brief overview and the eligibility criteria, along with the option to link to the on-line consent form. Consent was implied by clicking “I agree” which linked to the on-line survey. After completing the survey, participants clicked “submit” and their responses were stored anonymously in the secure university database. Participants also had the option of requesting a survey by mail, and a total of three participants completed the survey this way.

### *Materials*

*Demographics.* Participants reported general demographic information about their age, education, employment status, ethnic background, province of residence, and relationship status. They also reported pregnancy-related information, including type of primary caregiver, whether maternity care was shared with between an obstetrician and midwife, number of previous births, week of pregnancy, number of consults with birth attendant, risk level of pregnancy, availability of midwives, and whether or not she considered the midwifery option.

*Health Self-Efficacy.* Self-efficacy beliefs specific to health were assessed through the Health Self-efficacy subscale of the Control Beliefs Inventory (Sirois, 2003). This 8-item subscale assesses feelings of competence and confidence in being able to manage one’s health. This scale contains five positively scored items (e.g., “I am confident in my ability to make the right decisions about my health”) and three negatively scored items rated on a six-point Likert-type scale from 1 (*strongly disagree*) to 6 (*strongly agree*). The Health Self-Efficacy scale has demonstrated Cronbach’s alpha levels ranging from .81 to .86 across different samples, and good internal consistency in the current sample ( $\alpha = .79$ ).

*Openness to New Experiences.* The openness to new experience personality trait was assessed using the Big Five Inventory (BFI; John & Srivastava, 1999), a widely used and well-validated measure based on the five-factor model of personality. For the purposes of this study only the 10-item openness to new experience subscale was examined. All items begin with the stem “I see myself as someone who...” and are completed with descriptive statements relating to the personality factor. The degree of agreement with each statement is scored on a 5-point Likert-type scale with response options ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). This subscale demonstrated good internal consistency in the present study ( $\alpha = .76$ ).

*Birth Philosophy.* An original measure was developed to assess birth philosophy in the current study (Table 1). The deductive rational approach was used to create items based on previous research suggesting two different philosophies of birth: the natural and the medical (Fenwick et al., 2005; Howell-White, 1997; Lothian, 2001; Mansfield, 2008). Eleven items were generated to measure a natural birth philosophy, and another 11 to measure a medical birth philosophy. Items in the natural birth philosophy scale reflected a desire for active involvement in childbirth decisions, a preference for minimal interventions, and the importance of the caregiver relationship. Items in the medical birth philosophy scale reflected a tendency to entrust others to make decisions regarding care, a sense of comfort with medical interventions and technological assistance, and a perception of birth as a risky procedure. All items were scored on a 6-point Likert-type scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*).

An unweighted least squares factor analysis was conducted to test if the 22 items formed the expected two birth philosophy factors. Initial analysis of the scree plot and eigenvalues revealed two factors. An oblique rotation was used to extract the two factors and items with a minimum loading of .32 were retained, as recommended by Tabachnick and Fidell (2003). The

11 items comprising the medical birth philosophy subscale had loadings from .42 to .82 on the first factor, and the 9 items comprising the natural birth philosophy scale had loadings from .58 to .72 on the second factor (See Table 1). Two items on the natural birth philosophy subscale loaded on both factors indiscriminately and were therefore removed. A reliability analysis of the two subscales revealed good internal consistency for both the 11-item medical birth philosophy and the 9-item natural birth philosophy subscales ( $\alpha = .87$  for each).

*Preferred Relational Style With Health-care Professional.* The preferred relational style of one's health-care professional was assessed with an adapted version of the Beliefs About Physicians scale (BAPS; Ditto, Moore, Hilton, & Kalish, 1995). This 12-item self-report scale assesses egalitarian versus authoritarian beliefs about the relational style of physicians. To adapt the scale for the purposes of this study the word "doctor" was changed to "health-care professional" in all items, with instructions that the term health-care professional could refer to caregivers such as obstetricians or midwives, or to doctors. High scores indicate a preference for an authoritarian style of interaction, with the health-care professional taking the role of expert in interactions and the patient adopting a more passive role. Low scores indicate a preference for an egalitarian style of interaction, with the health-care professional assuming a less dominant role and discussing treatment options with the patient. Two additional items about treatment decision-making roles were also added.

In light of these changes, a reliability analysis was conducted on the 14 items. The analysis revealed an adequate level of internal consistency consistent with previous research ( $\alpha = .70$ ) (Ditto et al., 1995). One item was deleted as it lowered the internal consistency considerably. The resulting 13-item Beliefs About Health-care Professionals Scale (BAHPS) demonstrated good internal consistency ( $\alpha = .77$ ). Items were rated with a six-point Likert-type scale with

response options ranging from 1 (*strongly disagree*) to 6 (*strongly agree*).

*Satisfaction With Birth Attendant.* Women's degree of satisfaction with their birth attendant was evaluated with a measure adapted from an existing scale, the short form Patient Satisfaction Questionnaire (PSQ-18; Marshall & Hays, 1994). The PSQ-18 is a well-validated measure of seven different aspects of patient satisfaction (Burke et al., 2003; Marshall, Hays, Sherbourne, & Wells, 1993). The 18-item scale reflects general patient satisfaction, and other components of patient satisfaction including interpersonal manner, communication, time spent with doctor, technical quality. For the purposes of this study the two items reflecting the financial aspects of satisfaction in the PSQ-18 were removed as there is a no pay universal health-care system in Canada, and midwifery services are publicly funded in the four provinces targeted for this study. The word "doctor" in the original items was replaced by "birth attendant", and "medical care" was replaced by "maternity care." Items were rated on a 5-point Likert scale from 1 (*strongly agree*) to 5 (*strongly disagree*), with higher scores reflecting a greater degree of satisfaction. The 16-item satisfaction scale, demonstrated very good internal consistency ( $\alpha = .95$ ).

#### *Data Analysis*

Data were screened to ensure inclusion criteria were met, and women with high-risk pregnancies were not included in the analysis. Duplicate submissions and surveys with excessive missing data were also excluded. Both univariate and multivariate analyses were conducted to examine the factors associated with birth attendant choice, Independent samples *t*-tests were performed to determine mean differences between the midwife and obstetrician groups on each of the predictor variables. Variables with significant group differences were entered into the multivariate logistic regression after controlling for education. Bivariate correlations between

each of the birth philosophy subscales and the number of consults were conducted to test the hypothesis that birth philosophy is a precursor not a product of birth attendant choice. Given the proposed multi-dimensional nature of birth philosophy, one sample *t*-tests were used to examine the relative levels of natural and medical birth philosophies for each birth attendant group.

Finally, the factors associated with satisfaction with one's birth attendant were examined with separate univariate and multivariate analyses for each birth attendant group. Possible differences in the satisfaction with aspects of maternity care between the midwife and obstetrician groups were explored with independent samples *t*-tests of the overall and separate satisfactions subscales. Bivariate correlations between total satisfaction scores and the variables of interest (health self-efficacy, openness, birth philosophy, preferred relational style of birth attendant) were conducted, and only variables that correlated significantly with the criterion variable (satisfaction with caregiver) for each group, were included in the regression analyses. Separate hierarchical multiple regressions tested the variables associated with satisfaction with birth attendant in the midwife and obstetrician groups. Education and week in pregnancy were controlled for in the first step, as there is some evidence that satisfaction with maternity care is associated with education level (Hildingsson, Rådestad, & Waldenström, 2005). The number of consultations with the birth attendant was not controlled for as previous research suggests that this variable is unrelated to satisfaction with one's birth attendant (Hildingsson et al., 2005).

## Results

Of the 145 surveys completed, nine were removed because participants indicated their pregnancy was high-risk, one was removed because of excessive missing data, and two duplicate surveys were removed. This left a total of 133 participants included in the analyses.

### *Sample Characteristics*

The majority of participants were Caucasian, married or living with a spouse equivalent, employed full-time, had some university education, and resided in Ontario. The full demographic and pregnancy-related characteristics of the sample are presented in Tables 2 and 3. The demographic characteristics of the women who chose a midwife ( $n = 85$ ) or an obstetrician ( $n = 48$ ) did not differ significantly. However, the women with a midwife caregiver were further along in their pregnancy compared to the women with an obstetrician caregiver. Only four participants reported that their maternity care was shared between a midwife and an obstetrician, and all four indicated that the midwife was their primary caregiver.

#### *Birth Attendant Choice*

The results of the  $t$ -tests comparing birth attendant groups on the study variables are presented in Table 4. Significant mean differences were found for each of the tested variables. Compared to women in the obstetrician group, women in the midwife group scored higher on openness, health self-efficacy, and natural birth philosophy, and lower on authoritarian relational style and medical birth philosophy. All variables were therefore entered into the logistic regression.

Results of the logistic regression are presented in Table 5. After controlling for education, women with a midwife as a birth attendant were 10 times more likely to hold beliefs in a natural birth philosophy and were marginally less likely to have a medical birth philosophy. No other variables were significantly associated with having a midwife as a birth attendant.

The correlational analysis of the birth philosophy scales with the number of consults with the birth attendant revealed that natural birth philosophy was significantly associated with the number of consults ( $r = .28, p < .01$ ). However, analyses at the group level revealed that this association was significant for the obstetrician group ( $r = .37, p < .05$ ), but not the midwife group



( $r = .13$ , *ns*). The one sample *t*-tests revealed that natural birth philosophy scores were significantly higher than medical birth philosophy scores for women in the midwife group ( $t(84) = 13.15$ ,  $p < .000$ ), whereas there was no significant difference in the natural and medical birth philosophy scores for women in the obstetrician group ( $t(47) = -1.01$ ,  $p$  *ns*; see Table 4 for mean values).

#### *Satisfaction With Birth Attendant*

The results of the *t*-tests comparing the satisfaction levels of women who had a midwife to women who had an obstetrician as a birth attendant are presented in Table 4. Women with a midwife as a birth attendant had significantly higher satisfaction scores across all the satisfaction subscales, and for the total satisfaction score.

Bivariate correlations between total satisfaction and the variables of interest (openness, health-self-efficacy, birth philosophy, and relational style) were examined to determine which variables should be entered into the regressions predicting satisfaction for each birth attendant group. For the midwife group, significant correlations were found for natural birth philosophy ( $r = .31$ ,  $p < .01$ ) and authoritarian relational style ( $r = -.24$ ,  $p < .05$ ). For the obstetrician group, openness ( $r = .41$ ,  $p < .01$ ) and health self-efficacy ( $r = .37$ ,  $p < .01$ ) were significant correlates. Medical birth philosophy was also associated with satisfaction in both groups, although given the small group sizes the correlations did not reach significance (MW:  $r = -.20$ ,  $p = .07$ ; OB:  $r = .26$ ,  $p = .07$ ).

Results of the two hierarchical regression analyses are presented in Table 7. In the midwife group, only natural birth philosophy was a unique predictor of satisfaction, with all variables explaining 13% of the variance in the total satisfaction scores. In the obstetrician group, health self-efficacy and openness to new experience were unique predictors of satisfaction, with

all variables in the model explaining 26% of the variance in the total satisfaction scores.

## Discussion

In this study we sought to address several important gaps in the literature regarding women's experiences with maternity care by examining the role of birth-related beliefs and expectations for both the choice of birth attendant, and satisfaction with care provided during the antenatal period. In doing so, we created and tested a measure of birth philosophy that expanded on previous measures by including items related to the social nature of birth in addition to those assessing risk. Findings were generally consistent with limited previous research in this area (Howell-White, 1997), and indicated that the choice of caregiver was associated with differences in women's birth-related beliefs and expectations. The univariate analyses supported the hypotheses regarding the differences in relational style, health self-efficacy, birth philosophy, and openness between the two caregiver groups. However, in the multivariate analyses only birth philosophy distinguished women with a midwife from those with an obstetrician. Partial support for the role of the birth-related expectations and belief variables in satisfaction with birth attendant was found in the univariate and multivariate analyses, with the expected differential patterns of association for each birth attendant group. Among the variables examined, the new natural birth philosophy subscale was linked to both the choice of a midwife and satisfaction with antenatal care provided by a midwife.

The current study confirms and expands on previous research suggesting that a woman's birth philosophy and expectations influence her choice of birth attendant in several ways. In addition to being significantly associated with the choice of midwife, having a natural philosophy of birth was linked to satisfaction with midwifery care, a finding that is unique to this study. However, this finding is not surprising given the suggestion that the fulfilment of prenatal

expectations is a key determinant of satisfaction with maternity care (Christiaens & Bracke, 2007; Fenwick et al., 2005). Indeed, the importance of ‘philosophical fit’ with the maternity care provider for a positive pregnancy and childbirth experience has been noted previously (Callister, 1994, 1995).

Building on previous research suggesting that risk is a key element of how women define birth (Annandale, 1988; Howell-White, 1997), the new multidimensional birth philosophy scale created for this study also included items highlighting the social nature of childbirth (Mansfield, 2008). This scale presents birth philosophy not as a dichotomy between natural versus medical conceptualizations of birth, but rather as a construct where both natural and medical philosophies of birth are orthogonal as other researchers have suggested (Howell-White, 1997). This is evident by the differing birth philosophy profiles of women in the two birth attendant groups. Although natural birth philosophy distinguished women with a midwife from those with an obstetrician, the profiles suggest that this was due to a stronger belief in a natural birth philosophy and relatively less belief in a medical birth philosophy in the women with a midwife caregiver. Women with an obstetrician caregiver equally endorsed both philosophies of birth. Given the association between natural birth philosophy and number of consultations in the obstetrics group, it is possible that birth philosophy changed as a result of their interactions with their caregiver. Accordingly, future investigations should assess birth philosophy prior to consultation to verify the results suggested in this cross-sectional study.

The univariate analyses supported the hypotheses regarding relational style and birth attendant choice and satisfaction. This suggests that the woman-centered approach of midwifery care may be appealing and satisfying to women who value a supportive and sharing relationship with their maternity caregiver. The lack of support in the multivariate analyses may be due in

part to conceptual overlap between the egalitarian items in the relational style scale and items in the natural birth philosophy scale which reflected the social role of the birth attendant.

Although health self-efficacy was not a significant multivariate predictor of birth attendant choice, the univariate analyses was consistent with other research (Aaronson, 1987), and provided support for the idea that women who choose a midwife as a caregiver feel confident to successfully manage any pregnancy and birth-related decisions that may arise. The finding that health self-efficacy was linked to satisfaction only among women with an obstetrician as a caregiver, was surprising as it was expected that this relation would be found for women with a midwife caregiver. It is possible that the control conferred by knowing that medical interventions are readily available through obstetrics care explains this finding. By virtue of choosing an obstetrician birth attendant, women high in health self-efficacy may perceive that they are maintaining control over their pregnancy and birth and are therefore more satisfied. Although self-efficacy is known to be linked to satisfaction with maternity care (Christiaens & Bracke, 2007), and other types of health care (Zandbelt, Smets, Oort, Godfried, & de Haes, 2004), the relatively small number of women with an obstetrician caregiver in this study highlights the need for further investigation to confirm this finding and the speculative explanation offered.

Consistent with other investigations (De Koninck et al., 2001; Harvey et al., 2002; Oakley et al., 1996; Turnbull et al., 1996), women with a midwife caregiver reported higher levels of satisfaction with their antenatal care than did women with an obstetrician caregiver in the current study. Differences were noted not just for overall satisfaction but with several dimensions of satisfaction, a finding that is unique to this study. However, the relatively small amount of variance explained in the overall satisfaction scores of women in the midwife group

suggests that other factors beyond having a natural birth philosophy may be important for understanding how women evaluate midwifery care. Openness, which has been linked to satisfaction with other types of health-care (Block et al., 2007; Green et al., 2008), was a unique predictor of satisfaction with obstetrics care, despite the fact that women in the midwife group scored higher on this trait. The same limitations noted for the self-efficacy results apply and indicate that further research is needed to better understand the role of this personality trait for caregiver choice and satisfaction.

Although there were several novel results in the current study, findings should be considered within the context of a number of limitations. The relatively small, self-selected sample was recruited predominantly from Ontario, and therefore the beliefs regarding childbirth and birth attendants may not be representative of women from the other provinces where midwifery is offered. Although the use of an Internet survey may appear to be a limitation, there is considerable evidence suggesting that responses gathered via the Internet are as valid as those obtained through mail surveys (Gosling, Vasire, Srivastava, & John, 2004; Riva, Teruzzi, & Anolli, 2003). Internet surveys also typically produces larger and more heterogeneous samples than those recruited from the community (Krantz & Dalal, 2000), and allow access to unique populations (Wright, 2005). Given the narrow inclusion criteria for this study, this was a clear benefit of using this methodology.

Another limitation involves the cross-sectional design with data collection limited to the pregnancy period. Future investigations should examine satisfaction with birth attendant more broadly rather than including only the antenatal or post partum period. The role of birth philosophy was not assessed prospectively in this study. Nonetheless, our findings generally concur with a previous prospective investigation in which birth philosophy was predictive of

birth attendant choice (Howell-White, 1997).

### *Conclusions*

Overall, our findings highlight the importance of ‘fit’ between a woman’s birth-related philosophy and expectations and the choice of birth attendant, and expand previous work in this area by suggesting that birth philosophy may also be important for understanding satisfaction with antenatal care. The new Birth Philosophy scale developed shows promise as a tool for future research and suggests that women’s perceptions about pregnancy and childbirth are more sophisticated than a simple dichotomy of the natural versus the medical.

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Table 1. *Factor Loadings<sup>a</sup> of the Birth Philosophy Scale (Medical Birth Philosophy loads on Factor 1, Natural Birth Philosophy loads on Factor 2).*

Items	Factors	
	1	2
1. Things like fetal monitoring reduce the risk of something going wrong during childbirth.	<b>-.80</b>	-.03
2. I believe that modern technology has improved the quality of the birth experience.	<b>-.76</b>	-.18
3. Women depend on medical professionals to ensure they have a safe delivery.	<b>-.71</b>	.02
4. My birth attendant's priority should be making sure nothing goes wrong during my delivery.	<b>-.68</b>	.29
5. Giving experienced professionals control over my birth gives me peace of mind.	<b>-.68</b>	-.18
6. I feel confident that my birth attendant can decide what's best for me.	<b>-.59</b>	.13
7. Women should have all the latest technology to assist them in giving birth.	<b>-.58</b>	-.12
8. I will be satisfied with my birth experience as long as the baby is healthy.	<b>-.54</b>	.04
9. Giving birth is a potentially dangerous event.	<b>-.49</b>	-.06
10. I am quite afraid of something going wrong when I give birth.	<b>-.48</b>	-.05
11. I don't want to worry about making critical decisions while I'm in labour.	<b>-.42</b>	.02
12. It is important that my birth attendant and I have a good relationship.	-.19	<b>.74</b>
13. My body is designed to give birth.	-.09	<b>.71</b>
14. I want my birth attendant to focus on supporting me through the childbirth process during my delivery	-.06	<b>.71</b>
15. I see a birth attendant more as a guide or coach than as an authority figure.	.14	<b>.67</b>
16. Giving birth naturally, without any medical interventions, would be ideal to me.	.27	<b>.63</b>
17. Giving birth is a normal event.	-.00	<b>.63</b>
18. Although I value my birth attendant's opinion, I like to have the final say regarding any childbirth decisions.	-.20	<b>.63</b>
19. There is a purpose to the pain of labour.	.16	<b>.57</b>
20. The pain of labour is an important part of the birth experience.	.10	<b>.56</b>
21. Ideally, I would prefer to give birth at home.	.47	.55
22. Some routine medical interventions during labour seem unnecessary.	.38	.56
Eigenvalue	6.97	3.81
Variance	31.68	17.31

<sup>a</sup>Factor loadings were obtained using an unweighted least squares extraction with a direct oblimin rotation,  $N = 133$ . Highest factor loadings of an item are shown in boldface type.

Table 2. *Demographic Characteristics of Sample Stratified by Birth Attendant Group.*

Characteristics	% (N) or M (SD)			P –value*
	Total Sample N = 133	Midwife N = 85	Obstetrician N = 48	
Age	29.72 (4.27)	30.2 (4.3)	29.0 (4.2)	
Range	18-40	19-40	18-39	.12 <sup>a</sup>
Caucasian ethnicity	91.8 (122)	92.9 (79)	89.6 (43)	.53 <sup>b</sup>
Employment status				
Full-time	51.1(68)	47.1 (40)	58.3 (28)	
Part-time	18.8 (25)	23.5 (20)	10.4 (5)	
Not working	28.6 (38)	28.2 (24)	29.2 (14)	.29 <sup>c</sup>
Disabled	1.5 (2)	1.2 (1)	2.1 (1)	
Education				
Some high school	2.3 (3)	1.2 (1)	4.2 (2)	
High school graduate	6.0 (8)	7.1 (6)	4.2 (2)	
Some college/university	23.3 (31)	18.8 (16)	31.3 (15)	.19 <sup>c</sup>
College/university graduate	45.9 (61)	47.1 (40)	43.8 (21)	
Some graduate school	4.7 (4)	4.7 (4)	0 (0)	
Graduate degree	19.5 (26)	21.2 (18)	16.7 (8)	
Relationship status				
Married/Living with spouse equivalent	96.2 (128)	95.3 (81)	97.9 (47)	
Separated/Divorced	2.4 (2)	2.4 (2)	0 (0)	
Never married	2.3 (3)	2.4 (2)	2.1 (1)	.56 <sup>c</sup>
Province				
British Columbia	12.0 (16)	12.9 (11)	10.4 (5)	
Manitoba	0 (0)	0 (0)	0 (0)	
Ontario	83.5 (111)	82.4 (70)	85.4 (41)	
Quebec	2.3 (3)	3.5 (3)	0 (0)	.38 <sup>c</sup>

\* <sup>a</sup> based on an independent sample *t*-test, <sup>b</sup> based on Fisher's Exact test, 2 sided, <sup>c</sup> based on a Pearson chi-square test, 2 sided.

Table 3. *Differences in Pregnancy and Birth Attendant Related Characteristics Between Birth Attendant Groups.*

Characteristics	% (N) or M (SD)		p value
	Midwife N = 85	Obstetrician N = 48	
Previous Births			
0	43.5 (37)	47.9 (23)	
1	30.6 (26)	27.1 (13)	
2	20.0 (17)	10.4 (5)	
3 or more	3.5 (3)	6.3 (3)	.95 <sup>a</sup>
Midwifery considered?			
Yes	96.5 (82)	29.2 (14)	
No	0 (0)	66.7 (32)	.00 <sup>b</sup>
Were midwives available?			
Yes	100.0 (87)	70.8 (34)	
No	0 (0)	6.3 (3)	
Don't know	0 (0)	20.8 (10)	.00 <sup>b</sup>
Week in pregnancy			
Range	9-41	11-41	.02 <sup>a</sup>
Number of consults with birth attendant			
Range	5.9 (2.8)	4.8 (2.4)	.05 <sup>a</sup>
	3-15	3-12	

<sup>a</sup> based on an independent sample *t*-test; <sup>b</sup> based on a Pearson chi-square test.

Table 4. *Independent Samples T-Tests Comparing Midwife and Obstetrician Group Means on Study Variables.*

Variables	Midwife <i>N</i> = 85 <i>M</i> ( <i>SD</i> )	Obstetrician <i>N</i> = 48 <i>M</i> ( <i>SD</i> )	<i>t</i>	<i>p</i> value
Preferred relational style	2.63 (.59)	3.12 (.41)	5.11	0.00
Openness to new experience	3.81 (.57)	3.54 (.61)	-2.54	0.01
Health self-efficacy	4.86 (.59)	4.64 (.60)	-2.06	0.04
Medical birth philosophy	3.47 (.93)	4.33 (.76)	5.54	0.00
Natural birth philosophy	5.23 (.54)	4.22 (.80)	-8.71	0.00
General satisfaction	4.38 (0.98)	3.77 (1.06)	-3.36	0.00
Technical quality	4.39 (0.75)	4.06 (0.99)	-2.11	0.04
Communication	4.61 (0.76)	4.01 (0.99)	-3.92	0.00
Interpersonal manner	4.64 (0.75)	4.07 (1.12)	-3.46	0.00
Time spent with birth attendant	4.61 (0.77)	3.35 (1.18)	-6.63	0.00
Accessibility	4.38 (0.82)	3.72 (0.93)	-4.26	0.00
Total Satisfaction	4.47 (0.69)	3.85 (0.92)	-4.42	0.00

Table 5. *Adjusted Odds Ratios (ORs) and 95% Confidence Intervals (95% CI) Predicting Midwife as Caregiver.*

Predictor variables	OR	95% CI lower	95% CI upper	<i>p</i> value
Education <sup>a</sup>				
High School	2.07	0.20	21.20	0.54
College/university	1.09	0.30	4.05	0.90
Preferred relational style	0.54	0.14	2.10	0.38
Openness to new experience	1.50	0.59	3.82	0.40
Health self-efficacy	0.87	0.32	2.36	0.78
Medical birth philosophy	0.43	0.18	1.02	0.06
Natural birth philosophy	10.16	3.78	27.35	0.00

<sup>a</sup> Reference category for education variable is graduate school.



Table 6.

*Hierarchical Regression of Selected Variables Predicting Satisfaction With Birth Attendant for the Midwife and Obstetrician Groups.*

Variable and group	Step 1			Step 2		
	<i>B</i>	SE	$\beta$	<i>B</i>	SE	$\beta$
Midwife group ( <i>N</i> = 85)						
Education	0.06	0.06	0.11	0.04	0.06	0.06
Week in pregnancy	0.00	0.01	0.03	0.00	0.01	0.02
Natural birth philosophy	---	---	---	0.34	0.14	0.27 <sup>a</sup>
Preferred Relational Style	---	---	---	-0.17	0.13	-0.14
	<i>F</i>	0.55			2.87 <sup>a</sup>	
	<i>R</i> <sup>2</sup>	0.01			0.13	
	$\Delta R^2$	0.01			0.11 <sup>b</sup>	
Obstetrician group ( <i>N</i> = 48)						
Education	-0.03	0.11	-0.04	-0.01	0.10	-0.01
Week in pregnancy	-0.01	0.02	-0.07	-0.01	0.02	-0.10
Health self-efficacy	---	---	---	0.46	0.21	0.30 <sup>a</sup>
Openness	---	---	---	0.52	0.21	0.34 <sup>a</sup>
	<i>F</i>	0.15			3.74 <sup>b</sup>	
	<i>R</i> <sup>2</sup>	0.01			0.26	
	$\Delta R^2$	0.01			0.25 <sup>b</sup>	

Note: <sup>a</sup> =  $p < .05$ . <sup>b</sup> =  $p < .01$ . Midwife group: Step 1:  $df = (2, 82)$ ; Step 2  $df = (4, 80)$ . Obstetrician group: Step 1:  $df = (2, 45)$ ; Step 2:  $df = (4, 43)$ .