Changing Beliefs and Attitudes About Birth in Preconceptive Young Women: Effectiveness of In-Depth, Direct Pedagogy

Sarah Uzelac

Abstract: Due to pervasive cultural influences childbirth is typically viewed by young women as a painful and frightening event requiring medical attention. The current research investigates whether providing college-attending women access to information, education, and critical thinking skills in the area of perinatal care can significantly, positively alter this belief system. Twenty-seven female students in attendance at a small, private, four-year liberal arts college participated in one of two studies examining the effects of a 15-week, seminar-style undergraduate college course entitled "The Biopsychology of Birth." Beliefs and attitudes about childbirth were surveyed among women who took the course and those who had not. Significant differences in the predicted direction were found between the experimental and control groups as well as between the pre- and post-intervention responses from participants. Pre-conceptive educational interventions that successfully change beliefs/attitudes about birth may also result in longer-term positive, healthy, low-intervention choices in pre- and perinatal care.

Keywords: perinatal, education, belief, attitude, preconception

Maternal education and increased consumer choice are often thought to be the only avenues, outside of institutional policy change, for inducing a cultural shift that will make significant and lasting change in the delivery and consumption of maternity care (Hans & Kimberly, 2011). One of the major challenges in educating women about their maternity care choices is the window of time in which we, as a society, typically encourage women to seek out information about childbirth (Klein et al., 2006).

Unfortunately, most women are not educated about pre- and perinatal care options until they have already conceived (Cleeton, 2001). By that point in a woman's life, however, the clear cultural message regarding childbirth has already been deeply instilled: birth is scary, painful, and must happen in the hospital, preferably with medical intervention (Klein et al., 2006; Rooks, Ernst, Norsigian, & Guran, 2008). For example, Lampman and Phelps (1997) reported preconceptive young men and women view cesarean delivery as normal, do not perceive it as a negative experience, and drastically underestimate the consequences to a woman's health.

Once pregnant, many women don't know there are possibilities beyond what their own mothers experienced or what they have seen on television, that there are options other than a medicalized birth experience (Green, 2012; Rooks et al., 2008). Some women, if unhappy with their care providers may feel "stuck" or "too far along" in their pregnancies to change their early maternity care choices, even if they do subsequently learn of alternatives in a childbirth education class or in conversation with other women. It is unrealistic to hope that years of cultural indoctrination can be undone and a woman's ingrained beliefs about birth adequately changed through a basic childbirth education class (often taken late in pregnancy).

While there are a few studies qualitatively measuring young, college-age adults' expectations, attitudes, and education about birth (Lampman & Phelps, 1997; Wallach & Matlin, 1992) or the effect of a single-contact educational intervention (Cleeton, 2001), research about how and when young women should be exposed to educational interventions that can shape their attitudes towards birth prior to pregnancy are lacking in the literature. The current work measures the effect of an in-depth educational intervention targeted at pre-conceptive, college-age women.

Childbirth is typically viewed by young women as a painful, medical event, often requiring intervention. By providing college-attending women access to information and education in the content areas of birth processes, birth choices, and the history of birth care, as well as the critical thinking skills with which to evaluate this information – this pervasive belief system can be significantly altered.

Method

Participants

Participants were 27 female students in attendance at a small, private, four-year liberal arts college in the Northeastern United States. Participant demographics for both studies are described in Table 1.

Table 1: Demographics for Participants in both Studies

	STUDY 1: MATCHED COMPARISON		STUDY 2: PRE-POST TESTING
Demographics	**Biopsychology of Birth Class n = 8**	**Control Group n = 8**	**Biopsychology of Birth Class n = 11**
Gender	All participants were female.		
Mean Age in Years (with standard deviation)	21.47 (.92)	21.46 (1.11)	20.33 (1.16)
Education	All participants were current college students		
Parity	None of the participants were mothers or pregnant at the time of study		
Race & Ethnicity	All participants identified as Caucasian, non-Hispanic* *1 participant failed to answer the Hispanic/non-Hispanic ethnicity question		8 participants (72.7%) identified as Caucasian or White 1 participant (9.1%) identified as African American or Black 1 participant (9.1%) identified as being from an 'Other' race category 1 participant chose not to answer 8 participants (72.7%) identified as Hispanic or Latina

Procedure

The intervention was a 15-week, seminar-style undergraduate college course entitled "The Biopsychology of Birth." The course was organized into three, five-week blocks of material exploring the physical, emotional, social, and cultural experiences of women during pregnancy, birth, and the early post-partum period. These topics were approached historically from both medical and non-medical perspectives and the societal expectations of the pregnant/birthing woman in the United States were critically examined.

As part of this course, students read two textbooks, concurrently: *Birth: The Surprising History of How we are Born* (Cassidy, 2006) gave students a readable history of obstetrical care, while *The Thinking Woman's Guide to a Better Birth* (Goer, 1999) provided a clear and representative portrait of the full spectrum of decisions pregnant women must make in terms of modern day birth care. Throughout the semester, students had several guest lecturers from health professionals (a homebirth

midwife and an obstetrician) as well as mothers with various perspectives on childbirth and birth experiences. Students watched the films *The Business of Being Born* (Lake & Epstein, 2008) and *Orgasmic Birth* (Liem & Pascali-Bonaro, 2008) in order to gain insight into the economic pressures on traditional maternity care and to consider alternatives to hospital birth experiences. Students also viewed several episodes of the popular birth television program, A Baby Story (Hersh, 2008), keeping an eye out for stylistic choices (music, repetition of statements of fear/pain/anxiety, focus on time, etc.) that serve to support the overarching cultural narrative that birth is scary and painful. Preparation for class and discussion of these materials was worth 20% of the overall course grade.

In addition to these in-class activities, students chose topics to research outside of class time and gave two separate class presentations on specific aspects of birth culture – the first focused on an aspect of American birth culture; the second on a belief or practice from another (preferably non-Western) culture. Each of these short presentations was worth 20% of the course grade. The major project of the semester, worth a total of 40% of the overall grade, was designed to give students first-hand experience trying to gather information from local-area hospitals as if they were deciding where they might want to give birth. This entailed in-depth researching, visiting, and then publically reporting on perinatal care statistics from local area hospitals.

In order to measure the effectiveness of this educational intervention, a survey was distributed to participants querying their interest in and beliefs about childbirth. Questions were included from three specific "dimensions" of beliefs/attitudes about birth. One dimension was education, which included statements like, "Women who have post-partum depression are just not warm, loving mothers." Another dimension was focused on whether women viewed birth as natural, including statements like, "Women have a natural intuition about how to birth." The final dimension of the survey was focused on the extent to which women view birth as a medical experience, and included statements such as, "Epidurals are necessary to help mothers tolerate birth."

This beliefs/attitudes portion of the survey was a total of 31 questions, 16 of which queried the medical perspective, 11 queried general education about birth, and four queried the view of birth as a natural experience. Participants were asked to agree or disagree with the statements on a five-point Likert-scale ranging from "strongly agree" to "strongly disagree," where three was the neutral anchor, "neither agree nor disagree." Survey questions across the three dimensions were worded in both positive and negative terms.

In Study 1 the survey was distributed during the last week of classes in the fall semester; in Study 2, the survey was distributed both the first week of classes and again during the last week of classes, also in the fall semester. This research protocol was reviewed and approved by the MSMC IRB.

Study 1. A between-group, matched sample design was employed to test the hypotheses. Participants (n=16), were matched on gender, age, education, parity, and as closely as possible on ethnicity and race.

Study 2. A within-group, repeated measures design was employed to further test the original hypotheses stated above (n=11), but to also investigate whether students who enrolled in the course were entering the course with a pre-disposed positive attitude towards normal birth, or were experiencing a demonstrable attitudinal/belief shift about childbirth as a result of the intervention.

Results

There were significant differences between the experimental and control groups in Study 1 as well as between the pre- and post-test results of participants in Study 2. These differences in attitude and beliefs about birth were seen across all three of the dimensions queried and were all in the predicted direction (see Table 2, for mean scores, standard deviations, and comparison significance levels). That is, students who took the course espoused more positive, educated, and less medicalized views of birth than did those who hadn't taken the course. Further, the students who choose to enroll in the course do not seem to enter with overwhelmingly positive, educated, non-medicalized views of birth and did experience significant shift in attitude over the semester, again across all three dimensions, in the predicted direction.

Table 2: Results of Study 1 and Study 2
(mean score with parenthetical standard deviation)

	STUDY 1: MATCHED SAMPLE COMPARISON			STUDY 2: PRE-POST COMPARISON		
Dimension Queried	**Birth Class Students**	**Control Group**	**Significance**	**PRE-TEST**	**POST-TEST**	**Significance**
Education Score	10.5 (2.51)	3.36 (2.07)	t(14) = 6.203 ***p<.001	6.12 (3.76)	10.00 (2.68)	t(10)= -2.398 *p=.037
Medical View Score	24.63 (3.38)	-4.75 (4.77)	t(14) = 14.208 ***p < .001	4.00 (5.53)	23.18 (3.87)	t(10) = -10.521 ***p<.001
Natural View Score	5.75 (2.05)	2.75 (1.39)	t(14) = 3.424 **p = .004	4.00 (1.67)	6.64 (1.36)	t(10) =-3.390 **p=.007
Overall Survey Score	40.88 (3.52)	1.38 (7.07)	t (14) =14.144 *** p <.001	14.82 (8.44)	39.82 (6.59)	t(10) = -7.476 ***p <.001

Discussion

Taken together, the findings of these two studies demonstrate solid support for the hypotheses. Typical female college students (as represented by the control group in Study 1) clearly indicated a very strong medicalized and even negative view of birth. This finding is very similar to larger-scale findings reported by Soliday and Mammenga (2015), where white pre-conceptive, college-age women and men endorsed significantly stronger medicalized views of birth. These ingrained beliefs, likely stemming largely from common cultural representations of birth as painful and uniformly hospital-based, as well as a lack of education (Lake & Epstein, 2008; Wallach & Matlin, 1992), can be successfully challenged and shifted with a single college-level course designed to educate and present birth as a normal, natural process that need not be feared (demonstrated by the survey responses of the experimental group in Study 1). It does not seem that students (as represented by the "pre-test" group in Study 2) take the course because they already have "normalized" views of birth. While the pre-test scores were not quite as low as the control group in Study 1, the post-test scores demonstrate that participants experienced a significant, demonstrable change in understanding and beliefs about childbirth over the course of the semester.

The results of this research must be considered in the context of the small sample size and limited population it was performed within. There are class and socioeconomic issues implicit in any college student sample that may impact the generalizability of the results. Though this may be exactly the population that could benefit most from this type of intervention, as women of higher education levels and socioeconomic status are more likely to undergo cesarean section (Lampman & Phelps, 1997).

These findings are in line with previous work among college students. Research has demonstrated that even a very brief educational intervention about the normalcy and variety of women's behavior during birth can improve ratings of a birth film compared to those who didn't receive the intervention (Cleeton, 2001). While short interventions can be effective, there are still questions as to how pervasive and long-lasting those attitude changes might be. High-impact educational interventions that will have not only long-term educational benefit, but perhaps might also result in positive, healthy, low-intervention choices in pre- and perinatal care should be the goal.

While neither previous research nor the current study report on longitudinal perinatal care choice outcomes following intervention, there is some small-scale evidence that positive, longer-term consequences are possible. Former "Biopsychology of Birth" students have informally reported three births that have taken place since taking the course – all three were midwife attended, out-of-hospital, low-intervention births. Additionally, a few other former students have reportedly gone on to careers in perinatal care fields: midwifery, obstetrical nursing, and maternal and child health advocacy. While obviously anecdotal, these reports provide hope that spending one semester over the course of a college career learning about childbirth may indeed be able to reverse the negative, fear-based view of childbirth that popular culture presses upon us from early life onward.

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