Women's expectations and experience of birth

S. Ayers [*] and A.D. Pickering [§]

* City University London, U.K.

[§] Goldsmiths University, London, UK

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ABSTRACT

This was an exploratory study with three aims: (1) to examine the relationship during pregnancy between expectations of birth and symptoms of anxiety; (2) to examine the relationship between expectations and subsequent experience of birth; (3) to examine the effect of parity on expectations and experience. This was carried out through a prospective postal questionnaire study with 289 pregnant women who completed measures of expectations of birth (e.g. expectations of obstetric events, emotions, control, support, pain etc), trait and state anxiety during the 36th week of pregnancy. One week after birth women completed a questionnaire about their birth experience.

The results found that anxiety in pregnancy was associated with expecting less positive emotion during birth, more negative emotion during birth, less control and less support during birth. Expectations were positively related to the birth experience. For example, women who expected high levels of control also experienced high levels of control during birth, although in general the correlation coefficients were low. Some aspects of women's experience were significantly different to their expectations, although these differences were no longer significant when trait anxiety was controlled for. Finally, differences were observed between primiparas and multiparas in both expectations and experience of birth, although primiparas were not always more 'inaccurate' in their expectations. These results are discussed and suggestions for future research made.

Key words: labour, birth, expectations, experience, anxiety, parity

INTRODUCTION

The effect of an individual's expectations has been examined in relation to normal and abnormal behaviour by many models and theories. For example, expectancy-value models, such as the Theory of Planned Behaviour (Ajzen, 1985), explain health behaviour in terms of expectations of outcome weighted by the value placed on that outcome. The concept of self-efficacy incorporates expectations of outcome (Bandura, 1997) and clinical research and theory also indicates that future expectations may be important in anxiety and depression, for example, anxiety research has found that anxious subjects are more likely to expect negative events (MacLeod, 1999).

The interaction between expectations and experience has also been studied with reference to different outcomes. Gray's (1994) neurobiological theory of anxiety suggests that excessive sensitivity to a mismatch between expectations and experience is critical in the generation of anxiety. Studies of recovery from surgery have found that preoperative expectations are strongly associated with psychological and physical recovery indices (e.g. McCarthy, Lyons, Weinman, Talbot & Purnell, 2003). Similarly, studies into the perception of pain have examined whether the direction of a mismatch between expectations and experience determines the amount of pain felt (Arntz, 1996).

The role of expectations in women's experience of birth has been examined sporadically over the last 50 years with conflicting results. The widespread provision of antenatal classes during pregnancy is partly driven by the assumption of a causal relationship between a woman's expectations and her experience of birth. The first proponent of antenatal classes, Read (1933), believed that expectations of pain caused fear, and that this fear resulted in increased tension and therefore pain during labour. Read argued that if women are educated so they change their expectations and learn

relaxation techniques to combat tension then pain will be reduced. Although research does not provide unequivocal support for attendance at antenatal classes leading to a reduction of pain in labour (Slade, 1996) the incorporation of antenatal classes is now an accepted part of antenatal care.

The Nature of Women's Expectations

Women's expectations of birth are complex and dynamic. Research shows that women hold both positive and negative expectations of birth; that these dimensions are independent of each other; and that they relate in different ways to the birth experience (Slade, MacPherson, Hume & Maresh, 1993). Expectations about different aspects of birth, such as emotions, control, pain, and obstetric events, appear to have different effects (Green, Coupland & Kitzinger, 1998). In addition, women hold detailed expectations regarding assistance with baby care, household tasks, emotional support, financial help, and their relationship with the baby (Levitt, Coffman, Guacci-Franco & Loveless, 1993). Thus, women have well-formed expectations of many aspects of childbirth, the baby, their own role as a parent and their partner's role as a parent. These expectations are continually refined and developed with new information and experience (Gupton, Beaton, Sloan & Bramadat, 1991).

Research has examined whether expectations differ for women having their first baby (nulliparous) or women having subsequent children (multiparous). It seems intuitively viable, for example, that multiparous women would have different expectations because they have previous experience of giving birth. Surprisingly, the evidence to date does not widely support this: both retrospective and prospective studies find no significant differences in the frequency of different expectations between nulliparous and mulitparous women except for the variables of 'body control in labour', 'control of health decisions' (Booth & Meltzoff, 1984), 'control over staff actions' and

'involvement in decision making' (Green, Coupland & Kitzinger, 1998) with primiparous women expecting more control.

Expectations have also been found to differ according to other factors such as attendance at antenatal classes (Astbury, 1980; Skevington & Wilkes, 1992) and pregnancy risk (Heaman, Beaton, Gupton & Sloan, 1992). Women who attend antenatal classes are more likely to have detailed expectations (Astbury, 1980), which are more positive than those of women who do not attend classes (Heaman et al., 1992). Women's expectations are also related to woman's subjective evaluation of her risk of complications in pregnancy, although not to actual obstetric risk (Heaman et al., 1992). In fact, subjective and objective evaluations of risk are not significantly related. This demonstrates the importance of measuring subjective as well as objective variables, but also suggests that expectations may be influenced by a third factor, such as anxiety in pregnancy, rather than risk per se. However, the relationship between a woman's expectations and prenatal variables such as anxiety is not clear. Some studies find that anxiety in pregnancy is related to expectations (e.g. Heaman et al., 1992) whereas other studies find no relationship (Levy & McGee, 1975; Scott-Heyes, 1982). There is also some suggestion that anxiety in pregnancy may be associated with a negative birth experience (Lunenfeld, Rosenthal, Larholt & Insler, 1984).

The Relationship between Expectations and Experience

Two prospective studies have examined the relationship between women's expectations and experience of birth in some depth (Green, Coupland & Kitzinger, 1990; 1998; Slade et al., 1993). Both of these studies found that expectations were associated with the birth experience. Green, Coupland and Kitzinger (1990; 1998) found that negative expectations were associated with finding birth less fulfilling, being less satisfied with birth and reporting less emotional well-being after birth. Conversely, positive

expectations were associated with greater control in birth, plus greater satisfaction and emotional well being. Slade et al. (1993) also found that expecting positive emotions during birth was predictive of experiencing positive emotions and expecting negative emotions was predictive of experiencing negative emotions. However, neither study took account of the possible influence of anxiety on expectations and experience.

The Current Study

Following on from this, the research that is reported in this paper had three aims: (i) to examine the relationship in pregnancy between expectations of birth and concurrent symptoms of anxiety; (ii) to examine the relationships between expectations of birth and subsequent experience for different aspects of birth; and (iii) to examine the effect of parity on expectations and experience. This was achieved as part of a prospective study that followed women from late pregnancy to six months after birth. Expectations of birth and symptoms of psychopathology were measured in the 36th week of pregnancy. Experience of birth and symptoms of psychopathology were measured one-week, six-weeks and six-months after birth. This paper concentrates on the data from pregnancy and one-week after birth.

METHOD

Design

This was a prospective questionnaire study. Participants completed postal questionnaires at four time points: 36 weeks gestation (mean = 35.7 weeks, sd = 2.0 weeks), the first week after birth (mean = 3.5 days, sd = 3.0 days), six weeks after birth (mean = 7.2 weeks, sd = 2.2 weeks) and six months after birth (mean = 6.7 months, sd = 1.4 months). Expectations of birth, psychopathology and demographic information were measured during pregnancy. Experience of birth and psychopathology were

measured at every time point after birth. This paper reports data from pregnancy and one week after birth.

Sample

Women were recruited from a series of antenatal clinics with a potential sample of 431 women. Inclusion criteria were that women spoke fluent English and were between 16 and 36 weeks pregnant. Women who were booked for elective caesareans or whose babies died during or shortly after birth were excluded from the study. Forty-eight women from the potential sample did not attend their clinic appointment or were missed by the researcher, a further 93 women refused to participate.

The eventual sample therefore consisted of 289 women who agreed to participate. Of the 289 women recruited, 240 (83%) completed questionnaires during pregnancy and 245 (85%) completed questionnaires 1 week after birth. Analysis of differences between women who returned the questionnaires and women who did not return the questionnaires (based on questionnaires six months after birth) showed that nonresponders were younger, had lower levels of education, a higher proportion of African and Afro-Caribbean women, and a higher proportion of single or separated women. However, nonresponders did not differ significantly from responders on parity, delivery type, complications with the baby, or symptoms of anxiety or depression during pregnancy. Sample characteristics are given in Table 1.

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insert Table 1 about here

Measures

Evaluation of these measures for use with pregnant and postnatal women, and comparison with norms, has been covered in more detail elsewhere (Ayers 2001a; Ayers 2001b).

Birth expectations and experience

Birth expectations and experience were measured using a modified version of the Expectation and Experience of Birth Scale (EEBS; Slade et al., 1993). This asks women to report their expectations and subsequent experience of birth on the same scale worded either as "do you expect your labour to be.." or "was your labour.." The original scale has two subscales measuring positive emotions (e.g. exciting, enjoyable) and negative emotions (e.g. frightening, embarrassing). Although the original scale includes eight items on control, factors analysis by Ayers (1999) found that only three of these items formed a coherent subscale of control over analgesia (control over whether to take analgesia, what analgesia to take and when to take it). Therefore other control items are analysed individually (e.g. control over panic, control over pain). The scale also has items measuring pain, obstetric events, and analgesia efficacy. Two main modifications were made to this scale for use in the current study. Firstly, appraisal items were added to ask whether birth was perceived as challenging or traumatic. Secondly, three support items were added to measure support from partner; support from midwife; and support from doctor. A 10 centimetre visual analogue scale was used for all items giving a range of 0 ("not at all") to 10 ("extremely"/"completely").

Anxiety in pregnancy

Anxiety in pregnancy was measured using the State-Trait Anxiety Scale (STAI; Spielberger, Gorsuch, Lushene, Vagg & Jacobs, 1983) which consists of a 20-item State Anxiety Scale and a 20-item Trait Anxiety Scale. Participants rate themselves for each

symptom; for how they feel "right now" on the state anxiety subscale, and for how they "generally" feel on the trait anxiety subscale. Each subscale has a possible range of 20-80 with higher scores indicating greater anxiety. Internal consistency ranges from .86 to .95 (Spielberger, Gorsuch, Lushene, Vagg & Jacobs, 1983). Test-retest reliability in non-obstetric samples ranges from .65 to .75 for the trait anxiety subscale, but is lower for the state anxiety subscale (around .35) as would be expected with a state measure.

Demographic and obstetric information

Basic demographic and obstetric information was measured using a simple questionnaire used in previous research at the hospital (e.g. Ayers, 1999; Keogh, Ayers & Francis, 2002).

Procedure

Women were recruited from antenatal clinics that took place over three separate weeks in a London hospital. Attempts were made to approach all women booked into antenatal clinics during these weeks. If women agreed to participate they were sent four packs of questionnaires by post; one at 36 weeks gestation, one during the first week after birth, one six weeks after birth and one six months after birth. The questionnaire for the first week after birth was given to women whilst they were in the postnatal ward or was posted to them at home. All other questionnaires were sent 7 days before the required completion time, with instructions to complete them at the required time, and with reply-paid envelopes. If a questionnaire was not returned within 14 days then women were followed up by telephone or letter. A Microsoft Access database was used to keep track of questionnaires dispatched, returned, and when women should be followed-up. Maternity ward records were checked daily (on weekdays) to record which women had given birth.

Statistical Analyses

Variables were screened and the majority of the variables conformed to the assumptions of parametric statistics. A few variables were not normally distributed (importance of panic control, support from partner, and support from midwife) so Spearman's *rho* was used for all correlation analyses, which were used to address the exploratory aims (1 & 2). Multivariate analysis was carried out to examine differences between expectations and experience according to parity, using repeated measures ANOVA with a mixed 2 x 2 design. For these parametric analyses, skewed variables were transformed using square root or log transformations as appropriate. Analyses were carried out on raw data and transformed data. Both sets of analyses produced the same results so statistical information is reported for raw data. The number of women who expected and experienced different obstetric events was analysed using linear models for categorical data (Guthrie, 1981), which enables dichotomous data to be tested in a way that is analogous to repeated-measures or mixed-design analysis of variance.

RESULTS

Analyses that included measures taken after birth were restricted to women who completed the birth experience questionnaire within 14 days of giving birth (N = 205; mean completion = 3.5 days after birth, sd = 3). This was done to minimise the effect of a mood congruent bias or inaccurate recall on women's reports of the birth experience, and was applied to all results except Tables 1 & 2, which use only pregnancy data. The 14-day cut-off was used because within this time there were no significant correlations between the time the questionnaire was completed (i.e. number of days after birth) and symptoms of depression, anxiety, intrusion or avoidance (Spearmans *rho,* -0.13 to 0.03, ns). Using this restricted sample for analyses did not change the results substantially,

but exceptions are noted. In addition, no differences were found between women who completed the questionnaire within 14 days and late completers in age, marital status, level of education, occupation before pregnancy, symptoms of anxiety in pregnancy, and postnatal appraisal of birth as traumatic. However, the subsample of late completers included a larger proportion of multiparous women (67% compared to 45% of early completers; Chi square, $\chi^2 = 4.54$, df = 1, $p<.05$).

Expectations & symptoms of anxiety

Levels of anxiety during pregnancy were comparable to norms: mean trait anxiety = 36.88 (sd = 10.22); and mean state anxiety = 35.25 (sd = 11.33). Spielberger et al. (1983) report norms for women aged 19 – 39 of 36.15 (sd = 9.53) for trait anxiety and 36.88 (sd = 10.22) for state anxiety. Table 2 gives the correlations between expectations of birth and symptoms of anxiety in pregnancy.

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insert Table 2 about here

Table 2 shows that anxiety in pregnancy is related to many expectations, although the correlations are low (0 to 0.29). Anxiety symptoms are associated with expecting similar emotions (e.g. birth to be less positive, more negative, more traumatic), and to expecting less control, less support, and having less confidence to cope.

Expectations & Experience of Birth

The type and frequency of obstetric events in this sample (see Table 1) was largely representative of women giving birth in the region (South Thames West Perinatal Audit Report, 1998). A correlation matrix for relationships between expectations and experience is given in Table 3. For these analyses, the probability value for significance was set at $p<.01$ because of the large number of correlations

carried out. Table 3 shows that expectations and experience ratings on the same item are related (.24 to .49), except for analgesia efficacy. There were very few other associations between expectations and experience, and the few significant correlations were very low (.20 to .31). Expecting positive emotions in birth was related to experiencing positive emotions, higher control and analgesia efficacy.

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insert Table 3 about here

The effect of parity on expectations and experience

Table 4 gives the results of these analyses and indicates a number of differences between nulliparous and multiparous women, and between expectations and experience of birth. A significant interaction indicates that the difference between expectations and experience varies significantly between nulliparous and multiparous women.

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insert Table 4 about here

Table 4 shows that nulliparous women expected and experienced more negative emotion, greater staff control of pain, more effective analgesia, and were more likely to appraise birth as traumatic and challenging. A number of significant interactions were found, most notably control over position, where nulliparous women reported less control than expected and multiparous women reported slightly more; and analgesia efficacy, where nulliparous women reported slightly more effective analgesia than expected and multiparous women reported less effective analgesia than expected.

Table 4 also shows that, for all women, a few aspects of birth were significantly different from expectations. However, these differences all failed to reach significance when trait anxiety in pregnancy was entered as a covariate. This indicates that anxiety may account for differences between expectations and experience. The effects of parity and the interactions remained unchanged when anxiety was entered as a covariate.

Obstetric events are given in Table 5 (based on self-report data). The results found no significant differences between multiparous and nulliparous women, but a number of significant interactions can be observed. Fewer nulliparous women expected to have their labour augmented by a drip, their baby's heart monitored, or a caesarean section than had these interventions. Whereas more multiparous women expected to have their baby's heart monitored or a forceps delivery than had these interventions. Finally, it can be seen that a larger proportion of nulliparous women had intervention e.g. labour augmented by a drip, fetal heart monitoring, caesarean etc.

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insert Table 5 about here

DISCUSSION

The results found that during pregnancy expectations are associated with symptoms of anxiety, and when anxiety is controlled for statistically any significant differences between expectations and experience disappear. The results also show that expectations are associated with the experience of the same aspect of birth. For example, expecting positive emotions in labour is associated with experiencing positive emotions and so on. However, all these correlations were low. Finally, there are differences between nulliparas and multiparas in their expectations and experience of

birth. For clarity, the results are discussed for each aim of the study before looking at limitations of this research.

Expectations and symptoms of anxiety

This research found that anxiety in pregnancy is associated with expecting more negative events during birth (i.e. more negative emotions and pain) and expecting less positive events during birth (i.e. less control and support). The first of these findings is consistent with previous research showing that anxious people are more focused on threat-related stimuli (Mogg & Bradley, 1999). The finding that anxiety is associated with expecting less positive events is consistent with some previous research, which found that anxiety is associated with underestimating the likelihood of positive events, although this is not a consistent finding (MacLeod, 1999). However, in samples of pregnant women, it is feasible that causality operates in the reverse direction, with negative expectations increasing anxiety during pregnancy, as opposed to anxiety causing bias in expectations. Other factors, such as pregnancy risk, are also likely to influence both expectations and anxiety (Heaman et al., 1992), so it is important that future research considers this.

The other important finding regarding anxiety was that once it is controlled for statistically, all significant differences between expectations and experience disappear, suggesting anxiety accounts for the reported differences. This can be interpreted in a number of ways. For example, it could be due to cognitive biases associated with anxiety, where anxious women have unrealistically negative expectations and therefore a larger discrepancy between expectations and experience. Another explanation is that these results obscure a more complex picture where pregnancy factors, such as a high-risk pregnancy, result in women overestimating the likelihood of negative events in birth and also being more anxious. Alternatively other anxiety-related factors, such as

repressive coping style, could influence both expectations and experience. Unfortunately, at this stage it is impossible to conclude which of these explanations is most likely, and careful methodology is required to separate out the role of pregnancy risk, anxiety, and possibly coping style, in birth expectations and experience.

Expectations and experience of birth

The findings of this study regarding the association between expectations and experience are summarised in Table 3. This clearly shows how each aspect of expectations is associated with the same aspect of experience e.g. expecting negative emotions was related to reporting having experienced negative emotions; expecting high levels of pain was associated with experiencing high levels of pain and so on. These findings are generally consistent with previous prospective research in childbirth (Green, Coupland & Kitzinger, 1990) and in surgery (McCarthy et al., 2003). However, the correlation coefficients in this study were low.

Table 3 also shows that there are very few associations between different aspects of expectations or experience. For example, expecting negative emotions was not associated with increased pain in birth. The exceptions to this are associations between control and emotions, and between expectations of control and experience of support. The link between expectations of control and the experience of positive emotion during birth suggests that constructs such as self-efficacy or optimism may be relevant and should be included in future research.

The effect of parity on expectations and experience

A number of differences in expectations and experience were found between nulliparous and multiparous women, although these were not consistently in one direction. In other words, it was not simply that nulliparous women were underestimating problems in birth, or that multiparous women were more accurate in

their expectations. The results of this study demonstrate that it is more complicated, with nulliparous women being more accurate about some aspects of birth (e.g. staff control over pain, analgesia efficacy) and multiparous women being more accurate about others (e.g. control over position and analgesia). Of course, using terms such as 'underestimating' and 'accuracy' could be a misnomer as it is possible that parity has a direct effect on women's birth experience. For example, nulliparous women may be more 'accurate' about staff control over pain because of real differences in the way labour ward staff treat women of different parity. The results of obstetric events also lend support to this in that a larger proportion of nulliparous women had intervention in birth compared to multiparous women.

Finally, this study has a few limitations, especially the relatively small sample size, given the response rates and separation by parity. Therefore it is possible that low statistical power resulted in Type II errors. In contrast, the number of analyses carried out increases the probability of Type I errors. Thus, future research should try to recruit larger samples and examine differences in expectations and experience according to intervention levels or other obstetric outcome measures, such as type of delivery.

Summary

In summary, this research demonstrates that expectations are associated with experience of birth but that the correlations are low. Negative expectations in pregnancy are associated with anxiety and, although birth differs from women's expectations on a number of dimensions, these differences disappear when trait anxiety is controlled for statistically. Nulliparous and multiparous women differ in their expectations and experience of birth but it is difficult to interpret these results without further examining pregnancy risk and the role of intervention. In conclusion, these results are suggestive but future research is required to clarify the role of these factors.

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Table 1. Sample characteristics

		% (N)
Marital Status	Married or living with partner	88% (202)
	Single or separated	12% (27)
Ethnic Group	Caucasian	69% (158)
	African or Afro-Caribbean	17% (39)
	Indian, Pakistani or Bangladeshi	10% (22)
	Other	4% (9)
Level of education	None	10% (23)
	GCSE's or equivalent	21% (49)
	A-levels or equivalent	32% (74)
	Degree	15% (34)
	Higher degree or professional qualification	21% (48)
Occupation	Employers & managers	16% (36)
	Professional workers (employees)	11% (25)
	Non-manual workers	46% (105)
	Personal service workers	9% (21)
	Skilled & semi-skilled manual workers	4% (10)
	Unskilled manual workers	1% (11)
	Self-employed	2% (4)
	Unemployed or not adequately stated	11% (24)
Parity	Nulliparous (1st baby)	52% (132)
	Multiparous (2nd or subsequent baby)[a]	48% (120)
Place of delivery	Hospital	97% (246)
	Home or birth centre	3% (7)
Onset of labour	Spontaneous	73% (184)
	Induced	27% (68)
Type of delivery	Vaginal	67% (169)
	Assisted delivery (ventouse or forceps)	16% (40)
	Caesarean section	17% (43)
Duration of labour	Mean hours (SD)	9.47 (6.12)

NOTE: GCSE = General Certificate of Secondary Education.
[a] 30% of mulitiparas were having their 2nd baby; 12% their 3rd baby; 5% their 4th baby; 1% their 5th baby; and 0.5% their 6th baby.

Table 2. Correlations between expectations of birth and symptoms of anxiety in pregnancy

Expectations	Trait Anxiety	State Anxiety
Emotions & Control		
Positive emotions	-.19*	-.23***
Negative emotions	.25***	.21***
Control over analgesia	-.17*	-.19*
Control of pain	-.21***	-.19*
Staff control of pain	-.02	-.02
Control of panic	-.25***	-.29***
Importance of panic control	.04	-.05
Control of position	-.23***	-.28***
Support		
Support from partner	-.17*	-.18*
Support from midwife	-.21***	-.27***
Support from doctor	-.10	-.13
Overall support	-.23***	-.26***
Appraisal		
Appraisal as traumatic	.14*	.14*
Appraisal as a challenge	-.05	-.19*
Obstetric factors		
Pain	.20*	.12
Analgesia efficacy	-.05	.01

Spearmans *rho*; *p<.05 **p<.01 ***p<.001

Table 3. Correlation matrix of relationships between expectations and experience

		Expectations									
		Positive emotions	Negative emotions	Control of analgesia	Control of pain	Control of panic	Control of position	Support	Duration	Pain	Analgesia efficacy
Experience	Positive emotions	.49**	-.14	.20*	.22*	.24**	.21	.11	.01	-.09	.01
	Negative emotions	-.11	.41**	-.18	-.08	-.11	-.08	.09	.12	.18	-.01
	Control of analgesia	.11	-.05	.24*	.12	.15	.24*	.13	.08	-.03	.07
	Control of pain	.22*	-.08	.12	.25*	.28**	.15	.10	.02	-.06	.12
	Control of panic	.24**	-.11	.15	.18	.28**	.16	.07	.00	-.01	-.00
	Control of position	.21*	-.08	.24*	.15	.28**	.36**	.31**	.03	.04	.15
	Overall support	.11	.08	.22*	.10	.07	.31**	.43**	.10	-.01	16
	Duration of labour	-.19	.27**	-.07	.02	.00	.03	-.08	.38**	.13	.07
	Pain	-.03	.20	.09	-.06	-.01	.04	.14	-.08	.32**	-.04
	Analgesia efficacy	.23*	.10	-.01	.12	-.00	.15	.12	.19	.03	.10

Spearmans *rho*; * p<.01 ** p<.001

Table 4. Differences between expectations and experience of birth in nulliparas and multiparas

	Possible range	Expectations of birth (36 weeks pregnant) mean (s.d.)		Birth experience (1 week after birth) mean (s.d.)		Effect of Parity	Diff. between expectations & experience	Interaction
		Nulliparas	Multiparas	Nulliparas	Multiparas			
Emotions & Control								
Positive emotion	0-50	20.43 (9.72)	19.32 (11.13)	21.31 (12.19)	21.50 (11.86)	F (1,177) = 0.59	F (1,177) = 3.66*	F (1.177) = 0.05
Negative emotion	0-40	27.88 (9.30)	22.66 (9.21)	27.99 (8.80)	23.51 (10.28)	F (1,177) = 17.17***	F (1,177) = 0.38	F (1,177) = 0.29
Control over analgesia	0-30	21.49 (5.32)	23.04 (5.41)	24.05 (6.00)	22.99 (6.60)	F (1,161) = 0.29	F (1,161) = 7.84**	F (1,161) = 4.73* [a]
Control of pain	0-10	5.41 (1.94)	4.89 (2.67)	5.13 (2.55)	4.94 (2.54)	F (1,175) = 2.50	F (1,175) = 0.13	F (1,175) = 0.09
Staff control of pain	0-10	5.54 (1.93)	4.82 (2.49)	5.57 (2.72)	4.11 (2.63)	F (1,175) = 20.28***	F (1,175) = 1.96	F (1,175) = 5.43*
Control of panic	0-10	5.94 (2.16)	6.05 (2.21)	6.37 (2.69)	6.68 (2.38)	F (1,175) = 0.55	F (1,175) = 5.82*	F (1,175) = 0.24
Importance of panic control	0-10	8.04 (1.78)	7.75 (1.87)	7.67 (2.21)	7.17 (2.24)	F (1,176) = 2.17	F (1,176) = 11.05***	F (1,176) = 0.51
Control of position	0-10	6.91 (2.34)	6.06 (2.96)	5.23 (3.33)	6.30 (3.35)	F (1,173) = 0.01	F (1,173) = 7.0**	F (1,173) = 13.52***
Pain & Analgesia								
Pain	0-10	7.17 (1.91)	7.03 (1.97)	6.89 (2.39)	7.00 (2.09)	F (1,176) = 0.03	F (1,176) = 0.03	F (1,176) = 0.98
Analgesia efficacy	0-10	6.70 (1.86)	6.53 (2.14)	7.00 (2.71)	5.35 (2.62)	F (1,154) = 10.48***	F (1,154) = 2.95	F (1,154) = 8.18**
Support								
Support from partner	0-10	7.96 (2.24)	8.35 (2.28)	8.82 (1.89)	8.63 (2.25)	F (1,175) = 0.72	F (1,175) = 7.18**	F (1,175) = 2.12
Support from midwife	0-10	8.17 (1.82)	7.64 (2.18)	8.71 (1.55)	8.40 (2.26)	F (1,176) = 3.06	F (1,176) = 12.78***	F (1,176) = 0.48
Support from doctor (n = 88)	0-10	7.37 (2.43)	6.90 (2.82)	8.05 (2.33)	7.92 (2.63)	F (1,86) 0.47	F (1,86) = 5.36*	F (1,86) = 0.21
Appraisal								
Appraisal as traumatic	0-10	4.27 (2.32)	3.39 (2.66)	4.63 (3.24)	3.89 (3.12)	F (1,177) = 7.12**	F (1,177) = 2.67	F (1,177) = 0.16
Appraisal as a challenge	0-10	6.98 (2.47)	5.93 (2.74)	7.24 (2.68)	6.39 (2.85)	F (1,178) = 6.21*	F (1,178) = 4.06*	F (1,178) = 0.75

*p<.05 **p<.01 ***p<.001

[a] this failed to reach significance when including women who returned questionnaires 14+ days after birth

Table 5. Differences in the frequency of expected and actual obstetric events in nulliparas and multiparas (self-report)

		Expectations		Experience		Effect of parity	Difference between expectations & experience	Interaction
		Nulliparas % (n)	Multiparas % (n)	Nulliparas % (n)	Multiparas % (n)			
Labour augmented by a drip	Yes	16% (16)	20.5% (17)	49% (55)	24% (22)	$\chi^2 = 3.03$, df = 1	$\chi^2 = 13.44$, df = 1^{***}	$\chi^2 = 11.29$, df = 1^{***}
	No	80% (78)	76% (63)	51% (58)	73% (70)			
	Not sure	4% (4)	3.5% (3)					
Baby's heart monitored	Yes	62% (61)	80% (67)	84% (95)	69% (63)	$\chi^2 = 0.01$, df = 1	$\chi^2 = 1.79$, df = 1	$\chi^2 = 15.99$, df = 1^{***}
	No	36% (36)	20% (17)	16% (18)	31% (28)			
	Not sure	2% (2)						
Episiotomy	Yes	29% (29)	36% (30)	26% (29)	14% (13)	$\chi^2 = 0.62$, df = 1	$\chi^2 = 13.97$, df = 1^{***}	$\chi^2 = 3.28$, df = 1
	No	67% (66)	62% (52)	74% (84)	86% (79)			
	Not sure	4% (4)	2% (2)					
Vaginal tear	Yes	51.5% (51)	45% (38)	45% (51)	40% (37)	$\chi^2 = 0.82$, df = 1	$\chi^2 = 1.91$, df = 1	$\chi^2 = 0.20$, df = 1
	No	45.5% (45)	54% (45)	55% (62)	59% (54)			
	Not sure	3% (3)	1% (1)		1% (1)			
Forceps delivery	Yes	11% (11)	13% (11)	11% (12)	3% (3)	$\chi^2 = 2.84$, df = 1	$\chi^2 = 4.33$, df = 1^{*}	$\chi^2 = 2.45$, df = 1
	No	85% (84)	87% (73)	89% (101)	97% (89)			
	Not sure	4% (4)						
Caesarean delivery [a]	Yes	5% (5)	5% (4)	27% (31)	6.5% (6)	$\chi^2 = 3.21$, df = 1	$\chi^2 = 4.90$, df = 1^{*}	$\chi^2 = 18.38$, df = 1^{***}
	No	89% (88)	89% (75)	73% (82)	93.5% (86)			
	Not sure	6% (6)	6% (5)					

NOTE: During pregnancy, a small proportion of women stated they were not sure whether certain obstetric events would happen to them during birth. These women have been shown in this table although they were not included in the analyses.

[a] the rates of caesarean delivery differ slightly from those in Table 1 because (i) these analyses are restricted to women who completed the postnatal questionnaire within 14 days and (ii) this data is self-report as oppose to taken from medical records.

*p<.05 **p<.01 ***p<.001