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## Owning the birth experience: what factors influence women's vaginal birth after caesarean decision?

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### ABSTRACT

**Objective:** Our quantitative analysis examined what factors influence pregnant women to choose a vaginal birth after a caesarean (VBAC).

**Background:** There is growing concern over the high rates of caesarean section; much of the high rate is driven by repeat caesareans. A trial of labour after a previous caesarean is an option for many women increasingly supported by medical literature.

**Methods:** Survey data from 173 pregnant women who had had only one birth by caesarean were analysed using a hierarchical binary logistic regression model.

**Results:** Desire for the experience of a vaginal birth strongly predicted choice of VBAC; however, this relationship was dampened among women with a high (versus low) powerful others (e.g. doctors and nurses) locus of control. Prior reason for a caesarean section and practical factors also play a role.

**Conclusion:** Women may be more likely to choose VBAC if they are encouraged to believe that they can help control the outcome, especially if their desire for a vaginal birth experience is high.

### ARTICLE HISTORY

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### KEYWORDS

VBAC; vaginal birth after caesarean; caesarean section; ownership; birth; locus of control

There is a growing global concern about the increasing prevalence of births by caesarean delivery, particularly given the financial costs and health burdens caesarean delivery inflicts on the mother. In the United States, approximately one third of all births in 2013 were by caesarean delivery (Martin, Hamilton, Ventura, et al., 2015). Every year, more than 500,000 women in the United States who have already had a caesarean delivery face the decision in a subsequent pregnancy to elect a repeat caesarean delivery (ERCD) or choose to attempt a vaginal birth after a caesarean (VBAC; National Center for Health Statistics, 2014).

The percentage of women who have a successful VBAC has decreased from 28.3% in 1996 to 10.6% in the US in 2013 (National Center for Health Statistics, 2014). However, these low rates are mostly as a result of women not undergoing a trial of labour after a caesarean (TOLAC). Of those who *do* attempt a vaginal delivery, approximately 75% are successful (Royal College of Obstetricians & Gynaecologists, 2015). Even in higher-risk women (women

with obesity, gestational diabetes or hypertension), a recently reported rate of successful VBAC of those who attempted was 68% (Regan, Keup, Wolfe, Snyder, & DeFranco, 2015).

VBAC rates dropped in the 1990s because of the concern over uterine rupture, of which VBAC women suffer increased risk (Harer, 2002). However, in 2010, a National Institutes of Health panel called on organisations to facilitate access for women to a trial of labour after caesarean (Signore & Spong, 2010). Following this, the American College of Obstetrics and Gynecologists published guidelines which stated that 'most women with one previous caesarean delivery with a low-transverse incision are candidates for and should be counseled about VBAC and offered TOLAC' (American College of Obstetricians & Gynecologists, 2010, p. 9). In recent years, the US national government has prioritised reducing caesarean sections, and, in particular, set a national agenda to reduce repeat caesarean deliveries in low-risk women from 90.8% to 81.7% by the year 2020 (Office of Disease Prevention and Health Promotion, 2016). In 2015, the Royal College of Obstetricians and Gynaecologists revised their guidelines to read: 'planned VBAC is appropriate for and may be offered to the majority of women with a singleton pregnancy of cephalic presentation at 37+ weeks or beyond who have had a single previous lower segment caesarean delivery, with or without a history of previous vaginal birth' (2015, p. 2). Recent research continues to suggest that women with no obstetric contraindication should be encouraged to have a trial of labour after a caesarean section (e.g. Iqbal, Nausheen, Bhatti, & Sheikh, 2016; King et al., 2015). In a recent Asian study, the most common reason for a caesarean birth is having had a previous caesarean (Wang, Tan, Kanagalingam, & Tan, 2013), suggesting that increasing the VBAC rate will have tremendous effects on the overall caesarean birth rate.

For women who qualify for a TOLAC, what variables may influence the decision of whether to try a VBAC or not? On the one hand, there are concerns about malpractice, leading some doctors to practise 'defensive medicine'. One study showed that increases in malpractice premiums correlated with a decrease in VBAC rate (Yang, Mello, Subramanian, & Studdert, 2009). In a more recent laboratory study, doctors who were more worried about lawsuits were more likely to recommend caesarean delivery in common obstetric settings (Cheng et al., 2014). There are also cultural variables, exemplified by the stark differences in countries' caesarean delivery rates. Nilsson, van Limbeek, Vehvilainen-Julkunen, and Lundgren (2015) describe how in Sweden, vaginal birth is considered prestigious (the emergency caesarean rate is under 9%), whereas in Chile, the caesarean section rate is 40% for the population attending hospitals in the public sector, and 70% for those attending private clinics (Guzman, Ludmir, & DeFrancesco, 2015).

There are also individual difference variables that affect the decision process and choice. For example, if a woman does not adequately comprehend the risks involved in a decision, she will be particularly challenged in her decision making. Some researchers suggest that clinicians are not effectively communicating with their patients about the option to choose VBAC (Bernstein, Matalon-Grazi, & Rosenn, 2012; Crosby, Ramphul, & Murphy, 2014; Declercq, Sakala, Corry, Applebaum, & Herrlich, 2013; Lundgren, Begley, Gross, & Bondas, 2012). Perhaps, as a result, women choosing a VBAC are more likely to be influenced by the online world (Konheim-Kalkstein, Barry, & Galotti, 2014) and use online social networking as a way to share information and exchange support (Konheim-Kalkstein, Whyte, Miron-Shatz, & Stellmack, 2015).

Other researchers highlight how a negative first experience with a caesarean delivery can catalyse many women to want a different experience in the future (Konheim-Kalkstein

et al., 2014; Lundgren et al., 2012). In one focus group, women whose first birth was a caesarean spoke of how healthcare providers may need to help them 'let go' of the first birth which the women often perceived as a disappointment, and realise that every birth is different (Nilsson et al., 2015). Verdult (2009) reviews a German article by De Jong and Kemmler (2003):

... women who prepared for a natural birth and were not expecting a caesarean often have complaints like: not having given birth themselves; losing control over the birth process; not being a complete woman, having failed to give birth vaginally and having ruined something precious like natural birth; mixed emotions: happiness because of the baby being delivered and sadness because of the way the baby was born; feelings of guilt; fears about the health and wellbeing of their babies. (p. 20)

Therefore, aside from more clinical reasons like their own safety or the recommendations of their doctor, some women may choose a VBAC simply because they desire the *experience* of a vaginal birth (Nilsson et al., 2015). The ownership of the experience is important to their perception of themselves as a woman and a mother. In a metasynthesis of qualitative studies, one theme that emerged among women choosing a VBAC was feelings of 'strong responsibility for giving birth vaginally' (Lundgren et al., 2012, p. 4). This ownership could manifest itself in feeling responsible for seeking information, feeling responsible for communicating with healthcare providers and feeling responsible for the ultimate birth outcome (Lundgren et al., 2012). Believing one is responsible for an outcome of an event is also known as having an internal locus of control. In one exploratory study using data collected from women who had a prior caesarean section, those who have a higher internal locus of control as related to childbirth were more likely to report choosing a future VBAC; those who tend to believe doctors and nurses control the outcomes of childbirth were more likely to report electing a repeat caesarean in the future (Konheim-Kalkstein et al., 2014)

The Konheim-Kalkstein et al. (2014) study was one of the only studies at that point that attempted to quantify factors that led women to choose a VBAC by surveying women who were currently pregnant or planning a future pregnancy. In addition to the locus of control finding, the researchers found that the effects of negative first birth experience, differences in sources of influence in the decision process, and differing perceptions of risk were associated with expected birth delivery decision (VBAC or ERCD).

The current article also attempts to quantify variables that may influence the choice to attempt a VBAC. The study is based on a new set of data, where we engaged in more extensive medical screening of participants, focused only on participants currently pregnant, and used additional measures to explore how various factors influence delivery choice. Specifically, in this research, we wanted to:

- (1) examine whether information sources, positive and negative affect, and locus of control would predict delivery choice (Konheim-Kalkstein et al., 2014);
- (2) understand the role of objective knowledge of risk in the birth decision;
- (3) explore whether the medical reason for the first caesarean section impacted women's subsequent delivery choice;
- (4) examine the role of more subjective decision variables, such as the importance of perceived safety of the mother, pain, cosmetic and vaginal damage, and convenience (Bernstein et al., 2012) on women's delivery choice; and
- (5) examine the role of the desire for the experience of a vaginal birth in the birth decision. Specifically, we propose that women who desire the experience of a vaginal

birth will be more likely to choose a VBAC, but only when they believe they are able to exert control over the success of the birth (i.e. they have a low powerful others locus of control). When pregnant women believe that doctors and nurses exert more control over the success of the birth, we suggest that the association between the desire for the experience of vaginal birth and VBAC choice will weaken.

## Method

### Procedure

In 2013, Institutional Review Board (IRB) approval from the first author's academic institution was secured for this research. A convenience sample of women were recruited through clinics, online groups, webpages and word of mouth to participate in the online survey. Per the IRB's request, only women from the United States and at least 18 years of age were allowed to participate. Women were provided with a link to the Google survey. The first page included an informational statement about the 25-minute survey, and required women to consent before moving to the next page of the survey.

For the first couple of months of data collection, women could choose to leave their names to be entered in a raffle to win one of two \$100 Amazon gift cards. After this time, the incentive changed. Women who qualified were given a \$5 Amazon gift card for their participation (after a small grant was secured from our educational institution).

### Sample

Data collection began in April 2013 and ended in August 2015. A total of 333 women responded to the survey. Participants whose data were analysed met the following inclusion criteria: (1) currently pregnant; (2) singleton pregnancy; (3) only one prior delivery; (4) prior delivery was a caesarean; (5) caesarean incision was transverse horizontal. Data collected from women who reported meeting one or more of the following criteria at the time of the survey were excluded from analysis: (1) being more than 35 weeks pregnant; (2) having a current diagnosis of gestational diabetes; (3) having a medical condition that may affect her ability to deliver vaginally (self-reports of possible conditions were screened by a practising obstetrician). Only data from qualifying women were analysed; sample parameters of qualifying women are as follows:  $n = 173$ ;  $M_{\text{age}} = 32$ ,  $SD_{\text{age}} = 4.2$ ;  $M_{\text{education}} = 15.9$  years,  $SD_{\text{education}} = 2.6$  years; 33 of the women had careers in a medical profession.

### Measures

We measured positive and negative affect after the first birth using a 20-item, five-point, Likert-type Positive and Negative Affect Scale with items such as 'excited' and 'proud' (positive affect) and 'scared' and 'upset' (negative affect; Watson, Clark, & Tellegen, 1988; Cronbach alphas = .90 and .84, respectively).

Internal and powerful others locus of control was measured using the six-point Likert-type Multidimensional Health Locus of Control Scales for Labor and Delivery (Stevens, Hamilton, & Wallston, 2011; Cronbach alphas = .81 and .74, respectively), including such statements as 'I am directly responsible for my labour and delivery going well or poorly' (*internal LOC*)

and 'Following doctor's orders to the letter is the best way to keep my labour and delivery from going poorly' (*powerful others LOC*).

The informational influences of healthcare providers and online sources (Konheim-Kalkstein et al., 2014) were measured with binary responses (no/yes) to the following question: 'Besides yourself, which of the following helped you or is currently helping you make decisions about your birth plan for your second birth, or the birth following the c-section? Check those that apply: husband/partner/significant other, healthcare provider(s), family/friends, doula, online information, in-person support groups, or online support groups'. We also asked for the most significant of these sources.

Participants also completed questions measuring objective knowledge of risk (Bernstein et al., 2012) and the importance of relevant subjective decision factors in their birth process decision making (e.g. the wish for a vaginal birth experience; safety of the baby; safety of the mother; pain during delivery and recovery; fear of damage to the vaginal area; cosmetic appearance; convenience; and the partner's opinion; Bernstein et al., 2012), rated on a four-point Likert-type scale.

Finally, we asked participants questions about the medical reason for their first caesarean with binary responses (no/yes) to a list of either positioning or emergency options and a free response. Women were also given the opportunity to respond freely to a question asking which single factor influences their birth process decision. The dependent variable (birth decision) was measured by the single question: 'What kind of birth are you hoping for?' (vaginal, caesarean, undecided). Working in a medical field may affect women's attitudes towards hospitals and surgery; therefore, we measured occupation (employment medical field or not, as self-reported) as well as demographics such as age and education level. A copy of the full survey is available from the first author upon request.

## Analysis

Responses for 10 participants were incomplete (i.e. were missing responses to questions about their age, reason for prior caesarean, risk knowledge or informational influences). In order to preserve the largest possible sample size, the missing data were imputed using the sample mean (Schafer & Graham, 2002). The analysis reported below uses the full sample with imputed data ( $n = 173$ ; see Table 1 for correlations and summary statistics). However, as an additional test of the robustness of our results, we re-ran the analysis using the smaller sample ( $n = 163$ ) with the records with missing data removed. The effect of healthcare provider as an information source became nonsignificant ( $p = .11$ ) but did not change in direction; all remaining results were unchanged in significance or direction.

Dependent variable responses were coded as follows: Caesarean or undecided = 0; Vaginal = 1. Medical reasons for the first caesarean were aggregated to facilitate analysis as follows: conditions resulting in emergency (e.g. umbilical cord issues, baby's heart rate dropping, etc.); non-emergency conditions (position of the baby, etc.); a serious underlying medical condition; or the baby was too large. No participants reported a caesarean due to multiple births or a birth defect.

Data were submitted to hierarchical binary logistic regression analysis, with birth decision (vaginal or not) as the dependent variable. Hierarchical (versus non-hierarchical) logistic regression analysis has the advantage of making it possible to examine the incremental effect of each set of variables on the dependent variable. Control variables of age, education

Table 1. Correlations and summary statistics.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
1 Birth Decision	–																					
2 Positive Affect	-.197**	–																				
3 Negative Affect	.201**	-.494**	–																			
4 Internal Locus of Control	.211**	-0.01	.219**	–																		
5 Powerful Others Locus of Control	-.468**	.229**	-0.14	-.315**	–																	
6 Healthcare Provider Information	-.228**	0.00	-0.04	-0.15	0.12	–																
7 Online Information Objective Risk Knowledge	.169*	-.152*	.187*	.219**	-.264**	0.00	–															
8 Knowledge	.271**	-0.13	0.14	.155*	-.370**	0.00	.322**	–														
9 Prior CSEC: Large Baby	-0.12	-0.02	0.03	-0.10	0.14	-0.05	-0.14	-0.06	–													
10 Prior CSEC: Medical Condition	-0.07	-0.05	0.13	0.03	0.04	-0.11	0.03	0.00	-0.13	–												
11 Prior CSEC: Positioning	-0.04	0.03	-0.11	0.08	-0.02	0.01	0.09	0.11	-0.09	-0.154*	–											
12 Prior CSEC: Emergency	.155*	-0.08	0.13	0.09	-0.08	-0.01	0.13	-0.01	-0.239**	0.04	-0.533**	–										
13 My Safety	-0.06	.157*	-0.12	0.01	-0.01	.290**	-0.13	0.04	-0.05	-0.07	.157*	-0.14	–									
14 Baby's Safety	-0.11	0.08	-0.05	0.02	0.05	0.05	-0.13	0.00	0.07	-0.150*	0.09	-0.12	0.14	–								
15 Convenience	-.262**	0.12	-0.14	-0.09	.177*	0.07	-0.14	-.193*	0.10	-0.09	-0.07	-0.04	0.07	0.09	–							
16 Vaginal Birth Experience	.617**	-0.14	.244**	.264**	-.372**	-.165*	.252**	.302**	0.02	0.01	0.05	0.12	0.00	0.02	-0.253**	–						
17 Pain	-0.01	0.04	0.07	0.01	0.09	0.06	-0.12	-0.06	0.12	-0.10	-0.01	-0.08	0.08	0.06	.186*	-0.08	–					
18 Cosmetic Outcome	.176*	0.04	-0.01	0.02	0.02	-0.02	0.02	0.03	-0.01	-0.03	0.05	-0.01	0.02	0.05	0.12	0.14	.288**	–				
19 Fear of Damage to Vaginal Area	-.191*	.212**	-0.05	-0.11	.278**	0.05	-.193*	-.227**	-0.09	-0.03	0.09	-0.02	.160*	0.05	.250**	-0.09	.269**	.329**	–			
20 Large Family	.243**	-0.08	0.10	0.01	-0.170*	-0.12	0.14	.224**	0.01	-0.02	-0.05	0.10	0.06	0.00	-0.10	.358**	-0.02	0.12	-0.06	–		
21 Partner's Opinion	0.14	-0.01	.149*	0.09	0.00	-0.08	0.15	0.13	0.02	0.01	-0.04	0.04	0.05	0.03	-0.03	.171*	0.05	0.10	0.06	.307**	–	
Mean	.75	2.95	2.76	3.12	3.18	.63	.49	5.00	.13	.10	.18	.71	3.71	3.97	1.77	3.25	2.80	1.53	2.09	2.31	3.14	–
Standard Deviation	.44	.89	.87	.97	1.03	.48	.50	2.45	.34	.30	.38	.45	.57	.18	.87	1.00	.94	.71	.92	1.08	1.89	–

\* $p < .05$ ; \*\* $p < .01$ .

level and profession (medical or not) were entered in the first step. In the second step, we added variables shown to impact birth decision in prior research (positive and negative affect, locus of control, informational influences and risk knowledge; Konheim-Kalkstein et al., 2014). In the third step, we added medical factors related to participants' first caesarean, and in the fourth step, we added the key subjective factors including our hypothesised variable of interest, the importance of the desire to experience a vaginal birth. Finally, in the fifth step, we added the interaction between the desire for a vaginal birth experience and powerful others locus of control. Entering the interaction in a separate and final step helps to ensure that the addition of the interaction term improves the predictive power of the model over and above the effect of the other variables in the model.

## Results

The control variables of age, education level and profession had no effect on birth decision (Nagelkerke  $R^2 = .001$ ,  $\chi^2(3) = .138$ ,  $p = .99$ ; see Table 2 for final model results). In the second step, variables taken from prior research (Konheim-Kalkstein et al., 2014) significantly improved the predictive value of the model (Nagelkerke  $R^2 = .44$ ,  $\chi^2(7) = 61.69$ ,  $p < .0005$ ); however, in the third step, the reasons for prior caesarean did not significantly enhance the

**Table 2.** Results of hierarchical binary logistic regression analysis: final model.

Predictor	B	S.E.	Wald	df	Sig.	Odds Ratio
<b>Control Variables:</b>						
<i>Profession (0 = Other; 1 = Medical)</i>	-2.311	1.061	4.741	1	<b>.029</b>	<b>.099</b>
<i>Age</i>	.184	.117	2.470	1	.116	1.202
<i>Education (in years)</i>	-.206	.180	1.303	1	.254	.814
<b>Prior Research</b>						
<i>Positive Affect</i>	-.539	.533	1.023	1	.312	.583
<i>Negative Affect</i>	.900	.619	2.117	1	.146	2.460
<i>Locus of Control – Powerful Others</i>	-1.658	.644	6.628	1	<b>.010</b>	<b>.191</b>
<i>Locus of Control – Internal</i>	-.662	.520	1.620	1	.203	.516
<i>Information Source: Online (0 = No, 1 = Yes)</i>	-1.785	1.014	3.102	1	.078	.168
<i>Information Source: Healthcare Provider (0 = No; 1 = Yes)</i>	-2.913	1.230	5.608	1	<b>.018</b>	<b>.054</b>
<i>Objective Risk Knowledge</i>	.078	.165	.222	1	.637	1.081
<b>Reason for Prior CSEC (0 = No; 1 = Yes):</b>						
<i>Emergency</i>	-1.892	1.164	2.639	1	.104	.151
<i>Positioning</i>	-2.050	1.480	1.919	1	.166	.129
<i>Large Baby</i>	-4.511	1.493	9.133	1	<b>.003</b>	<b>.011</b>
<i>Underlying Medical Issue</i>	-3.831	1.348	8.082	1	<b>.004</b>	<b>.022</b>
<b>Importance of:</b>						
<i>My Safety</i>	-.227	.723	.098	1	.754	.797
<i>My Baby's Safety</i>	-18.550	14,591.024	.000	1	.999	.000
<i>Convenience</i>	-.361	.434	.692	1	.405	.697
<i>Vaginal Birth Experience</i>	2.582	.705	13.429	1	<b>.000</b>	<b>13.220</b>
<i>Pain</i>	.854	.469	3.321	1	.068	2.349
<i>Cosmetic Appearance</i>	1.884	.774	5.920	1	<b>.015</b>	<b>6.583</b>
<i>Damage to Vaginal Area</i>	-1.570	.580	7.319	1	<b>.007</b>	<b>.208</b>
<i>Family Planning</i>	-.034	.454	.006	1	.940	.966
<i>Partner's Opinion</i>	-.517	.538	.924	1	.336	.596
<i>Vaginal Birth Experience x Powerful Others Locus of Control</i>	1.352	.655	4.264	1	<b>.039</b>	<b>3.866</b>
<i>Constant</i>	79.933	58,364.096	.000	1	.999	5.184E+34

Dependent variable: birth choice (CSEC or undecided = 0; VBAC = 1).  
 Nagelkerke  $R^2 = .79$ ,  $\chi^2(24) = 132.82$ ,  $p < .0005$ ; 94.2% of cases classified correctly.  
 Results significant at  $p < .05$  indicated in bold.

predictive power of the model (Nagelkerke  $R^2 = .48$ ,  $\chi^2(4) = 5.83$ ,  $p = .21$ ). Results of the fourth step revealed that women's subjective factors significantly enhanced the predictive power of the model over and above all previously entered variables (Nagelkerke  $R^2 = .77$ ,  $\chi^2(9) = 60.32$ ,  $p < .0005$ ). Finally, and most importantly for our theoretical model, the hypothesised interaction term, entered on the fifth step, further significantly enhanced the predictive power of the model (Nagelkerke  $R^2 = .79$ ,  $\chi^2(1) = 4.86$ ,  $p = .028$ ). In sum, the final model explained 79% of the variance in the birth decision and correctly classified 94% of the cases.

An examination of the final model results (Table 2) reveals that women employed in healthcare were 90% less likely to choose a VBAC than those not in healthcare fields ( $p = .029$ ). In addition, women who reported that their healthcare provider was a significant source of information were almost 95% less likely to choose VBAC than those not relying on their healthcare provider ( $p = .018$ ). The effect of online data as a source of information on VBAC choice was marginally significant ( $p = .078$ ) in a positive direction.

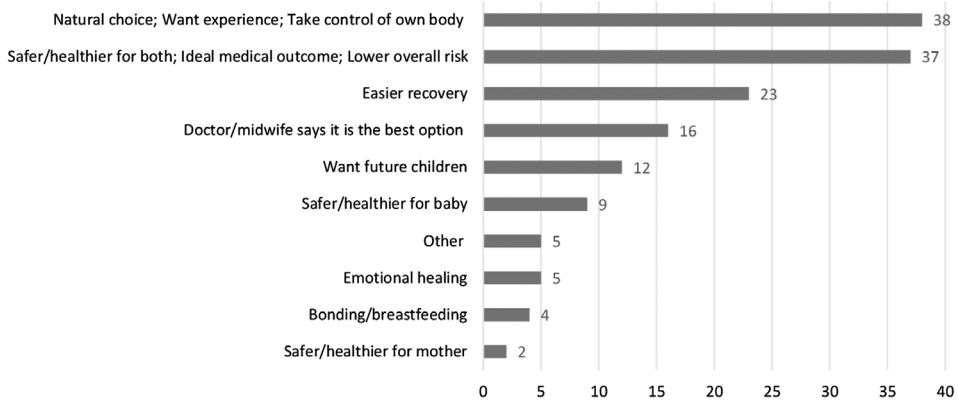
Women whose reason for prior caesarean included the baby being large ( $p = .003$ ) and an underlying medical reason ( $p = .004$ ) were also each approximately 95% less likely to choose a VBAC. Neither emergency nor positioning reasons for their prior caesarean had a significant effect on their decision.

An examination of the subjective factors revealed that the small variance in the importance of the baby's safety (97% of the sample reported 4 on a four-point scale) rendered the results uninterpretable, so this measure is not discussed further. Among the subjective factors, a one-point increase in the importance of cosmetic appearance was associated with a 650% increase in the likelihood of choosing VBAC ( $p = .015$ ), whereas a corresponding increase in the importance of damage to the vaginal area resulted in a 79% decrease in VBAC choice likelihood ( $p = .007$ ). The importance of pain on VBAC choice was marginally significant ( $p = .068$ ) in a positive direction.

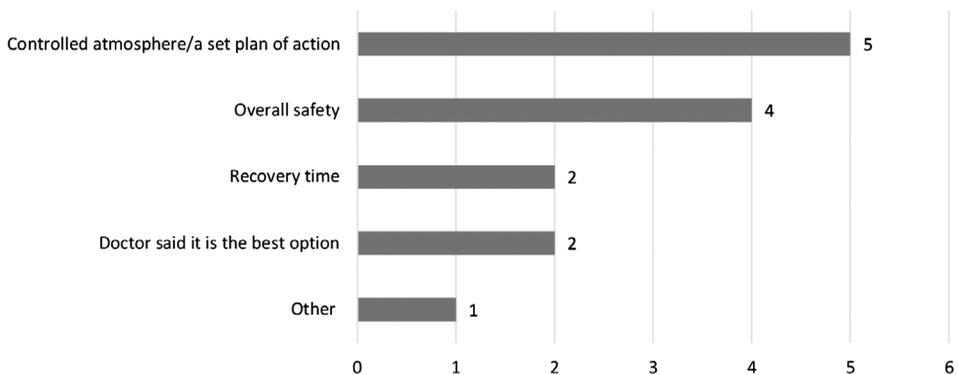
Finally, as we proposed, the importance of the desire to experience a vaginal birth strongly and positively influenced women's VBAC decision; however, the strength of this association depended on women's powerful others locus of control. Specifically, when powerful others locus of control was high, for every one-point increase in vaginal birth experience importance, women were almost four times more likely to choose VBAC ( $p = .039$ ). However, when powerful others locus of control was low, each one-point increase in vaginal birth experience importance increased the likelihood of VBAC choice by 13 times ( $p < .0005$ ).

### Free response

As an additional analysis, we analysed a free response question on our survey: 'Please state the MOST IMPORTANT factor in your decision to try for a vaginal delivery (VBAC) or elect for a repeat caesarean delivery'. For women choosing a VBAC, the most common response involved 'desiring the experience', 'natural choice' or 'controlling their own body' (25% of women indicated a response that fell into this category); the next most common response involved safety or risk to baby (24.5% of women; see Figure 1). In contrast, 36% of women choosing a caesarean indicated an answer related to the 'controlled atmosphere' or having a 'set plan' (see Figure 2).



**Figure 1.** Free response analysis of self-reported “most important factor” in the birthing decision of women who chose to VBAC.



**Figure 2.** Free response analysis of self-reported "most important factor" in the birthing decision of women who chose to ERCD.

## Discussion

Our results suggest that key drivers of women’s VBAC choice are their desires about the birth experience and beliefs about who controls the birth process. In our results, the strongest predictor of birth choice was the desire to experience a vaginal birth. Wanting to own the experience of a vaginal birth and feeling that one has missed out on an experience are common among women electing to attempt a VBAC (Black, Entwistle, Bhattacharya, & Gillies, 2016; Kaimal & Kuppermann, 2010; Lundgren et al., 2012). Phillips, McGrath, and Vaughan (2009) suggest that women who attempt or achieve a VBAC actually have a distinct set of beliefs and attitudes towards birthing. These women have a strong belief in the importance of having a natural birth, including reducing possible drug intervention during birth (Phillips et al., 2009). In a recent meta-analysis, Black et al. (2016) singled out ‘a belief that vaginal birth is “normal” and has some intrinsic value’ (p. 10) as a key driving force for choosing a VBAC. For some women, having a natural birthing process is deeply rooted, emotionally and spiritually, in their beliefs as a significant life event in which they want to achieve (Fenwick,

Gamble, & Hauck, 2003). Women who had a VBAC believed they would miss out on an extraordinary experience if they never felt contractions or gave birth naturally (Nilsson et al., 2015).

These themes from previous research were supported by the free responses provided by our participants. For example, women choosing VBAC reported:

VBAC is the natural/logical choice unless there is a medical reason to have a caesarean.

A vaginal birth, no matter how painful, is what my body is designed to do.

I wish to avoid surgery and medical intervention in what should (hopefully) be a natural process which I can achieve as a mother and a woman.

Although wanting the experience of a vaginal birth predicted the women's choice of VBAC, this association was weakened when the woman had a strong powerful others locus of control. In other words, if the women felt as if the outcome of their birthing process was controlled by the medical professional, then women's desire for a vaginal birth experience had less of an impact on their VBAC choice. Having a sense of effectance in our world is a fundamental human motivation (White, 1959). If medical professionals can foster this sense of effectance in a pregnant woman, she may be more likely to feel a sense of psychological ownership (Pierce, Kostova, & Dirks, 2003) of the birth process and choose VBAC, especially when her desire for a vaginal birth experience is high.

Another factor that emerged in our data were differences in beliefs about influences on birth outcomes, especially as a function of reliance on medical advice. In our sample, the less that women felt that doctors or nurses control their birth, the more likely they were to choose a VBAC. Furthermore, women who rely less on their doctor's opinion for information are more likely to choose a VBAC.

Indeed, relying on traditional medical opinion, or even being in the medical profession, seemed to make women less likely to consider VBAC as an option. This may be because the medical profession is less comfortable with VBAC as a viable option, despite the benefits to mothers and to the healthcare system. Our results support the idea of Fenwick, Gamble, and Mawson (2003) that women who want a VBAC have an essential need for a healthcare professional who is supportive of her wishes. Nilsson et al. (2015) propose that healthcare professionals be aware of women's fear and lack of confidence in having a vaginal birth and address those by sending appropriate signals in her ability to do so.

On the other hand, two significant predictors of the decision to ERCD were concerns about damage to the vaginal area (negatively associated with VBAC choice) and cosmetic appearance (positively associated with VBAC choice). These results highlight that birth choice is not entirely about the birth experience; women also consider more practical factors. Consistent with our findings, Phillips et al. (2009) indicate that mothers who elected a caesarean were motivated by the convenience of a caesarean and the desire to retain control over their birthing process. We note that in the free response section, women choosing VBAC and ERCD both frequently mentioned safety concerns for themselves and their baby as important factors in their birth decision. Consistent with this ambiguity, our quantitative model reveals that the importance of safety concerns does not actually predict birth choice. Taken together, these results may reflect the continuing debate among both women and medical professionals concerning the safety of VBAC (O'Hara & Palmer, 2015).

Unlike findings in prior research (Konheim-Kalkstein et al., 2014), positive and negative affect from the prior birth did not affect women's birth choice. While emotions can be

powerful drivers of human decision-making, they can also be transient (Andrade & Ariely, 2009). Unlike in Konheim-Kalkstein et al.'s (2014) research, in this study, all participants were currently pregnant, and it is possible that the immediacy of the anticipated birth event rendered emotions from the previous birth less salient in women's birth decision. Furthermore, whereas perceived risk differed between women choosing VBAC and ERCD in prior research (Konheim-Kalkstein et al., 2014), actual objective risk knowledge measured in this study did not predict birth choice, suggesting that further research to understand how pregnant women perceive risk is needed.

Outside of an underlying medical condition, the only reason for prior caesarean section given by our participants that affected their birth decision was when the baby was large. Given that this was a self-report observation and recent research even suggests that cephalopelvic disproportion (baby being too large for the mother) is over-diagnosed (Charoenboon, Srisupundit, & Tongsong, 2013), further research concerning this factor is warranted.

Our results should be considered in light of the fact that our sample was largely recruited online and was disproportionately choosing to attempt a VBAC (153 women were choosing a VBAC; 32 were undecided or choosing to ERCD). In this line of research, we have had difficulty recruiting women choosing an elective repeat caesarean delivery. One likely reason for this is where and how we recruited our sample (for instance, many women were pointed to our survey by VBAC.com where the author had posted information about our study; women choosing to ERCD would not visit this website). We also speculate that women choosing VBAC are more eager to share their stories (Konheim-Kalkstein et al., 2015) and they are more likely to take a survey where they can express their thoughts on their past and future births.

Overall, this research suggests that if medical professionals can assist and support women who desire the experience of a vaginal birth by fostering their sense of internal effectance and competence, overall rates of choosing VBAC will increase. Involving women in the decision process and letting them know that their opinions matter can be a major factor in a woman's birthing decision. Also, women may be more likely to choose VBAC if they hold true to their internal belief that they are made to perform a vaginal birth and can actually successfully perform one.

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