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“Too Posh to Push?” Self-Stigmatization in Childbirth

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Supplementary Materials: Materials [see [Index of Supplementary Materials](#)]



Abstract

Self-stigmatization after intervention-rich births (e.g., via C-section) is an anecdotally well-documented phenomenon. The aim of the present paper was to address this issue empirically. In doing so, we assessed 1,743 mothers who had required medical interventions to give birth and developed a psychometrically sound questionnaire—the Labor and Birth Self-Stigmatization Scale (LBS)—to measure birth-related self-stigmatization. We tested and confirmed the hypothesis that birth-related self-stigmatization was associated with a more negative birth experience, explaining incremental validity over, e.g., neuroticism and self-esteem. Results further revealed that the strongest, but not the only, predictor of self-stigmatization was having a C-section. Participants’ birth-related mindset moderated the negative correlation between self-stigmatization and birth experience, with a more natural mindset strengthening the negative association. The results of the present study illustrate the close association of birth and psychological factors and highlight the importance of studying and understanding self-stigmatization after childbirth.

Keywords

stigma, stigmatization, birth-experience, birth-related mindset



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Highlights

- Self-stigmatization after intervention-rich births is a socially relevant issue.
- The Labor and Birth Self-Stigmatization Scale developed in the present study provides a tool to quantitatively measure self-stigmatization.
- Self-stigmatization was associated with a more negative birth experience.
- The association between self-stigmatization and negative birth experience was moderated by participants' birth-related mindset in that women with high self-stigmatization scores evaluated their birth experience particularly negative if they had a more natural birth-related mindset.

The catchphrase “Too posh to push” was first introduced in a *Daily Mail* article in 1999 (Weaver & Magill-Cuerden, 2013), when author Joanna Moorhead (1999) polemically wrote: “The way you give birth has become the status symbol of our times. And by 2010, half of all women will refuse to endure the pain of natural birth” (p. 36). Indeed, there has been a drastic increase in obstetric interventions during the past few decades, and there has been a particular increase in C-sections, which are carried out in, e.g., Germany, Great Britain, and Italy in about 30% of births (Statistisches Bundesamt, 2023). The World Health Organization (WHO) points out that a C-section rate above 10% is not associated with reduced rates in maternal and child deaths (WHO, 2015). The media, (some) medical professionals, and society have been quick to offer an explanation: The increase in C-section rates must be because more mothers have chosen to deliver via C-section without any medical indication. The stereotype of the mother who is too posh to deliver *naturally* has since become persistent in society.

When Victoria Beckham, alias Posh Spice, singer of the Spice Girls, gave birth to her child by C-section in 2001, the catchphrase *too posh to push* ramped up and it has since become an indispensable part of the British tabloid press (Hope, 2001; Weaver & Magill-Cuerden, 2013). In the media, having a C-section has been portrayed as a lifestyle choice, a procedure performed because mothers are too cowardly or too posh to deliver vaginally and because they strive to imitate starlets (Weaver & Magill-Cuerden, 2013) and, thus, not due to medical considerations. Although empirical evidence suggests that maternal requested C-sections contribute little to the increase of C-section rates in Western countries (Bourgeault et al., 2008; Weaver et al., 2007), this explanation continues to be widely accepted among medical staff (National Institutes of Health, 2006; Weaver et al., 2007; WHO, 2018b). Contrary to what one might expect, research suggests that only a small percentage of mothers actually prefer C-sections to vaginal births, with percentages varying between 0.3% and 14% (McCourt et al., 2007).

The rates of actual performed C-sections originating from maternal request and without medical indications is assumed to be lower than 1% of all births (Gossman et al., 2006). Qualitative research indicates that the decision to give birth by C-section is

often not due to the *pushiness* of the mothers, but rather due to personal or psychological variables like fear of birth (Fenwick et al., 2010; Hildingsson et al., 2002; Stützer et al., 2017). Studies using quantitative approaches show that the preference for (not the performance of) a C-section is associated with fear of birth, previous C-sections, and a prior negative birth experience (Hildingsson et al., 2002). Clinical practices and norms (e.g., risk-oriented interpretation of medical indications for C-sections) are suggested to contribute more strongly than women's preferences to the rise of C-section rates in Western countries (Bourgeault et al., 2008). The misconception of the mother who is too pushy to push is nevertheless widespread in the media and contributes to the professional and social discourse and thereby the stigmatization of high-intervention births. The sociologist Isabelle Azoulay (2003) investigated the matter of birth-related stigma and describes that in the prevailing view of society, women who use analgesics during labor and birth or decide to deliver via C-section are seen as less of a woman and miss out on an essential life experience.

Since research shows that (self-)stigmatization is negatively correlated with psychological well-being, e.g., with life satisfaction (Rosenfield, 1997), it seems necessary to consider (self) stigmatization in the context of birth—a common and huge life event that is itself psychologically challenging (Hoffmann, Hilger, & Banse, 2023). Until now, the little research on this topic has mostly taken a qualitative approach and missed the opportunity to explore potential correlates and implications of birth-related self-stigmatization (Taylor-Miller, 2010).

Stigma and Self-Stigma

To gain an understanding of the concept of self-stigmatization, it is necessary to understand stigmatization in general. Stigmatization consists of two components: First, the perception of a characteristic (stigma) that distinguishes the bearer from a social norm, and second, the consequent devaluation of the person because of this characteristic (Dovidio et al., 2003). The particular social context acts as a catalyst for the perception and evaluation of the stigma. The same condition may be labeled as deviant and a negative quality in one particular social context, but seen as a charming idiosyncrasy or even go unnoticed in other contexts (Jones, 1984). In stigmatization it is common that the person who stigmatizes draws conclusions about the whole identity of the stigmatized person due to the distinguishing characteristic (Dovidio et al., 2003).

Self-stigmatization, on the other hand, is understood as a transformative process, starting with public stigmatization. First, the stigmatized person becomes aware of the stigmatization, stereotypes, prejudice, and discrimination regarding the characteristic; then agrees to them and applies these judgments to themselves; and finally experiences negative, internal consequences such as self-deprecation and lower self-esteem (Corrigan et al., 2006, 2011), thus internalizing the stigma as self-stigma (Vogel et al., 2013). In addition to self-deprecation and the loss of self-esteem, self-stigmatization is also correlated

with low self-efficacy (Corrigan et al., 2006) and low general life-satisfaction (Rosenfield, 1997). Questionnaires measuring internalized self-stigma often focus on cognition, affect, and behavioral components (e.g., Mak & Cheung, 2010), as well as potential perceptions of (public) stigma (e.g., Fu et al., 2015), that is, they center on the thoughts and feelings that self-stigmatizing persons develop (e.g., reduced self-esteem), how they behave due to the stigma (e.g., remaining silent) and what they assume others think about them (e.g., feelings of being negatively perceived).

Cultural Component

As described, (self-)stigmatization is closely interwoven with prevailing social norms and thus with culture. Though, medical practices are also country- and culture-specific, the WHO report a worldwide increase in medicalization (WHO, 2015), which indicates that birth also involves inter-cultural parts. Recommendations about birth as well as research is often international, too. Birth related variables such as mindsets (Hoffmann & Banse, 2021) and beliefs (Preis & Benyamini, 2017; see below for further details) are described in different cultures. Self-stigmatization in similar contexts, e.g., involuntary childlessness (Fu et al., 2015), can also be found in other cultures. Nevertheless, it should be clearly noted that the present study was developed, operationalized, and tested in a German context. As stated above, the C-section rate is comparable with other European countries (Statistisches Bundesamt, 2023) and there are also international overlaps in media portrayals about social norms regarding natural births. Yet, in the end it is an empirical question to what extent the results can be transferred to other cultures.

Birth Experience

Six years ago, the WHO defined a positive birth outcome as including both a healthy child and a positive birth experience for the mother (WHO, 2018a). Several studies have supported the importance of the mother's birth experience for the subsequent health and well-being of both mother and baby. Specifically, a poor birth experience has been observed to be associated with lower well-being during transition to parenthood and less secure mother-infant bonding (Hoffmann, Hilger, & Banse, 2023), as well as a higher probability of developing symptoms of postpartum depression and posttraumatic stress (Bell & Andersson, 2016; Garthus-Niegel et al., 2013; Hoffmann, Hilger, & Banse, 2023). Thus, the birth experience can be a crucial factor for psychological well-being after birth. A negative birth experience is also likely to be associated with (later) self-stigmatization. The present paper aims to test this hypothesized relationship between birth experience and self-stigmatization in mothers.

Presumed Causality

Since the present study uses a retrospective, cross-sectional design, results are mute to causality. Therefore, it cannot be concluded whether a negative birth experience leads to self-stigmatization or whether self-stigmatization leads women to see their experience as more negative. However, as people often tend to interpret results as causal nevertheless, we will briefly discuss theoretically plausible causalities to avoid misunderstandings (Grosz et al., 2020). Research indicates that complicated birth processes in which medical interventions are needed lead to a more negative evaluation of the birth experience (Hoffmann, Hilger, & Banse, 2023). Following this sequential logic, self-stigmatization could be the result of a poor birth experience, and thus only occur when labor and birth are perceived negatively. Since humans try to make sense of events, especially if the events are perceived negatively (Taylor, 1991), a negatively perceived birth experience could provoke the need for sensemaking, or an explanation. Self-stigmatization would be the result of attributing the course of the birth to one's own disposition or failings, internally, rather than externally to the situation (e.g., Heider, 1958). On the other hand, self-stigma could have an effect on the evaluation of birth, termed the birth experience. Persons who tend to accept the strong normative beliefs about giving birth naturally but did not meet these expectations because they required interventions during labor and birth, may internalize the (public) stigma of having "failed". Such self-stigma would be dissonant to the perception of a positive or neutral birth (e.g., due to the relief a C-section can be after a long and exhausting birth process). Cognitive dissonance (Festinger, 1957) could be reduced by perceiving the whole birth as negative. Apart from these theoretical considerations, it is also possible that self-stigma and birth experience mutually reinforce each other and that there is a third variable that (partially) causes the correlation between the two.

Psychological Variables Associated With Labor and Birth

Several studies have revealed that psychological variables can predict labor and birth outcomes. C-sections, for example, have been found to be more likely for women who have a fear of childbirth (Ryding et al., 1998), who believe that birth is a rather medicalized process (Preis & Benyamini, 2017), or who have a more medical birth-related mindset (Hoffmann & Banse, 2021). If individuals perceive birth as a medical event (medical mindset) that requires medical assistance and interventions (e.g., hospitals, doctors, epidurals) rather than as a natural event (natural mindset) that does not require such interventions, then they are more likely to need interventions during labor and birth (Hoffmann, Hilger, & Banse, 2023). The aforementioned studies further indicated that interventions, especially C-sections, are negatively perceived and that the (strong) negative association between C-sections and birth experience is moderated by the birth-related mindset with a more natural mindset reinforcing the negative perception of C-sections

(Hoffmann & Banse, 2021; Hoffmann, Hilger, & Banse, 2023). The more negative birth experience when one has a more natural mindset and a birth with interventions could lie in unfulfilled expectations about birth (Webb et al., 2021), which could also play a role in potential self-stigmatization. Studies have also indicated associations between personality variables such as neuroticism, self-esteem and birth outcomes (Hoffmann & Banse, 2021; Johnston & Brown, 2013). In women who gave birth vaginally, neuroticism has been found to be associated with a more negative birth experience (Schaal et al., 2020), and among individuals with mental illness, neuroticism has been found to be associated with internalized stigma (Szcześniak et al., 2021).

Present Study

The main aim of the study was to explore whether internalized stigma is associated with a more negative birth experience for persons who underwent intervention-rich births. Given that research on birth-related stigma has focused exclusively on qualitative approaches (Taylor-Miller, 2010), it was necessary to develop a new scale which we named descriptively the Labor and Birth Self-Stigmatization Scale (LBS). To generate the scale we drew on qualitative research about birth-related stigma as well as quantitative scales measuring different forms of stigma (Fu et al., 2015; Mak & Cheung, 2010; Ritscher et al., 2003). We compared the questionnaire with existing psychological constructs, thus tested its incremental validity in predicting birth experience over and above self-esteem, neuroticism, and birth-related mindset. Since the media portrayal focuses more on C-sections than other interventions, we further explored whether self-stigmatization is only (or largely) predicted by C-sections or whether other medical interventions (e.g., epidurals) can explain incremental variance in predicting self-stigmatization. Additionally, we tested whether the birth-related mindset moderates the potential association between birth experience and self-stigmatization.

Our main hypotheses were preregistered prior to data collection. The exploratory analyses were not preregistered and are marked as such. Preregistration, the data file, and additional materials are openly accessible at OSF (see Hoffmann, Berner, & Hilger, 2023).

Method

Participants

The present online study was part of a larger study measuring beliefs about motherhood and was completed by 2,858 participants. A total of 100 participants were excluded based on preregistered exclusion criteria—being male ($n = 13$), giving birth outside our chosen time period (see below) ($n = 54$), explicit indication that their data should not be used ($n = 37$). Thus, the final sample size was $N = 2,758$ mothers (2,754 female, 4 third gender;

$M_{\text{age}} = 32.3$ years, $SD_{\text{age}} = 4.2$), and $N = 1,743$ (63.2%) mothers who needed interventions during labor and birth¹ ($M_{\text{age}} = 32.1$ years, $SD_{\text{age}} = 4.2$). Since the items of the Labor and Birth Self-Stigmatization Scale (LBS) are only suitable for women who gave birth with interventions, only the subsample of mothers who needed intervention filled out the questionnaire and was used for the present study and the analyses presented below. Most of the participants were first time mothers (68%) and gave birth in a hospital (98.6%). Participants were recruited through the social media platforms of Facebook and Instagram. To allow for sample comparability under the prevailing COVID-19 conditions, only mothers who gave birth in 2020 or 2021 were invited to participate in the study (and if they gave birth outside this time period, they were excluded from the analyses; see above).

Measures

As stated above, the study was part of a larger study. For reasons of brevity, only the variables relevant for this paper are specified here. All other variables can be assessed at OSF (see Hoffmann, Berner, & Hilger, 2023).

In the present study only participants who needed interventions during labor and birth were analyzed (63.2% of the 2,758 participants). Based on the low-intervention birth index (Hoffmann, Hilger, & Banse, 2023), mothers were included in the analyses if they received one or more of the following interventions: induction of labor (37.4% in the present sample), augmentation of labor (33.4%), epidural (46.6%), episiotomy (17.6%), assisted vaginal delivery (13.1%), C-section (40.2%), and/or the Kristeller maneuver (20.1%). Note, the Kristeller maneuver is usually not included in the low-intervention birth index. The percentages in the parentheses refer to the sample of $N = 1,743$ who experienced one or more intervention.

Self-Stigmatization

To measure birth-related self-stigmatization, we developed the Labor and Birth Self-Stigmatization Scale (LBS) (see Table 1) based on both qualitative research on birth-related self-stigmatization and on existing questionnaires measuring self-stigmatization in people with infertility (Fu et al., 2015), mental illnesses (Ritsher et al., 2003), and in sexual minorities and immigrants (Mak & Cheung, 2010). Reviewing the selected material led to the identification of four potential sub-facets: cognition, affect, behavior (Mak & Cheung,

1) Note, in Germany, there are no statistics on the number of performed interventions, except for C-sections and assisted vaginal deliveries, which together accounted for 37.4% of the births in 2021 (Statistisches Bundesamt, 2023). Since the variable low-intervention also captures other interventions, the number of performed interventions is not much higher than would be expected for a German sample. However, it cannot be considered as representative, especially as we intentionally tried to recruit participants on social media who needed interventions, e.g., in groups for mothers that gave birth via C-section.

2010), and public stigma (Fu et al., 2015). We initially generated 18 items, 11 of which were based on the self-stigmatization questionnaires described above (the corresponding items are marked in Table 1). The final questionnaire consisted of 10 items and the two subscales *Negative affect* ($\alpha = .92$) and *Perceived stigma* ($\alpha = .83$), derived by Exploratory factor analysis (EFA) and confirmed by Confirmatory factor analysis (CFA). The items were answered on a six-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*) with higher values indicating stronger self-stigmatization. Cronbach’s α for the final questionnaire was .90. The exact procedure of the scale development can be found in the result section below.

Table 1

EFA for the Labor and Birth Self-Stigma Scale (LBS)

Scale/Item	Factor loadings			Uniqueness
	O2	I	II	
Negative affect	35.2			
I am disappointed in myself that I did not manage to give birth without medical assistance. ^a		.95	-.10	.18
I feel like I have failed as a woman because I did not give birth without medical assistance. ^c		.90	.01	.19
My self-confidence suffers because I did not manage to give birth without medical assistance. ^a		.83	.02	.29
I feel inferior to women who gave birth without medical assistance. ^{a,b,c}		.75	.05	.40
I am ashamed to have needed medical assistance during childbirth. ^{a,b}		.66	.23	.36
Perceived stigma	27.4			
I feel that those around me speak badly of me because I needed medical assistance. ^c		-.04	.87	.27
I feel like other people label me negatively for seeking medical assistance during childbirth.		.12	.73	.37
Because of the birth process people around me are disappointed in me.		-.08	.78	.45
People in my environment do not see me as a real woman because I gave birth with medical assistance.		.08	.75	.37
The typical ideas about women who give birth with medical assistance, such as that they can’t be bothered or are being cowardly, apply to me. ^a		.07	.35	.85

Note. $n = 872$. Extraction method: EFA using PAF. Rotation: Oblimin. Abbreviations: O2, explained variance in percent. The items were presented in German (see Hoffmann, Berner, & Hilger, 2023 for the German items).

^aItems based on Ritsher et al. (2003). ^bItems based on Mak and Cheung (2010). ^cItems based on Fu et al. (2015).

Birth Experience

Participants' birth experience was assessed with the 10-item Birth Experience Scale (Hoffmann & Banse, 2021). The questionnaire briefly measures general satisfaction with the event (e.g., *In retrospect, I am satisfied with my child's labor and birth*) and feelings of security and appreciation (e.g., *I felt safe and secure while giving birth*). The answer format was the same as for the stigma scale (a 6-point Likert scale ranging from 1 = *strongly disagree* to 6 = *strongly agree*), but with higher values indicating a more positive birth experience. Cronbach's α for the Birth experience scale in the present study was .94.

Birth-Related Mindset

The birth-related mindset was assessed using the Mindset and Birth Questionnaire (MBQ; Hoffmann & Banse, 2021). The scale consists of 18 items in four subscales measuring trust in midwives versus doctors (5 items, $\alpha = .82$; e.g., *Even if labor and birth go normal mother and baby are safest with a doctor attending the process*), the participant's view of drug support (4 items, $\alpha = .72$ e.g., *Women should aim to give birth without pain relievers*), birth-related shame and disgust sensitivity (4 items, $\alpha = .78$; *For women labor and birth are embarrassing in many respects*), and the participant's view of vaginal birth (5 items, $\alpha = .78$; *A C-section has numerous advantages over a vaginal birth*), on a six-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*). Higher scores indicate a more natural mindset. The items of the MBQ and the Birth experience scale were mixed and presented in a fixed-random order. Cronbach's α for the overall score was .83.

Neuroticism and Self-Esteem

Neuroticism (e.g., *I am relaxed and don't let stress upset me*), was measured using the four-item scale of the German short-version of the Big Five Inventory (Rammstedt & John, 2005). Cronbach's α was .75. Self-esteem (e.g., *I have a number of good qualities*) was measured using the Rosenberg Self-Esteem Scale (German version; Ferring & Filipp, 1996). Cronbach's α for the 10 items was .90. To reduce the cognitive burden of the participants, the answer format was matched to the answer format of the birth-related questionnaires (1 = *strongly disagree*, 6 = *strongly agree*). The items for neuroticism and self-esteem were mixed and presented in a fixed random order.

Procedure

The study was conducted online. Prior to their participation, participants were informed about voluntariness, anonymity, and that the study could be ended at any time. We then asked about demographic data, birth-related information (e.g., birth setting, midwifery care), pregnancy and birth-related risk factors, and medical interventions based on the low-intervention birth index described above. In the second part of the study, we assessed neuroticism and self-esteem, the birth-related mindset, and the birth experience.

Birth-related self-stigmatization was assessed last in order to maximize cognitive accessibility of birth-related thoughts. Finally, the respondents were asked about the quality of their data and given the opportunity to provide open-ended comments.

Results

Labor and Birth Self-Stigmatization Scale (LBS)

One of the main aims of the present paper was the development of a questionnaire to measure birth-related self-stigmatization to use with people who experienced medical interventions during labor and birth. To achieve this goal, we developed 18 items and initially preregistered the performance of an EFA for item selection and reduction. However, due to the surprisingly large sample size, we decided to conduct an EFA with half the sample and a CFA with the other half of the sample to confirm the identified factor structure.² The dataset was sorted chronologically and participants with an odd case number ($n = 872$) were then used for performing the EFA and participants with an even case number ($n = 871$) for the CFA.

EFA

As preregistered, we first conducted the EFA using principal axis factoring (PAF) with oblimin rotation. While the scree plot indicated a two- or three factor solution (see Hoffmann, Berner, & Hilger, 2023), the parallel analysis suggested the extraction of five factors (see Table 2). The rotated five-factorial solution demonstrated that while the items measuring affect and public stigma loaded on the theoretically assumed factors, the items developed for behavior and cognition did not show the desired factor structure. Items loading on the fifth factor were all reversed coded and therefore probably not answered adequately by the participants. The four items (Items 5, 10, 15, and 18) were therefore excluded from further analyses. Since the third and fourth factor only explained about 10% of the variance and the items mapped different facets in terms of content (i.e., including items developed for affect, cognition, and behavior), the corresponding items (Items 1, 2, 7, and 14) were also removed. For the remaining 10 items, we again performed parallel analysis, which suggested a two-factor solution (Table 1). In this final two-factor solution, containing 10 items, the factors explained 35.2% and 27.4% of the variance, respectively, and could be interpreted as *Negative affect* (5 items) and *Perceived stigma* (5 items). Negative affect measures shame, guilt, and decreased self-esteem due to having required medical intervention during labor and birth. Perceived stigma measures potential awareness of the stigma and devaluation by other persons. For both

2) As preregistered, we also performed an EFA using the whole sample. The results do not differ substantially from the analyses presented here (see Hoffmann, Berner, & Hilger, 2023).

subscales, higher values reflect more self-stigmatization. Cronbach's α for the overall scale was .90. The final questionnaire can be found in Table 1.

Table 2

EFA With all Initial 18 Items of the Labor and Birth Self-Stigma Scale (LBS)

Item	Factor loadings					Uniqueness
	I	II	III	IV	V	
12. I am disappointed in myself that I did not manage to give birth without medical assistance. (A)	.96					.18
11. I feel like I have failed as a woman because I did not give birth without medical assistance. (A)	.86					.19
03. My self-confidence suffers because I did not manage to give birth without medical assistance. (A)	.80		.15			.27
08. I am ashamed to have needed medical assistance during childbirth. (A)	.65	.21				.35
13. I feel inferior to women who gave birth without medical assistance. (A)	.58			.27		.35
07. When those around me talk about birth, I feel like I can't have a say because I didn't give birth properly. (B)	.17			.65		.31
09. I feel that those around me speak badly of me because I have needed medical assistance. (PS)		.87				.26
06. Because of the birth process people around me are disappointed in me. (PS)		.78				.45
04. People in my environment do not see me as a real woman because I gave birth with medical assistance. (PS)		.73				.37
16. I feel like other people label me negatively for seeking medical assistance during childbirth. (PS)		.69				.37
17. The typical ideas about women who give birth with medical assistance, such as that they can't be bothered or are being cowardly, apply to me. (C)		.35				.84
02. I tell few people that I needed medical help during childbirth. (B)		.15	.58			.50
14. I don't talk much about my birth because I don't want to burden others with it. (B)			.54	.21		.64
01. It is understandable that people look down on women who have needed medical help for childbirth. (C)			.18			.94
18. There is no reason for me to feel guilty for seeking medical help. (A; reversed)			.18		.47	.68
10. Even if I had tried harder, I would have needed just as much medical help. (C; reversed)					.48	.77

Item	Factor loadings					Uniqueness
	I	II	III	IV	V	
05. The fact that people say that only births without medical assistance are real births is something I cannot understand. (C; reversed)					.45	.81
15. When I am with people who gave birth without medical help, I feel like I belong with them. (B; reversed)					.28	.91

Note. $n = 872$. Extraction method: EFA using PAF. Rotation: Oblimin. Loadings $< |.15|$ are not displayed. Abbreviations for the initially assumed four scales: A = affect; B = behavior; C = cognition; PS = public stigma.

CFA

To test the factorial solution determined in the EFA, a CFA with two correlated factors was performed using the second half of the sample. Double loadings were not permitted. As estimators, Maximum Likelihood (ML) and due to the 6-point Likert type items also Weighted Least Squares (WLSMV) were used. With ML, the fit of the exploratory solution obtained by the EFA could be replicated. WLSMV led to an even better fit (see Table 3). Overall, the confirmatory analyses replicated the results of the EFA and indicated a consistent questionnaire (based on $N = 1,743$: $\alpha = .90$, *Negative affect*: $\alpha = .92$, *Perceived stigma*: $\alpha = .83$), with two highly correlated factors.

Table 3

Results of the CFA

Estimator	χ^2	df	RMSEA	CFI	SRMR
1: ML	251.210**	34	.086	.963	.044
2: WLSMV	119.990**	34	.054	.995	.024

Note. $n = 871$. RMSEA = Root Mean Square Error of Approximation; CFI = incremental fit indices; SRMR = Standardized Root Mean Square Residual.

** $p < .001$.

Descriptive Statistics and Convergent Validity

Table 4 displays descriptive statistics, intercorrelations, and reliabilities of the questionnaires utilized in the present study. Results confirmed the hypothesis of a more negative birth experience being associated with more self-stigmatization ($r = -.38, p < .001$). Further, a more natural birth-related mindset was correlated with higher scores in self-stigmatization ($r = .11, p < .001$), thus persons with a more natural mindset had a higher probability of self-stigmatization. The correlation between natural birth-related mindset and scores on the LBS was mainly driven by the facet Negative affect ($r = .20, p < .001$), while Perceived stigma showed $r = -.09 (p < .001)$. As mentioned in the introduction, previous studies found a positive correlation between neuroticism and self-stigmatization

(Szcześniak et al., 2021), and a negative correlation between self-esteem and self-stigmatization (Corrigan et al., 2011). Results of the present study replicate those findings (neuroticism and self-stigmatization: $r = .27, p < .001$; self-esteem and self-stigmatization: $r = -.39, p < .001$). Self-stigmatization was thus associated with higher neuroticism and lower self-esteem. Note, however, that here too it is inconclusive whether self-stigmatization is a cause or consequence. Overall, the results confirm the hypotheses and indicate the convergent validity of the newly developed LBS questionnaire.

Table 4

Descriptive Statistics and Zero-Order Correlations of Control Variables and Measures

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Birth experience ^a	4.0	1.5	(.94)						
2. Birth-related mindset ^b	4.2	0.7	-.03	(.83)					
3. Self-esteem ^c	4.7	0.9	.29***	.06**	(.90)				
4. Neuroticism ^d	3.4	1.1	-.24***	-.05*	-.67***	(.75)			
5. Birth-related self-stigma (LBS)	1.5	0.9	-.38***	.11***	-.39***	.27***	(.90)		
6. Negative affect (LBS)	1.7	1.2	-.42***	.20***	-.37***	.27***	.95***	(.92)	
7. Perceived stigma (LBS)	1.3	0.7	-.20***	-.09***	-.31***	.20***	.80***	.56***	(.83)

Note. $N = 1,743$. Reliabilities (Cronbach's α) in brackets.

^aHigher values indicate a more positive birth experience. ^bHigher values indicate a more natural mindset (Hoffmann & Banse, 2021). ^cHigher values indicate higher self-esteem (Ferring & Filipp, 1996). ^dHigher values indicate higher neuroticism (Rammstedt & John, 2005).

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

Incremental Validity

To test whether the LBS holds incremental validity over birth-related mindset, self-esteem, and neuroticism in predicting birth experience, we conducted multiple hierarchical regression analyses. In doing so, the birth-related mindset, self-esteem, and neuroticism were entered into the regression in the first step. Self-stigmatization as assessed on the LBS was entered in the second step. As displayed in Table 5, the birth-related mindset ($\beta = -.05, p = .044$), self-esteem ($\beta = .24, p < .001$), and neuroticism ($\beta = -.08, p = .011$) together significantly predicted birth experience, explaining 9% of the variance, $R^2 = .09, F(3, 739) = 58.14, p < .001, f^2 = .10$. Adding self-stigmatization (LBS scores) into the regression accounted for an additional 8% of variance explained ($\Delta R^2 = .08, p < .001$). Self-stigmatization was the strongest predictor of birth experience ($\beta = -.31, p < .001$). Results thus suggest incremental validity of birth-related self-stigmatization over and above birth-related mindset, self-esteem, and neuroticism. Overall, the model explained 17% of the variance in birth experience ($R^2 = .17, p < .001, f^2 = .20$). According to Cohen (1988), this is considered a moderate to large effect. The results highlight the importance

of birth-related self-stigmatization for predicting birth experience, and that birth-related self-stigmatization is not the same phenomenon as birth-related mindset, self-esteem, or neuroticism and should be understood as a distinct construct.

Table 5

Linear Multiple Regression Analyses for Testing Incremental Validity of Self-Stigmatization Over Birth-Related Mindset, Self-Esteem, and Neuroticism in Predicting Birth Experience

Predictor	Model 1			Model 2		
	B	SE	β	B	SE	β
Birth-related mindset ^a	-0.09	0.05	-.05*	-0.01	0.04	-.00
Self-esteem ^b	0.39	0.05	.24**	0.20	0.05	.12**
Neuroticism ^c	-0.11	0.04	-.08*	-0.10	0.04	-.07*
Birth-related self-stigma				-0.54	0.04	-.31**
R^2		.09**			.17**	
$F(R^2)(df1, df2)$		58.14(3, 1,739)			89.79 (4, 1,238)	
ΔR^2					.08**	
$F\Delta R^2(df1, df2)$					167.98 (1, 1,738)	

Note. $N = 1,743$. Reliabilities (Cronbach’s α) in brackets.

^aHigher values indicate a more natural mindset (Hoffmann & Banse, 2021). ^bHigher values indicate higher self-esteem (Ferring & Filipp, 1996). ^cHigher values indicate higher neuroticism (Rammstedt & John, 2005).

* $p < .05$. ** $p < .01$.

Exploratory Analyses

C-Section and Other Interventions

To test whether self-stigmatization is largely due to C-sections, we conducted hierarchical multiple regression on self-stigmatization entering C-section in the first step ($R^2 = .08$, $p < .001$) and all other medical interventions in a second step. As shown in Table 6, results indicated that the amount of explained variance significantly increased ($\Delta R^2 = .02$, $p < .001$) when the interventions were included in step two. Self-stigmatization was significantly predicted by augmentation ($\beta = .09$, $p < .001$), epidural ($\beta = .06$, $p = .008$), and vaginal assisted birth ($\beta = .07$, $p = .004$). However, C-section was the strongest predictor ($\beta = .33$, $p < .001$), explaining almost 10% ($p < .001$) of the variance in self-stigmatization scores.

Table 6

Linear Multiple Regression Analyses for Testing Incremental Validity of C-Section and the Other Medical Interventions on Birth-Related Self-Stigmatization

Predictor	Model 1			Model 2		
	B	SE	β	B	SE	β
C-section	0.49	0.04	.28***	0.57	0.05	.33***
Induction of labor				0.02	0.04	.01
Augmentation of labor				0.17	0.04	.09***
Epidural				0.11	0.04	.06**
Episiotomy				0.02	0.06	.01
Kristeller maneuver				0.06	0.06	.03
Assisted vaginal delivery				0.19	0.07	.07**
R^2		.08***			.10***	
$F(R^2)(df1, df2)$		147.39 (1, 1,741)			28.22 (7, 1,735)	
ΔR^2					.02***	
$F\Delta R^2(df1, df2)$					7.78 (6, 1,735)	

Note. $N = 1,743$. R^2 adjusted.

** $p < .01$. *** $p < .001$.

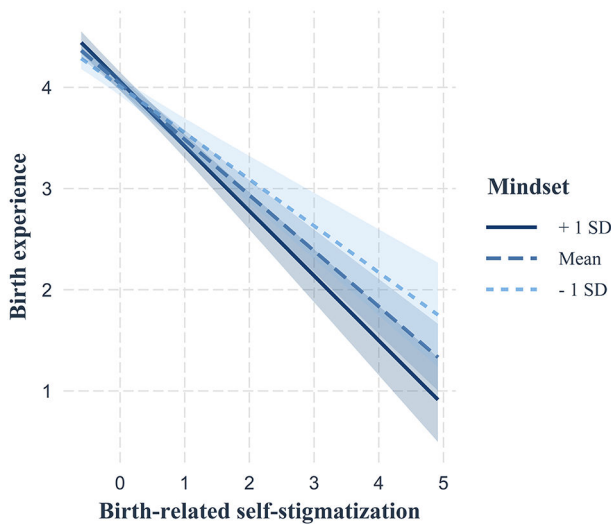
Moderation Effects of the Birth-Related Mindset

As described above, the results of the present study indicated a negative correlation between a more positive birth experience and self-stigmatization ($r = -.38, p < .001$) and a small, positive correlation between self-stigmatization and a more natural birth-related mindset ($r = .11, p < .001$). This means that women who reported a more positive birth experience reported less birth-related self-stigmatization as assessed on the LBS, and women who reported a more natural birth-related mindset reported more birth-related self-stigmatization on the same scale. We tested whether the birth-related mindset moderated the correlation between self-stigmatization and birth experience by conducting multiple hierarchical regression analyses (Cohen et al., 2003). Regressing birth experience on the z -standardized birth-related self-stigmatization scale and the z -standardized birth-related mindset resulted in a significant outcome, $R^2 = .14, F(2, 1,740) = 146.22, p < .001$. Adding the interaction term of the two scales led to a small but significant increase in the amount of variance explained ($\Delta R^2 = .003, p = .008$). Results indicated a significant main effect of self-stigmatization ($B = -0.55, SE = 0.03, p < .001$), but not birth-related mindset ($B = 0.02, SE = 0.03, p = .461$). The interaction term was also significant ($B = -0.09, SE = 0.03, p = .008$). Simple Slopes analyses (Thériault, 2023) indicated significant differences from zero for low ($\beta = -.31, p > .001$) and high values ($\beta = -.43, p > .001$) of the birth related mindset. As displayed in Figure 1, the birth-related mindset moderated the correlation between self-stigmatization and birth experience. Independent of the

birth related-mindset, more self-stigmatization was associated with a more negative birth experience. The correlation between self-stigmatization and negative birth experience was stronger among participants who had a more natural birth-related mindset than participants who had a more medical birth-related mindset (i.e., who viewed birthing as a medical process).

Figure 1

Moderation Analysis: Birth Experience as a Function of Birth-Related Self-Stigmatization and Mindset



Discussion

The broader aim of the present study was to conduct quantitative research on self-stigmatization after childbirth. Both qualitative research and daily life observations, e.g., via (social) media, suggest a strong normative pressure toward natural (intervention-free) birth and resulting feelings of failure when birth includes medical interventions, yet quantitative research on this topic has been minimal. We developed the Labor and Birth Self-Stigmatization Scale (LBS) to quantitatively measure birth-related self-stigmatization in people who gave birth with medical interventions. We expected birth-related self-stigmatization to be negatively correlated with birth experience.

Our results provide initial evidence that the LBS is a valid and psychometrically sound measure. Criterion validity was demonstrated by weak to moderate correlations with birth and personality variables (neuroticism and self-esteem), birth-related mindset, and especially birth experience. The last confirmed the hypothesis that more self-stigmatization was associated with a more negative (or worse) birth experience. Our postulated

factor structure with the dimensions affect, cognition, behavior, and public stigma was not supported by EFA results. Instead, results of the EFA indicated a two-factor structure with the factors Negative affect (feelings of shame, guilt, and low self-esteem as results of high-intervention birth) and Perceived stigma (awareness of public, birth-related stigma). The factor loadings of the items as well as the reliabilities of the subscales supported a two-factor solution, which should be confirmed in follow-up studies.

Birth-related self-stigmatization as assessed using the LBS explained additional variance in birth experience over and above variance explained by birth-related mindset, neuroticism, and self-esteem. Research has indicated a loss of self-esteem due to public stigma or self-stigma (Corrigan et al., 2006; Link et al., 2001; Werner et al., 2008), thus suggesting an association between the two. The results of the present study also indicate that self-stigmatization and self-esteem are intercorrelated but tap into different facets of the self. Self-stigmatization does not seem to be the same as (mere) loss of self-esteem. However, further research using a longitudinal design is needed to explore the relationship between self-esteem and birth-related self-stigmatization in more detail.

Self-Stigmatization and Birth-Related Mindset

Previous research indicated that a person can perceive birth as a more natural or a more medical event, thus having a more natural or a more medical mindset (Hoffmann & Banse, 2021). Having a more natural mindset has been found to be associated with the expectation that birth will proceed without intervention (Hoffmann, Hilger, & Banse, 2023) and research has suggested that unfulfilled birth-related expectations are negatively associated with the birth experience (Webb et al., 2021). In the present study we explored the interaction between birth-related mindset and self-stigmatization predicting the birth experience. Results indicated an association between birth-related self-stigmatization and birth experience such that higher levels of birth-related internalized stigma were related to a more negative evaluation of the birth experience, regardless of the participant's birth-related mindset. The interaction of mindset and self-stigmatization explained variance in birth experience: For those individuals who reported a low level of birth-related self-stigmatization, the more natural their birth-related mindset was, the more positively they rated their birth experience. Vice versa, those individuals with high self-stigmatization scores rated their birth experience more negatively, especially if they had a more natural birth-related mindset. The incremental variance explained by the interaction term was arguably small (see also below) and as outlined above the results of the present study are mute to causality. However, as the results also do not rule out the possibility that persons with a more natural birth-related mindset may suffer more from self-stigmatization after they experience medical interventions during labor and birth, it would be important to investigate this question with a study design that allows causal conclusions. The longitudinal study on birth-related mindset (Hoffmann, Hilger, & Banse, 2023) suggested a more natural mindset can have a positive effect on labor and birth. If,

by chance, a more natural mindset was associated with increased self-stigmatization after needed interventions, this would pronounce the complexity of the issue and would add to a better understanding of potential underlying normative challenges for pregnant and childbearing persons.

Self-Stigmatization and C-Section

As discussed in the introduction, the medial portrayal of birth tends to focus on C-sections as opposed to natural birth. This is also underlined by the catchphrase “Too posh to push.” However, labor and birth often involve medical interventions other than or in addition to C-sections. Testing this hypothesis, results indicated that, after controlling for shared variance, a C-section was the strongest predictor of self-stigmatization but self-stigmatization was also predicted by augmentation of labor, use of epidurals, and vaginal assisted births. Thus, C-section is not the only medical intervention associated with increased self-stigmatization. Since the analyses were highly explorative, further studies are necessary to replicate the findings.

Strengths, Limitations, and Future Research

To our knowledge, the present study is the first to empirically address birth-related self-stigmatization and to uncover its associations with objective and subjective birth variables. The sample size of 1,743 participants and, consequently, the statistical power of the study are considerable (Maxwell et al., 2008). The large number of participants, which exceeded our preregistered, targeted number ($N = 350$) by far, highlights the social and individual relevance of birth-related research. Nevertheless, the present sample is not free of potential biases. It is likely that the sample is subject to selection effects. The online study was shared on social media (Facebook and Instagram). Anyone not active on these platforms was therefore excluded from participation. Furthermore, we limited the study to participants who had given birth in the years 2020 and 2021. This ensured that the mothers had birthed relatively recently and were likely to remember the birth sufficiently. However, this restricted time period also meant that all the mothers in the present sample gave birth during the COVID-19 pandemic. In this period there were some atypical procedures in German hospitals, e.g., the exclusion of partners, which is associated with a higher probability of an intervention-rich birth and poorer birth experience (Hoffmann, Hilger, Riolino, et al., 2023). Although the restricted birthing years ensured comparability within the sample, generalization to other cohorts is limited. In addition, since the items were presented in German, the results need to be replicated in other languages and cultures.

As described above, a high power can be assumed due to the large sample size. Obviously, this also implies that small effects become significant. Thus, the effect sizes rather than the p -values should be examined. As indicated by Burgoyne and colleagues

the mean effect size for social psychological effects is $r = .20$ (Burgoyne et al., 2020). In the present study, the effects were partially smaller. This was especially evident for the presented moderation, where the additional explained variance was only 1%. However, regarding the birth context, the complexity of the process and the many possible contributing factors (physical, psychological, situational) must be taken into account and, thus, the question arises as to how much variance can realistically be explained by a variable (or interaction) at all. Nevertheless, childbirth is a very common occurrence. Several thousand babies are born every day. The birth experience is fundamental for the positive transition to parenthood (Hoffmann, Hilger, & Banse, 2023). It is therefore not unreasonable to argue that even small effects are (practically) meaningful and are at least worth being investigated further.

The main limitations of the study are the cross-sectional design and the retrospective approach. As already outlined in the introduction, we cannot draw conclusions about causality concerning the association between birth-related self-stigmatization and birth experience, i.e., it is not clear whether self-stigmatization leads to a more negative birth experience, whether individuals self-stigmatize because of their negative birth experience, whether the two factors mutually reinforce each other, or whether a third variable explains the association. All the described assumptions seem theoretically plausible, and methodologically the problem arises that birth-related self-stigmatization due to needing medical interventions can only occur after births that included interventions, making it even more difficult to differentiate the possible explanations. Disentangling the causal relationships alluded to here would require a different research design and was outside the scope of the present paper, the primary aim of which was to construct and validate an appropriate questionnaire to measure birth-related self-stigmatization.

Conclusion

The present study illustrates the association of birth and the birth experience with birth-related self-stigmatization and thus psychological well-being. Despite the high social relevance of the topic there is hardly any (up-to-date) psychological research in this area. Consequently, the question emerges as to how society in general, and more specifically the fields of psychology and obstetrics, can combat self-stigmatization after births that include medical intervention. The experience of birthing or having a loved one give birth with a medical intervention is relevant to the lives of many, if not most, people and thus warrants more attention and empirical psychological study. Although the study still leaves many research questions unanswered, it showed that women and childbearing persons are probably not *too push to push* but some are rather affected by self-stigmatization after needing interventions during labor and birth. The study certainly provides an important starting point to initiate more research in the field of self-stigmatization after childbirth.

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Ethics Statement: The reported research has been performed in compliance with the ethical principles of the Declaration of Helsinki. Since the data was collected with informed consent, anonymously and no harm was to be expected for the participants, ethics approval was not necessary according to the guidelines of our university.

Data Availability: All data as well as additional material (e.g., syntax, codebook, preregistration) are available at OSF (see Hoffmann, Berner, & Hilger, 2023).

Supplementary Materials

For this article, the following Supplementary Materials are available (see Hoffmann, Berner, & Hilger, 2023):

- Data
- SPSS Syntax File
- Outputs EFA and CFA
- Codebook
- Study script in German and English
- Preregistration
- LBS Scale in German

Index of Supplementary Materials

Hoffmann, L., Berner, E., & Hilger, N. (2023). *Birth-related self-stigmatization* [Data, materials]. OSF. <https://osf.io/j27p9/>

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