Abstract

Objective: Severe fear of childbirth (tokophobia; TP) is an understudied and under-recognized phenomenon that has significant implications for maternal mental health during pregnancy, labor and delivery. The few existing measures of TP are limited by lengthy formats, difficulty scoring, and a narrow definition of the TP construct. *Method:* The current study examined the psychometric properties of a newly developed self-report scale, the Tokophobia Severity Scale (TSS), in a sample of 122 female participants. *Results:* The final measure consisted of 13 items. The scale demonstrated a unidimensional structure and items demonstrated excellent internal consistency (α = .93) and adequate convergent validity with the Wijma Delivery Expectancy/Experience Questionnaire-Version A. *Conclusions:* The findings provide preliminary evidence to suggest that the TSS is a brief, valid, and reliable measure that may be used in the future to identify women with TP who may benefit from psychological and supportive interventions prior to delivery.

Keywords: Tokophobia; Assessment; Fear of childbirth; Severity

The Development and Preliminary Validation of the Tokophobia Severity Scale (TSS)

Anxiety during the prenatal and postnatal period is common (Heron, O'Connor, Evans, Golding, & Glover, 2004), however, when the level of anxiety is severe, and causes significant distress and/or impairs daily functioning, a specific phobia of childbirth (tokophobia; TP) may be present. While the prevalence of TP is largely unknown, several studies have investigated the concept in samples of women who are already pregnant. For instance, Zar, Wijma, and Wijma (2002) found that 11% of their pregnant sample had a severe fear of childbirth and 2% of the same sample had a 'phobic-like' fear of childbirth. Other studies have found that approximately 8-10% of pregnant women have elevated levels of fear of childbirth (Nasiry & Sharifi, 2013; Spice, Jones, Hadjistavropoulos, Kowalyk, & Stewart, 2009; Storksen, Eberhard-Gran, Garthus-Niegel, & Eskild, 2012). The prevalence rate of TP in women who have not previously been pregnant is currently unstudied. Since it is likely that many women with TP avoid pregnancy altogether (Hofberg & Brockington, 2000) it is possible that the prevalence rate in non-pregnant women is much higher than the rates seen in pregnant women.

Tokophobia can be classified as either 'primary' or 'secondary' (Hofberg & Brockington, 2000; Hofberg & Ward, 2004). Primary TP is a fear of childbirth that begins prior to pregnancy and childbirth, generally in adolescence, and secondary TP occurs as a response to a previously distressing delivery, miscarriage, or stillbirth (Hofberg & Ward, 2004). It has been found that women with primary TP often develop the phobia in adolescence and experience a stable course of symptomology (Hofberg & Brockington, 2000). While the exact content of the fear is not well-studied, women with fears of childbirth often express anxiety about the wellbeing of their unborn child (Lopukhova & Kashshapova, 2015), fear of childbirth itself (Lopukhova & Kashshapova, 2015), and a fear of losing

control during labor (Green & Baston, 2003; Lowe, 2000). A severe fear of childbirth can also associated with suboptimal maternal labor and delivery experiences, including reporting more intense pain during delivery (Haines, Rubertsson, Pallant, & Hildingsson, 2012), increased likelihood of requesting an elective caesarean (Haines et al., 2012), a longer labor (Adams, Eberhard-Gran, & Eskild, 2012), and more negative perceptions of childbirth (Haines et al., 2012) that persist even one year after the delivery (Nilsson, Lundgren, Karlström, & Hildingsson, 2012). Furthermore, fear of childbirth has been found to increase the risk of maternal postpartum depression up to five-fold in women with a history of depressive disorders, and up to threefold in women without a depressive history (Räisänen et al., 2013). Despite the important maternal health implications of assessing TP, there are currently few scales that have been developed to measure the TP construct.

The most commonly used measure of fear of childbirth is the Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) (Wijma, Wijma, & Zar, 1998). This is a 33-item measure that comes in two forms, W-DEQ-Version A, which measures fear of childbirth before delivery, and W-DEQ-Version B, which measures the fear of childbirth after delivery. It is a well validated psychometric instrument (Wijma et al., 1998) and a cut-off of 85 has been used to distinguish women with and without a clinically significant fear of childbirth (Nasiry & Sharifi, 2013; Nieminen et al., 2017; Salomonsson, Gullberg, Alehagen, & Wijma, 2013; Spice et al., 2009; Storksen et al., 2012; Zar, Wijma, & Wijma, 2002). However, this cut score has ranged from 71 to 100 in other studies (Fenwick, Gamble, Nathan, Bayes, & Hauck, 2009; Heimstad, Dahloe, Laache, Skogvoll, & Schei, 2006). While this scale does demonstrate good psychometric properties, the scale is quite lengthy, and is designed to measure ‘fear of childbirth’ rather than TP per se.

Another commonly used measure is the Fear of Birth Scale (FOBS) (Haines, Pallant, Karlström, & Hildingsson, 2011). The FOBS consists of the question "How do you feel right

now about the approaching birth", alongside two patient-rated visual analogue scale consisting of two 100mm scales with the anchor words calm/worried on one scale, and no fear/strong fear on the other (Ternström, Hildingsson, Haines, & Rubertsson, 2016). Each scale is scored 0-100, where higher scores indicate high levels of childbirth fear, and the two scores are averaged to give a single score. A cut-off score of 50 is used to identify fear of childbirth (Haines et al., 2011). Whilst the scale is a practical measure for clinical practice, the reliability of a single item questionnaire to measure fear of childbirth is questionable.

Due to the prevalence of severe pregnancy anxiety, as well as the limitations of the existing measures of this construct, the current study had two main aims. Firstly, to develop a new self-report scale to measure the symptoms of TP. The scale was developed to be brief and have the ability to measure the severity of TP symptoms in primiparous/multiparous women, as well as nulliparous women. The second aim of the study was to examine and report the initial preliminary psychometric properties of the scale.

Method

Participants

The sample consisted of 122 female participants (*M* age 22.90; *SD* = 4.63; 83.6% Caucasian). Participants were recruited from first year Psychology students at the University of Tasmania, as well as advertisements on community noticeboards. To be included in the study participants were required to be female and aged between 18 and 40. Participants were excluded if they were currently pregnant or had been pregnant in the past. The study was approved by the Tasmanian Social Sciences Human Research Ethics Committee.

Scale Development

The Tokophobia Severity Scale (TSS; see Appendix) was developed collaboratively by the first and second authors (BW and ED), who both have experience in the assessment

and treatment of anxiety and related disorders. Each author devised as many items as possible individually, before coming together to further discuss and refine the items. The authors considered the readability and relevance of each item carefully before the commencement of the study. The initial item pool consisted of 24 items that were developed to tap both the cognitive (i.e., worry) and behavioral aspects (i.e., avoidance) of TP. Cognitive items included questions such as "I worry about medical complications during pregnancy and/or childbirth" and "I worry that something dangerous will happen to me during pregnancy or the delivery (e.g., a ruptured uterus, preeclampsia, emergency interventions, death)" and behavioural items included questions such as "I check excessively to determine if I am pregnant" and "I spend too much time reading about pregnancy and/or childbirth (on the internet, in books, etc.)". Participants were asked to "please indicate how much the following questions have applied to you over the past two weeks". Each question was rated on a 4 point Likert scale ranging from 0 (*not at all*) to 3 (*always*). Items are totalled and higher scores indicate higher levels of anxiety about pregnancy and childbirth.

Measures

In addition to the TSS participants were administered the following self-report questionnaires. All questionnaires were administered in a hardcopy format in a fixed order.

Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ), Version A

(Wijma et al., 1998). The W-DEQ, Version A is a 33-item questionnaire that measures how the patient imagines that labour and delivery will be in the future and is designed as a measure of fear of childbirth. Items are answered on a 6-point Likert scale. Total scores range from 0-165 and a higher score reflects a higher level of fear. A score greater than 85 is considered to indicate a clinical levels of fear of childbirth (Ryding, Wijma, Wijma, & Rydhstrom, 1998; Söderquist, Wijma, & Wijma, 2004; Spice et al., 2009; Zar et al., 2002). The W-DEQ version A has good psychometric characteristics and internal validity with a

Cronbach α of .91-.94 for parous and nulliparous women (Fenwick et al., 2009; Ryding et al., 1998; Spice et al., 2009; Wijma et al., 1998). In the current study the Cronbach α was .93.

Patient Health Questionnaire-9-item (PHQ-9) (Kroenke, Spitzer, & Williams, 2001). The PHQ-9 is a 9-item measure of depressive symptoms. Items are scored on a 4-point scale from 'not at all' (0) to 'nearly every day' (3). Total scores range of 0-27, with higher scores indicating higher depressive symptoms. The scale has demonstrated good psychometric properties with a Cronbach α of .89 in previous studies (Kroenke et al., 2001). In the current study α was .87. The PHQ-9 demonstrates good convergent validity with similar measures such as the *Beck Depression Inventory-II* (r = .73) (Titov et al., 2011).

Data Analysis

Items to be retained from the initial item pool was determined using a number of methods, based on the recommendations of Clark and Watson (1995). Firstly, response frequencies were examined and any item that demonstrated extreme response rates, defined as those where >95% of respondents gave the same response, were removed. Secondly, items that were weakly related to the first factor (< .40) of a principal component analysis (PCA) were omitted from the scale. Similarly, items that loaded strongly on subsequent factors (>.50) were omitted from the scale. Finally, the correlation matrix was scanned and items that showed either poor (<.3) or high (>.8) correlations with at least 50% of the other items were removed.

Factor structure of the final scale was assessed with a PCA and the number of factors to be retained was determined using parallel analysis (O'Connor, 2000). Consistent with the recommendations of Clark and Watson (1995) an alpha of .80 or above was considered acceptable. Similarly, to assess the unidimensionality of the scale the average inter-item correlation of the items was calculated, with an average inter-item correlation between .15 and .50 considered acceptable (Clark & Watson, 1995). Convergent validity was assessed

with Spearman's rho correlations between the TSS and the W-DEQ and divergent validity between the TSS and PHQ-9. Consistent with the recommendations of Cohen (1992) a correlation of .10 was deemed to be a small effect, a correlation of .30 a medium effect, and a correlation of .50 a large effect. All data were analysed with SPSS Version 25.

Results

Demographic Information

Participants were 122 females of childbearing age (mean age = 22.90, SD = 4.63) who had not previously been pregnant. The demographic characteristics of the sample are outlined in Table 1.

Item Selection

The inter-item correlations of the original 24-items of the TSS are outlined in Table 2. The examination of response frequencies resulted in 1 item being removed from the scale. The examination of the factor structure resulted in a further 9 items being removed from the scale. The examination of the inter-item correlations resulted in the removal of 1 item. Thus, the final scale consisted of 13-items (see Appendix), which has a total possible range of scores from 0-39, with higher scores indicating higher levels of anxiety about pregnancy and childbirth. The Flesch-Kincaid Grade Level of the final 13-item TSS was 9.8.

Factor Structure

The parallel analysis indicated that one factor should be retained. Therefore the principal component analysis (PCA) was conducted with direct oblimin rotation extracting one factor, which accounted for 55% of the variance. The Kaiser-Meyer-Olkin (KMO) statistic was .90 and Bartlett's test of sphericity was significant ($\chi^2_{(78)} = 1084.71$, $p < .001$). Table 3 outlines the means, standard deviations, and factor loadings of the 13-items. The overall mean on the scale was 7.90 (SD = 7.68) with a range of 0 to 39.

Reliability

Reliability was assessed with Cronbach alpha and the 12-item scale yielded an alpha of .93. The average inter-item correlation amongst the 13-items was .50.

Validity

Convergent validity was assessed by way of bivariate correlation with the W-DEQ and divergent validity was assessed by way of correlation with the PHQ-9. Results indicated that there was a significant correlation, demonstrating a medium effect size between the TSS and the W-DEQ ($r_s = .44$, $p < .001$). However, there was also a significant correlation with the PHQ-9 ($r_s = .35$, $p < .001$), demonstrating a medium effect size.

Discussion

During the perinatal period anxiety disorders may be associated with loss of functionality and immense distress, and may cause negative effects on the unborn child (Green, Haber, Frey, & McCabe, 2015). The aim of this study was to develop a new measure of TP severity, the Tokophobia Severity Scale, as well as provide an initial preliminary psychometric analysis of this new measure. As research on TP has only recently immerged in the past 15 years, the development of such a scale has important implications for the advancement of research in the area. Overall, the results demonstrated preliminary evidence to suggest that the TSS is a reliable and valid measure of symptoms of TP. The internal consistency was high (.93) and consistent with those of the most widely used scale in the field, such as the W-DEQ (91-.94 for parous and nulliparous women (Fenwick et al., 2009; Ryding et al., 1998; Spice et al., 2009; Wijma et al., 1998). However, the TSS scale has far fewer items, is straightforward to score, and is specific to the symptoms that are typical of a patient with TP.

The intial TSS scale consisted of 24-items and the results of the current study suggested that a number of these items did not perform optimally, and thus were removed

from the final version of the scale. One item, "*I have had an abortion to avoid pregnancy and/or childbirth"* was removed because more than 95% of the sample responded *'not at all'* to this question, suggesting it may potentially be too extreme for the measure. A further 9-items were removed because of poor loading on the first factor in the preliminary PCA. Primarily, these were the devised behavioural items, such as *"I avoid being around children because of my fear of pregnancy and/or childbirth"*, *"I do a lot of research on pregnancy and/or childbirth to help try to reduce my anxiety",* and *"I ask people the same questions over and over to try to feel better about my fear of pregnancy and/or childbirth"*. The results suggest that these items may not be tapping the important behavioural aspects of TP. For this reason 'cognitive' and 'behavioural' subscales of the TSS were not retained, despite this being a goal with the original item generation.

The TSS demonstrated adequate convergent validity with the W-DEQ and the investigation of convergent validity with other measures of fear of childbirth such as the Fear of Birth Scale (FOBS) (Haines et al., 2011) deserves attention in future research. However, given there are a lack of existing measures that specifically measure TP, it is not surprising that convergent validity is difficult to establish. The W-DEQ, for instance, measures feelings and thoughts about a future labour/delivery and the items do not overtly tap the construct of TP, which is a heavy focus of the TSS. Thus this may explain the modest correlation between the TSS and the W-DEQ in this study. Divergent validity was demonstrated by the smaller correlation between the TSS and the PHQ-9 ($r_s = .32$). However, the divergent validity of the TSS requires further investigation in future studies. These studies may wish to examine the divergent validity of the TSS compared to scales measuring other constructs, such as generalised anxiety disorder and illness anxiety disorder.

Preliminary findings suggest that the TSS is a promising scale, though several methodological limitations should be acknowledged. Firstly, while the sample size in this

study is adequate for the purposes of preliminary testing (Clark & Watson, 1995), future research examining the psychometric properties of the TSS should ideally use larger samples. Secondly, a convenience sample was utilized, comprising primarily of a university population of nulliparous women who were predominantly White. While the TP construct is significantly understudied in nulliparous women, future validation studies of the TSS should include a community-based sample, including pregnant women and multiparous women, as well as clinical samples. It would also be advantageous to study the psychometric properties of the scale in more ethnically diverse samples. Future studies may also wish to examine the convergent and discriminant validity of the TSS by correlating each item of the scale with the construct being examined, as this was a limitation of the current study.

Overall, findings suggest that the TSS shows promise as an effective measure for measuring the severity of TP. Routine implementation of brief and effective TP screening measures, such as the TSS, could lead to early identification of women with TP as well as at-risk mothers who would benefit from mental health interventions prior to giving birth. Future research with clinical samples may facilitate the identification of cut scores on the TSS to allow the TSS to be used as a screening measure. Screening measures such as the TSS would give treatment providers increased insight into maternal mental health and decision-making (e.g. requesting an elective cesarean due to TP), which could in turn facilitate more positive birth experiences. The TSS is brief and simple to administer/score, therein allowing it to be easily incorporated into routine care. It can also be used by care providers across disciplines (e.g., midwives, OB/GYNs, mental health professionals) who seek to provide holistic care and improve maternal perinatal mental health.

References

Adams, S. S., Eberhard-Gran, M., & Eskild, A. (2012). Fear of childbirth and duration of labour: A study of 2206 women with intended vaginal delivery. *BJOG: An International Journal of Obstetrics and Gynaecology, 119*(10), 1238-1246. doi:10.1111/j.1471-0528.2012.03433.x

Clark, L. A., & Watson, D. (1995). Constructing Validity: Basic Issues in Objective Scale Development. *Psychological Assessment, 7*(3), 309-319.

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155-159.

Fenwick, J., Gamble, J., Nathan, E., Bayes, S., & Hauck, Y. (2009). Pre- and postpartum levels of childbirth fear and the relationship to birth outcomes in a cohort of Australian women. *J Clin Nurs, 18*(5), 667-677. doi:10.1111/j.1365-2702.2008.02568.x

Green, J. M., & Baston, H. A. (2003). Feeling in Control during Labor: Concepts, Correlates, and Consequences. *Birth, 30*(4), 235-247. doi:10.1046/j.1523-536X.2003.00253.x

Green, S., Haber, E., Frey, B. N., & McCabe, R. E. (2015). Cognitive-behavioral group treatment for perinatal anxiety: a pilot study. *Archives of Women's Mental Health, 18*(4), 631-638. doi:10.1007/s00737-015-0498-z

Haines, H., Pallant, J. F., Karlström, A., & Hildingsson, I. (2011). Cross-cultural comparison of levels of childbirth-related fear in an Australian and Swedish sample. *Midwifery, 27*(4), 560-567. doi:10.1016/j.midw.2010.05.004

Haines, H., Rubertsson, C., Pallant, J. F., & Hildingsson, I. (2012). The influence of women's fear, attitudes and beliefs of childbirth on mode and experience of birth. *BMC Pregnancy and Childbirth, 12*. doi:10.1186/1471-2393-12-55

Heimstad, R., Dahloe, R., Laache, I., Skogvoll, E., & Schei, B. (2006). Fear of childbirth and history of abuse: Implications for pregnancy and delivery. *Acta Obstet Gynecol Scand, 85*(4), 435-440. doi:10.1080/00016340500432507

Heron, J., O'Connor, T. G., Evans, J., Golding, J., & Glover, V. (2004). The course of anxiety and depression through pregnancy and the postpartum in a community sample. *Journal of Affective Disorders, 80*(1), 65-73. doi:10.1016/j.jad.2003.08.004

Hofberg, K., & Brockington, I. (2000). Tokophobia: An unreasoning dread of childbirth. A series of 26 cases. *British Journal of Psychiatry, 176*(JAN.), 83-85. doi:10.1192/bjp.176.1.83

Hofberg, K., & Ward, M. R. (2004). Fear of childbirth, tocophobia, and mental health in mothers: The obstetric-psychiatric interface. *Clinical Obstetrics and Gynecology, 47*(3), 527-534. doi:10.1097/01.grf.0000132527.62504.ca

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine, 16*(9), 606-613. doi:10.1046/j.1525-1497.2001.016009606.x

Lopukhova, O. G., & Kashshapova, E. V. (2015). Fear of childbirth in pregnant women: External and internal factors. *Psychology in Russia: State of the Art, 8*(4), 114-125. doi:10.11621/pir.2015.0410

Lowe, N. K. (2000). Self-efficacy for labor and childbirth fears in nulliparous pregnant women. *Journal of Psychosomatic Obstetrics and Gynecology, 21*(4), 219-224.

Nasiry, F., & Sharifi, S. (2013). Relationship between fear of childbirth and personality type in pregnant women. *Iranian Journal of Obstetrics, Gynecology and Infertility, 16*(66), 18-25. Retrieved from http://www.scopus.com/inward/record.url?eid=2-s2.0-84887191229&partnerID=40&md5=55192514faa39878f7ba8e21cace7868

Nilsson, C., Lundgren, I., Karlström, A., & Hildingsson, I. (2012). Self reported fear of childbirth and its association with women's birth experience and mode of delivery: A longitudinal population-based study. *Women and Birth, 25*(3), 114-121. doi:10.1016/j.wombi.2011.06.001

O'Connor, B. P. (2000). SPSS and SAS programs for determining the number of components using parallel analysis and Velicer's MAP test. *Behavior Research Methods, Instrumentation, and Computers, 32*, 396-402.

Räisänen, S., Lehto, S. M., Nielsen, H. S., Gissler, M., Kramer, M. R., & Heinonen, S. (2013). Fear of childbirth predicts postpartum depression: A population-based analysis of 511 422 singleton births in Finland. *BMJ Open, 3*(11), 1-7. doi:10.1136/bmjopen-2013-004047

Ryding, E. L., Wijma, B., Wijma, K., & Rydhstrom, H. (1998). Fear of childbirth during pregnancy may increase the risk of emergency cesarean section. *Acta Obstet Gynecol Scand, 77*, 542-547.

Söderquist, J., Wijma, K., & Wijma, B. (2004). Traumatic stress in late pregnancy. *Journal of Anxiety Disorders, 18*(2), 127-142. Retrieved from http://www.scopus.com/inward/record.url?eid=2-s2.0-12144289769&partnerID=40&md5=30bc7003126da8172663e9d91f5fb87d

Spice, K., Jones, S. L., Hadjistavropoulos, H. D., Kowalyk, K., & Stewart, S. H. (2009). Prenatal fear of childbirth and anxiety sensitivity. *Journal of Psychosomatic Obstetrics and Gynecology, 30*(3), 168-174. doi:10.1080/01674820902950538

Storksen, H. T., Eberhard-Gran, M., Garthus-Niegel, S., & Eskild, A. (2012). Fear of childbirth; the relation to anxiety and depression. *Acta Obstet Gynecol Scand, 91*(2), 237-242. doi:10.1111/j.1600-0412.2011.01323.x

Ternström, E., Hildingsson, I., Haines, H., & Rubertsson, C. (2016). Pregnant women's thoughts when assessing fear of birth on the Fear of Birth Scale *Women and Birth, 29 (3)*, 44-49. doi:10.1016/j.wombi.2015.1011.1009.

Titov, N., Dear, B. F., McMillan, D., Anderson, T., Zou, J., & Sunderland, M. (2011). Psychometric comparison of the PHQ-9 and BDI-II for measuring response during treatment of depression. *Cognitive Behaviour Therapy, 40*(2), 126-136. doi:10.1080/16506073.2010.550059

Wijma, K., Wijma, B., & Zar, M. (1998). Psychometric aspects of the W-DEQ; A new questionnaire for the measurement of fear of childbirth. *Journal of Psychosomatic Obstetrics and Gynaecology, 19*(2), 84-97.

Zar, M., Wijma, K., & Wijma, B. (2002). Relations between anxiety disorders and fear of childbirth during late pregnancy. *Clinical Psychology and Psychotherapy, 9*(2), 122-130. doi:10.1002/cpp.305

Table 1.

Demographic Information (N = 122)

Variable	Mean (SD)	N (%)
Age	22.90 (4.63)	-
Ethnicity		
White/Anglo	-	102 (83.6)
Asian	-	13 (10.7)
Aboriginal/Torres Strait Islander	-	2 (1.6)
Other	-	5 (4.1)
Educational achievement		
High school only	-	5 (4.1)
Some university/college	-	72 (59.0)
Undergraduate degree	-	36 (29.5)
Postgraduate degree	-	9 (7.4)
W-DEQ Total [a]	67.00 (21.86)	-
PHQ-9 [b]	6.46 (5.17)	-

Note. [a] N = 120; [b] N = 121

Table 2

Inter-correlations between original 24-items

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Item 1	-																							
Item 2	.18*	-																						
Item 3	.59**	.28**	-																					
Item 4	.50**	.20*	.41**	-																				
Item 5	.53**	.29**	.58**	.30**	-																			
Item 6	.50**	.29**	.54**	.50**	.36**	-																		
Item 7	.58**	.05	.63**	.28**	.67**	.29**	-																	
Item 8	.23*	.57**	.23*	.31**	.33**	.24**	.18*	-																
Item 9	.57**	.18*	.67**	.35**	.50**	.35**	.63**	.20*	-															
Item 10	.14	.21*	.15	.25**	.21*	.18*	.22*	.35**	.31**	-														
Item 11	.61**	.25**	.70**	.33**	.64**	.42**	.62**	.27**	.76**	.24**	-													
Item 12	.21*	.51**	.33**	-.04	.38**	.09	.31**	.37**	.36**	.26**	.47**	-												
Item 13	.26**	.15	.40**	.23*	.23*	.35**	.21*	.11	.33**	-.05	.35**	.06	-											
Item 14	.30**	-.01	.24**	.38**	.04	.29**	.16	.07	.18	.12	.23*	.05	0.12	-										
Item 15	.44**	.14	.54**	.31**	.59**	.30**	.62**	.27**	.50**	.14	.60**	.25**	.29**	.20*	-									
Item 16	.00	.49**	.39**	.22*	.26**	.12	.15	.38**	.34**	.22*	.27**	.35**	.16	-.04	.09	-								
Item 17	.60**	.35**	.65**	.37**	.60**	.43**	.59**	.31**	.79**	.31**	.75**	.34**	.34**	.10	.53**	.35**	-							
Item 18	.30**	.36**	.44**	.45**	.27**	.47**	.24**	.35**	.32**	.41**	.33**	.19*	.09	.23*	.18*	.33**	.36**	-						
Item 19	.18*	.28**	.35**	.26**	.35**	.21*	.25**	.24**	.36**	.33**	.37**	.48**	.16	.04	.21*	.34**	.30**	.40**	-					

Item 20	.21*	.60**	.36**	.09	.33**	.33**	.20*	.52**	.37**	.23**	.43**	.53**	.36**	-.01	.27**	.50**	.42**	.36**	.33**	-			
Item 21	.50**	.49**	.67**	.30**	.78**	.42**	.62**	.34**	.54**	.24**	.60**	.49**	.27**	.18*	.55**	.36**	.60**	.36**	.41**	.42**	-		
Item 22	.23*	.39**	.26**	.16	.13	.34**	.00	0.13	.25**	.10	.33**	.33**	.43**	.25**	.12	.15	.29**	.22*	.23**	.42**	.31**	-	.
Item 23	.57**	.47**	.64**	.32**	.72**	.37**	.73**	.44**	.58**	.34**	.62**	.52**	.23*	.15	.50**	.37**	.62**	.41**	.35**	.42**	.78**	.21*	-
Item 24	-.04	.14	.11	-.06	-.01	-.05	-.03	-.04	-.05	-.05	-.03	-.04	-.06	-.04	-.08	.08	-.00	.11	.05	-.05	-.02	-.04	-.03	-

Note. * $p = <.05$. ** $p = <.01$

Table 3

Tokophobia Severity Scale (TSS): Means, Standard Deviations, and Factor Loadings

TSS Item	*M*	*SD*	*Range*	*Factor loading*
1. I worry about medical complications during pregnancy and/or childbirth	.78	.83	0-3	.71
2. I worry about the type of delivery that I will have when I have a baby	.77	.92	0-3	.82
3. I worry that something terrible will happen to me during my pregnancy and/or childbirth	.56	.79	0-3	.81
4. I worry that something terrible will happen to my baby during my pregnancy and/or childbirth	.68	.76	0-3	.80
5. I worry that I won't be able to cope with the pain of pregnancy and/or childbirth	.84	.87	0-3	.81
6. I worry about the medical procedures required during pregnancy and/or childbirth	.70	.86	0-3	.86
7. I avoid talking about pregnancy, children and childbirth because of my fears	.16	.53	0-3	.53
8. I worry that I will not be in control of the medical procedures during my pregnancy and/or delivery	.45	.73	0-3	.69
9. I worry that pregnancy and/or childbirth will be too painful	1.03	.94	0-3	.82
10. I check excessively to determine if I am pregnant	.38	.71	0-3	.47

11. I have nightmares about being pregnant and/or delivering a child	.25	.63	0-3	.48
12. I worry that something dangerous will happen to me during pregnancy or the delivery (e.g., a ruptured uterus, preeclampsia, emergency interventions, death)	.66	.87	0-3	.83
13. I worry that something dangerous will happen to my child during pregnancy or the delivery (e.g., injury or death)	.67	.85	0-3	.85

APPENDIX

Tokophobia Severity Scale

Please indicate how much the following questions have applied to you over the past two weeks

		Not at all	*Sometimes*	*Often*	*Always*
1	I worry about medical complications during pregnancy and/or childbirth	0	1	2	3
2	I worry about the type of delivery that I will have when I have a baby	0	1	2	3
3	I worry that something terrible will happen to me during my pregnancy and/or childbirth	0	1	2	3
4	I worry that something terrible will happen to my baby during my pregnancy and/or childbirth	0	1	2	3
5	I worry that I won't be able to cope with the pain of pregnancy and/or childbirth	0	1	2	3
6	I worry about the medical procedures required during pregnancy and/or childbirth	0	1	2	3
7	I avoid talking about pregnancy, children and childbirth because of my fears	0	1	2	3
8	I worry that I will not be in control of the medical procedures during my pregnancy and/or delivery	0	1	2	3
9	I worry that pregnancy and/or childbirth will be too painful	0	1	2	3
10	I check excessively to determine if I am pregnant	0	1	2	3
11	I have nightmares about being pregnant and/or delivering a child	0	1	2	3
12	I worry that something dangerous will happen to me during pregnancy or the delivery (e.g., a ruptured uterus, preeclampsia, emergency interventions, death)	0	1	2	3
13	I worry that something dangerous will happen to my child during pregnancy or the delivery (e.g., injury or death)	0	1	2	3