

**Figure 1** Meta-analysis of rs4713916 FKBP5 A-high induction allele.

required to more clearly determine the role of FKBP5 rs4713916 in bipolar disorders.

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## Tokophobia Assessment Questionnaire: a new instrument

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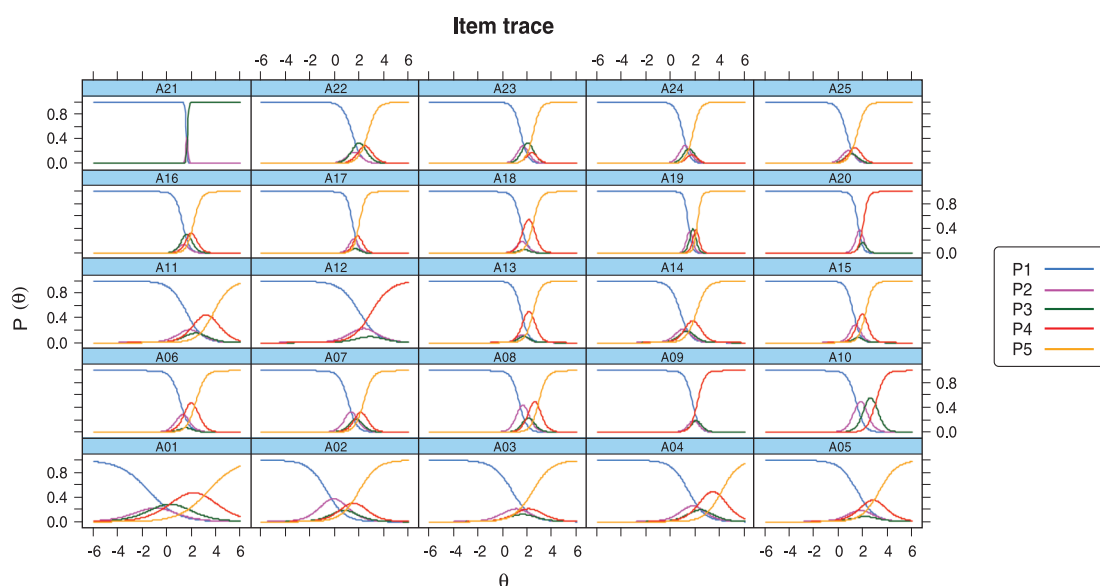


Tokophobia is a pathological fear or avoidance of child-birth, which has received little attention and has been often neglected.<sup>1</sup> This condition negatively influences the pregnant woman's life or the acceptance of her pregnancy; it leads to the extension of pregnancy duration or motivates requests for caesarean sections. After birth, tokophobia may also delay bonding between the mother and the newborn, leading to breastfeeding difficulties and increasing the risk of puerperal depression.<sup>2</sup> Tokophobia is associated with intrauterine growth restriction, low birth weight, changes in fetal heartbeat, and prematurity, which are probably due to uterine artery dysfunction, a phenomenon that has been identified in pregnant women. However, the long-term effects on the child's development have not yet been established.<sup>3</sup>

Most surgeries are performed electively with no obstetric indication, using the phobia as an excuse. Due to the very peculiar characteristics of the judicialization of medicine, the convenience and financial accessibility of cesarean delivery, as well as the actual fear of childbirth, there has been a reduction in the incidence of vaginal birth, which has increased the cost of giving birth, as well as its complications.<sup>4</sup>

**Table 1** Distribution of the reliability analysis of the first application of the Tokophobia Assessment Questionnaire (Questionário de Avaliação da Partofobia), Universidade do Sul de Santa Catarina, Santa Catarina, Brazil, 2020 (n = 250)

Tokophobia Assessment Questionnaire subscales	Cronbach's $\alpha$	Factor loading
<b>Factor 1 – Physical summation (7 items) – Cronbach's <math>\alpha</math> = 0.910</b>		
15 My fear of childbirth causes me nightmares.	0.704	0.395
17 I am so afraid of childbirth that I cannot feel pleasure in being pregnant.	0.749	0.855
19 I am so afraid of childbirth that it is causing me physical symptoms.	0.775	0.823
20 I am so afraid of childbirth that I have already thought of doing harm to myself.	0.708	0.648
21 I am so afraid of childbirth that I have already thought about terminating my pregnancy.	0.716	0.887
22 I am so afraid of childbirth that I feel that no one can help me.	0.665	0.719
23 I am so afraid of childbirth that I wish I had not become pregnant.	0.673	0.723
<b>Factor 2 – Feeling of panic (4 items) – Cronbach's <math>\alpha</math> = 0.873</b>		
16 My fear of childbirth is causing me panic.	0.710	0.672
18 I am so afraid of childbirth that just talking about it makes me desperate.	0.718	0.556
24 I am so afraid of childbirth that I cannot think of anything else but childbirth.	0.691	0.813
25 I am so afraid of childbirth that I think I will panic when the time comes.	0.632	0.841
<b>Factor 3 – Social involvement (4 items) – Cronbach's <math>\alpha</math> = 0.820</b>		
05 I avoid receiving or sharing information about childbirth.	0.408	0.760
08 My fear of childbirth is interfering with my housework.	0.670	0.727
09 My fear of childbirth is interfering with my relationship with my family.	0.607	0.780
10 My fear of childbirth is interfering with my relationship with my partner.	0.699	0.567
<b>Factor 4 – Interference with daily habits (4 items) – Cronbach's <math>\alpha</math> = 0.750</b>		
11 My fear of childbirth is interfering with my eating habits.	0.405	0.790
12 My fear of childbirth is interfering with my physical activities.	0.393	0.856
13 My fear of childbirth is interfering with my work.	0.655	0.573
14 My fear of childbirth is interfering with my sleep.	0.678	0.395
<b>Factor 5 – Avoidance of pregnancy (4 items) – Cronbach's <math>\alpha</math> = 0.744</b>		
03 I tried to avoid pregnancy as much as possible due to my intense fear of childbirth.	0.482	0.785
04 My fear of childbirth has prevented me from enjoying sexual intercourse.	0.503	0.445
06 My fear of childbirth increases when I see another pregnant woman.	0.710	0.380
07 My fear of childbirth is so great that I feel the need for some treatment to reduce it.	0.668	0.453
<b>Factor 6 – Self-perception of tokophobia (2 items) – Cronbach's <math>\alpha</math> = 0.599</b>		
01 I consider childbirth to be extremely dangerous.	0.272	0.880
02 I am very afraid of childbirth and I consider this fear exaggerated.	0.508	0.470



**Figure 1** Distribution curves for possible responses for all items of the Tokophobia Assessment Questionnaire (Questionário de Avaliação da Partofobia), according to item response theory, Universidade do Sul de Santa Catarina, Santa Catarina, Brazil, 2020 (n = 250).

The lack of instruments or scales developed or validated in Portuguese for the Brazilian cultural context, as well as the impossibility of objectively identifying and measuring tokophobia, make adequate therapeutic guidance difficult.

A systematic review and meta-analysis was performed of the risk factors. The perception of tokophobia was assessed among pregnant women and prenatal health care professionals to identify the peculiarities of tokophobia in the Brazilian socio-cultural and clinical-obstetric context. The conceptual and psychometric analysis process allowed the development and validation of the Tokophobia Assessment Questionnaire (Questionário de Avaliação da Partofobia) in Brazilian Portuguese, available from the authors upon request. This research project was approved by the Universidade do Sul de Santa Catarina research ethics committee (protocol 87312818.0.0000.5369).

The Tokophobia Assessment Questionnaire has been validated<sup>5</sup>; its reliability was measured with the Pearson correlation coefficient (0.766) and the intraclass correlation coefficient (0.856). Bland-Altman analysis showed a central tendency between the difference and mean of the two Tokophobia Assessment Questionnaire applications in almost the entire sample. The general Cronbach's alpha was 0.935 (Table 1). The Kappa index was 0.444 and the Pearson correlation coefficient between the first application of the Tokophobia Assessment Questionnaire and the Depression, Anxiety and Stress Scale was 0.607. Exploratory factor analysis identified six factors categorized into conceptual groups: physical repercussions (factor 1); feeling of panic (factor 2); social involvement (factor 3); interference in daily habits (factor 4); pregnancy avoidance (factor 5); self-perception of tokophobia (factor 6) (Table 1). Use of the item response theory demonstrated the suitability of all items (Figure 1).

Therefore, the 25-item Tokophobia Assessment Questionnaire is reliable and valid and is the first instrument for assessing the clinical, emotional and psychiatric manifestations of tokophobia. Although developed for the Brazilian population, the instrument may have worldwide applicability.

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The authors report no conflicts of interest.

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## ***Hikikomori* and the COVID-19 pandemic: not leaving behind the socially withdrawn**

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The coronavirus disease 2019 (COVID-19) pandemic, which started in China in December 2019 and rapidly spread worldwide, has required most world leaders to take measures to contain and control the spread of the virus, including social distancing and mass quarantine.<sup>1</sup> However, these interventions are likely to produce a considerable burden on the mental health of affected populations.<sup>2</sup> In the past few months, teams of investigators have been joining efforts to arrive at a more comprehensive understanding of the mental health consequences of the COVID-19 outbreak. Nevertheless, it would be important to add discussion about the potential impact that such measures may have on the prevalence of a relatively new psychiatric disorder called *hikikomori* or “pathological social withdrawal.”

*Hikikomori* was initially reported in Japan in the 1990s and is described as a condition of prolonged and severe social withdrawal lasting for at least six months, apparently not better explained by co-occurring severe psychiatric disorders.<sup>3,4</sup> In most cases, the affected individual, usually a young male, remains isolated in his own house, or in his own room in more severe cases.<sup>4</sup> Although it was initially considered a Japanese cultural