

ORIGINAL ARTICLE

The Turkish version of perceived support and control in birth scale

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Abstract

Objective: This is a methodological study carried out to evaluate the validity and reliability of the Turkish version of the Support and Control in Birth Scale (SCIB).

Methods: This study included 339 post-partum women. The validity of the Turkish version of the scale was assessed in terms of content and construct validity. Reliability was evaluated using the internal consistency coefficient, the test–retest correlation coefficient and the item correlation between the subscales.

Results: The internal consistency coefficient of the scale was 0.84 ($p < 0.01$). There were significant correlations between sub-scales ($\rho = 0.122, 0.129, 0.263, p < 0.05$), and the test–retest correlation coefficient of the scale was also significant ($\rho = 0.86, \alpha = 0.000$). As in the original scale, a three-factor structure was examined, which explained 42.85% of the total variance. The model was verified by a confirmatory factor analysis.

Conclusion: The Turkish version of the SCIB is a reliable and valid instrument for measuring the perceived support and control during birth among Turkish women.

Keywords

Childbirth, perinatal mental health, post-partum, pregnancy, psychological wellbeing

History

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Introduction

Giving birth is one of the most important experiences in women's lives. Women's satisfaction with the birth experience is important for both maternal and infant health. Dissatisfaction with birth may impair a new mother's psychological health, which in turn may prevent her from appropriately adopting motherhood roles [1,2]. Many factors are associated with women's satisfaction with the childbirth experience [3]. Higher satisfaction has been linked to greater decision-making capacity during the birth process, a sense of control over the body during birth, good communication with care providers during the birth, adequate pain relief, post-birth communication with nurses and midwives about the experience, and support in establishing breastfeeding [4]. High-quality intrapartum care enhances satisfaction with birth. Two factors have been shown particularly to influence this satisfaction: (1) access to intrapartum support and (2) a sense of control over the body during birth [4].

Giving birth is a process during which women should be treated with warmth, kindness and respect [5]. Research suggests that women receiving continuous supportive care during birth require fewer obstetric interventions and have an increased sense of control and competency, a higher rate of spontaneous birth, shorter labours and a higher degree of

satisfaction with birth [6]. Supportive birth care involves the provision of physical support, emotional support, information and advocacy. This care can be provided by birth coaches and health care professionals including midwives, nurses and doctors. In Turkey, it is mostly offered by midwives and nurses. Since the ratio of patients to midwives and nurses is quite high in most hospitals in our country, it is often impossible to offer continuous supportive care [7–10].

Another factor affecting satisfaction with birth is perceived control during the birth process. This is positively correlated with birth satisfaction and self-competency. Low perceived control during birth is correlated with post-traumatic stress symptoms [11,12]. Perceived control in birth is determined by the ability to cope with pain and behaviours, make decisions and feel well-informed about medical information [2,11–13]. Other factors that influence perceived control include a sense of self-efficacy in childbirth, positive and negative emotional states and childbirth-related distress symptoms [2,11–14]. Perceived control has been significantly correlated with global childbirth satisfaction and accounted for higher variance in satisfaction than obstetric variables [15]. When women experience a traumatic birth they may report having little control over their feelings [16]. Higher perceived control during birth has been associated with less severe reported pain, more intense positive emotions and less intense negative emotions [17]. It has been noted in the literature that perceived control is enhanced when supportive care is offered during the birth process [12].

Perceived support and perceived control therefore play an important role in women's experiences of birth. To evaluate these two inter-related parameters, Ford, Ayers and Wright [14] developed the Support and Control in Birth scale (SCIB). Support and control in birth were measured using a 33-item questionnaire with subscales measuring internal control, external control and support. The support scale was composed of 12 items concerning attitudes, patience, empathy, help with pain and coping, e.g. "The staff helped me to try different positions" and "the staff realised the pain I was in". The external control subscale included 11 items on control over information, decisions and procedures, e.g. "I chose whether I was given information or not" or "the people in the room took control". The internal control subscale included 10 items focusing on control of pain, emotions and behaviour, e.g. "I was overcome by the pain", "I was able to control my reactions to the pain" and "I behaved in a way not like myself". The scale has been proven to be a valid and reliable tool in the measurement of perceived control and perceived support during birth. A five-point Likert scale is used for responses, ranging from "completely agree" to "completely disagree". Possible scores on the scale range from 33 to 165, with higher scores indicating a higher degree of perceived support and control in birth. Ten of the items are scored in reverse order. The Cronbach's alpha value of the scale developed by Ford et al. was 0.95 and Cronbach's alpha values of the subscales for support, external control and internal control were 0.93, 0.93 and 0.86, respectively. There were significant, moderate correlations between internal and external control (0.55) and between internal control and support (0.51). A significant, strong correlation was found between support and external control (0.69). The total variance explained was 52.9% for births <291 days previously and 58.7% for births >291 days previously [14].

Birth is a phenomenon that is likely to be affected by the personal characteristics of individuals, cultural variables, health policies of countries and health care professionals' approaches. Cultural attitudes towards the management of birth, what is expected from women during birth, and support by individuals playing a role in birth have an influence on perceived birth and the birth process [18]. The experience of pain during childbirth varies across individuals and cultures. In one study, Finnish women noted that they had confidence in their bodies concerning birth and considered birth to be an indicator of health, whereas Chinese women reported that they were embarrassed with screaming during birth and considered screaming to be a tool to supply energy to the body in the latter stages of birth [19]. In another study, it was found that Turkish women considered pain to be a normal part of childbirth and they accepted this as a normal experience in their life [20].

Thus, women's reactions to physiological and emotional changes in birth are influenced by cultural background, and it is very important that health care professionals can evaluate these reactions accurately. To the best of our knowledge, there is no Turkish tool to evaluate maternal perceptions of support and control during birth. Therefore, we adapted the SCIB, developed in the context of a different culture, to reflect Turkish culture and assessed the Turkish adaptation in terms of validity and reliability for use in determining the extent of

support and perceived control in birth. The aim of this study was to evaluate the validity and reliability of the Turkish version of the Support and Control in Birth Scale.

Methods

Overview

Consent was obtained from the authors of the original scale to permit us to test the validity and the reliability of a Turkish adaptation. Approval was obtained from the ethics committee of the university located in the city where the study was conducted, and also from the hospital. All participants were informed about the purpose of the study and gave oral informed consent.

This study was carried out during January–June 2013 with a sample of Turkish women. The Turkish adaptation of the SCIB was conducted according to recommendations of Kline [21]. In this regard, we employed a multistep procedure to provide evidence for the structural equivalence of the Turkish and English versions of the SCIB: (a) translating the SCIB into Turkish using appropriate cross-cultural procedures, (b) conducting exploratory factor analysis to reveal the factor structure of the inventory in the Turkish sample, (c) validating the three-factor structure through confirmatory factor analysis to provide evidence based on internal structure and (d) evaluating the reliability of the Turkish version of the SCIB.

Study population

Three hundred and fifty women from urban and suburban areas of Niğde-Turkey who had a vaginal birth or an emergency caesarean section were approached and agreed to participate in this study. Women completed the questionnaires between 24 and 48 h after birth. Eleven women were excluded from the study due to missing data. A significant strength of this study was the response rate of 96.85% compared to the response rate of 90.86% in the original study [14]. The final sample consisted of 339 women.

Instruments

General personal information form

A questionnaire was used to collect information about demographic factors (age, education level), and information pertaining to pregnancy, birth, intrapartum interventions and the health status of the women and their babies.

Perceived support and control in birth scale

The Perceived Support and Control in Birth scale (SCIB) originally developed by Ford et al. (2009) consists of 33 control and support items. Three empirically derived factors constitute the scale: support, external control and internal control.

The scale has been translated to Turkish from the original English version following rigorous translation and adaptation procedures recommended for cross-cultural test translation [22]. Accordingly, three steps were followed. First, the SCIB was translated from English to Turkish using back translation, which is the most frequently used method in cultural adaptation studies. Accordingly, the SCIB was translated

into Turkish and then re-translated to English by three linguists to provide an initial assessment of the adequacy of the translated version. This process led to the preliminary Turkish version of the SCIB that was evaluated in the second step.

In the second step, the items produced by back translation were thoroughly assessed by the researchers. The researchers selected the items that had been conveyed in acceptable Turkish. Further, deficiencies and inconsistencies in the items were checked and revised to make them identical to the ones used with the original English version. This revised second version of the SCIB was translated back to English by three other linguists. The researchers evaluated these separate versions and then aggregated them to see which of the translated items seemed to carry the meaning of the original item most closely. The third English version was then sent to the original developers of the scale. Once they agreed upon the appropriateness of each item within contextual expressions, and verified the matching of items to the corresponding subscales, the final Turkish version of the scale was evaluated by a total of 10 experts including two obstetricians, four PhD scientists from the Department of Obstetrics and Gynaecology Nursing and four PhD scientists from the Department of Psychiatry Nursing. More specifically, experts were asked to evaluate whether the meaning and content of the items were appropriate for the Turkish language and/or Turkish culture. In this accordance, they were requested to check the items using a four-point Likert scale: *1 = inappropriate*, *2 = should be revised*, *3 = appropriate but should be modified* and *4 = quite appropriate*. The descriptive analysis revealed scores ranging from 3.1 to 4 (Table 1). Differences in rankings across experts were computed using Kendall's coefficient of concordance, and the analyses yielded acceptable value ($W = 0.164$, $df = 32$, $p > 0.05$).

As a result of these evaluations, no further revisions were applied. The Turkish version of the SCIB appeared to be reflective of the content of control and support as they were intended to be measured. Finally, a pilot study was conducted with 33 post-partum women in order to determine whether the Turkish version of the SCIB was clear, comprehensive and formulated in an appropriate language. The post-partum women were asked to read the scale and to declare any misunderstandings or questions regarding the items. This led to some minor modifications with the contextual and conceptual aspects of the items.

Following the aforementioned translation of the SCIB in Turkish, the scale was renamed as "Doğumda Destek ve Kontrol Algısı Ölçeği" (DDKÖ). The DDKÖ included 33 items and women responded to each item on a 5-point Likert-scale which ranged from "5 = agree completely" to "1 = disagree completely". More specifically, items 1–12 measured the support (S, 12 items) subscale, items 13–23 measured external control (EC, 11 items) subscale and items 24–33 measured the subscale internal control (IC, 10 items) of perceived control and support. These subscales along with the definitions were:

(1) *Support (12 items)*. The individual's perceptions regarding coaching and coping techniques, staff attitude, empathy and understanding, reassurance and encouragement, listening, informational support and support with

Table 1. The experts' evaluations of each item.

Items	Mean
1a. The staff helped me find energy to continue when I wanted to give up	3.6
1b. The staff seemed to know instinctively what I wanted or needed	4.0
1c. The staff went out of their way to try to keep me comfortable	3.8
1d. The staff encouraged me to try new ways of coping	3.6
1e. The staff encouraged me not to fight against what my body was doing	3.3
1f. The staff realised the pain I was in	4.0
1g. I felt the staff had their own agenda ^a	3.1
1h. I felt like the staff tried to move things along for their own convenience ^a	3.5
1i. The staff helped me to try different positions	3.9
1j. I was given time to ask questions	4.0
1k. The staff stopped doing something if I asked them to stop	3.6
1l. The staff dismissed things I said to them ^a	3.8
2a. I had control over when procedures happened	3.8
2b. I could influence which procedures were carried out	3.4
2c. I decided whether most procedures were carried out or not	3.9
2d. I had control over the decisions that were made	3.9
2e. The people in the room took control ^a	3.4
2f. People coming in and out of the room was beyond my control ^a	3.6
2g. I could get up and move around as much as I wanted	3.9
2h. I chose whether I was given information or not	3.7
2i. I could decide when I received information	3.7
2j. I had control over what information I was given	3.6
2k. I felt I had control over the way my baby was finally born	3.4
2l. The pain was too great for me to gain control over it ^a	3.8
2m. I was overcome by the pain ^a	3.3
2n. I was mentally calm	3.7
2o. I was able to control my reactions to the pain	3.8
2p. I was in control of my emotions	3.9
2q. I felt my body was on a mission that I could not control ^a	3.5
2r. Negative feelings overwhelmed me ^a	3.7
2s. I gained control by working with my body	3.8
2t. I behaved in a way not like myself ^a	3.6
2u. I could control the sounds I was making	4.0

^aItem is reverse scored.

pain relief. A sample item from this subscale included: "The staff realised the pain I was in" (Appendix A).

(2) *External Control (11 items)*. The individual's experience of being out of control regarding some external factors such as pain relief (analgesia), information, environment, decisions and procedures and birth. A sample item from this subscale included: "The people in the room took control" (Appendix A).

(3) *Internal Control (10 items)*. The individual's experience of being in control regarding emotions and thoughts, as well as behaviour, pain and physical functioning. A sample item from this subscale included: "I was mentally calm" (Appendix A).

There were 10 negative statements; hence, these items were recorded. Possible scores on the DDKÖ ranged from 33 to 165 which were used to identify women's level of perceived control and support (e.g. 33 = low perceived control and support; 165 = high perceived control and support). The participants were allowed 20 min to respond the scale.

Procedure

Following the translation and adaptation process, exploratory factor analyses (EFA) were performed to evaluate the factor structure of the DDKÖ with regard to the data obtained from Turkish women. A principal component factor analysis with oblimin rotation was conducted to determine the factor structure underlying the data in SPSS version 16.0 (SPSS Inc., Chicago, IL) for Windows [23]. An oblique method of rotation was chosen as a correlation between the subscales of the DDKÖ was expected and the scores of the unrefined subscales were correlated at 0.95 [24]. In addition, the correlations among the subscales ranged from 0.51 to 0.69. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity (BTS) were analyzed to ensure that the characteristics of the data were suitable for performing EFA. Since the values of the KMO and BTS were satisfactory, the number of factors to be extracted in the subsequent analyses was determined. Thompson and Daniel (1996) suggested two methods to select factors [25]. Accordingly, this study used: (a) Eigen value greater than one rule [26] and (b) scree tests [27]. To decide which items to retain in each factor the following rules were used: (a) item loadings had to exceed 0.30 on at least one factor [28] and (b) at least three significant loadings were required to name a factor [29].

Following the EFA, confirmatory factor analysis (CFA) was performed to provide supportive evidence to the factor structure using LISREL 8 [30]. CFA is a theory-driven technique which is strongly recommended as a robust procedure for testing hypotheses about factor structures [31]. We were interested in demonstrating the goodness-of-fit statistics for comparative purposes and further examining the modification indices to elaborate the factor structure of the DDKÖ.

As a final step, reliability of the DDKÖ was tested by computing Cronbach's alpha coefficients. Test–retest reliability procedures were further followed. In order to determine the test–retest reliability, all of the participants were requested to respond the DDKÖ 6–8 weeks after birth by telephone. However, only 80 (23.1%) of them returned and completed the second administration. Since the data were not normally distributed Spearman correlation coefficients were reported [32].

Ethical considerations

Consent was obtained from the authors of the original scale to permit us to test the validity and the reliability of a Turkish adaptation. Approval was obtained from the ethics committee of the university located in the city where the study was conducted, and also from the hospital. All participants were informed about the purpose of the study and gave oral informed consent.

Results

Participants

Demographic information about the participants is presented in Table 2. The mean age of the women was 25.46 years. Of these participants, 76.1% were primary school graduates

Table 2. Participant characteristics ($N = 339$).

Characteristics	<i>N</i>	%
Age	Mean: 25.46	SD: 5.8
Level of education		
Literate	29	8.6
Primary school	258	76.1
High School	47	13.9
University school	5	5

Table 3. Characteristics of participants' pregnancy and labour ($N = 339$).

Pregnancy and childbirth characteristics	<i>N</i>	%
Parity		
Nulliparous	104	30.7
Multiparous	235	69.3
Duration of birth	Mean: 10.12	SD: 7.2
Type of birth		
Spontaneous vaginal birth	326	96.2
Emergency caesarean	13	3.8
Spontaneously starting birth	287	84.7
Intervention starting birth	52	15.3
Rates of intervention		
Induction	169	49.9
Enema	8	2.4
Continuous electro-foetal monitoring	286	84.4
Painful vaginal examination	280	82.6
Foley catheter for urine discharge	107	31.6
Fundal pressure	242	71.4
Episiotomy	241	71.1

whereas 13.9 and 5% of them were high school and university graduates, respectively. Although the majority of Turkish women in reproductive age group had high school degree [33,34], the number of females who got married in adolescence in the city where this study took place was high. The possible reason for the high percentage of women with an elementary degree might be that as a consequence of getting married in the early ages, they might have dropped out of school.

Pregnancy and labour characteristics of the participants are presented in Table 3. In accordance with the parameters measured by the SCIB, the study included only women experiencing spontaneous vaginal delivery ($n = 326$) or having an emergency caesarean section ($n = 13$) due to complications at one of the stages of vaginal delivery. In the study on the original scale, women undergoing an elective caesarean section were reported as having difficulties in responding to the items due to their lack of experience with vaginal delivery [14]. Since an anaesthetist experienced in administering spinal anaesthesia was not available in the hospital where this study was carried out, women who underwent caesarean section were administered general anaesthesia. Accordingly, women who underwent elective caesarean section were excluded due to lack of experience in the process of birth.

Women who had spontaneous vaginal delivery as well as women who started spontaneous vaginal birth but eventually underwent emergency caesarean section due to a complication were included in this study. The mean duration of the birth process was 10.12 h (Table 3). Spontaneous vaginal deliveries occurred in 96.2% of the sample. Of these, 84.7% of

labours were not induced. Most of the women (69.3%) were multiparous. Although most of the labours were not induced, in contrast with the original study [14], the rate of intrapartum interventions was considerably higher in this study. The most common intervention was fundal pressure in the second stage of the birth (71.4%). None of the women received epidural and spinal analgesia during spontaneous vaginal birth and caesarean section since there was not an experienced anaesthetist in the hospital. Following the procedures of the hospital, forceps or vacuum-assisted delivery was not employed. Instead, emergency caesarean section was performed if complications developed during the vaginal birth process.

Exploratory factor analysis

The 33 items of the DDKÖ were subjected to principal components analysis (PCA) and prior to the investigation we analyzed the KMO and BTS. The results yielded a statistically significant KMO index of 0.83 and a BTS 5396.92, allowing us to conduct factor analysis. Subsequent investigations demonstrated the presence of seven factors with Eigen

values exceeding 1, explaining between 3.4 and 18.89% of the variance.

The scree plot was investigated to select the appropriate number of factors to be extracted. This inspection revealed a clear break between the third and fourth factors, and that the first three factors explained much more of the variance than the remaining factors. Hence, using Cattell's (1978) scree test it was decided that three factors would be retained for subsequent analyses [27]. Therefore, a three-factor solution was selected.

Consequently, the second EFA was conducted to determine the common factor structure of the 33 items with oblimin rotation using an extraction to three factors. The interpretation of the three factors in terms of the structure matrix demonstrated that all factor loadings and communality values were above 0.30 (ranging from 0.31 to 0.81), concurrent with the suggestions of Hair et al. (2006) [28]. The three factors were composed of 17, 6 and 10 items, respectively (Table 4). Items in Factor 1 revolved around S, items in Factor 2 revolved around EC and items in Factor 3 constituted IC worked together. The minimum Eigen value of these factors was 3.5.

Table 4. Component loadings of support and control items of the Turkish version of SCIB.

Items	Subscales					
	Support		Internal Control		External Control	
	TV*	OV**	TV*	OV**	TV*	OV**
1b. The staff seemed to know instinctively what I wanted or needed	0.68	0.82				
1c. The staff went out of their way to try to keep me comfortable	0.68	0.81				
1e. The staff encouraged me not to fight against what my body was doing	0.65	0.79				
1j. I was given time to ask questions	0.65	0.64				
1d. The staff encouraged me to try new ways of coping	0.61	0.81				
2h. I chose whether I was given information or not	0.61					0.61
1a. The staff helped me find energy to continue when I wanted to give up	0.61	0.86				
2i. I could decide when I received information	0.60					0.59
2j. I had control over what information I was given	0.58					0.57
1k. The staff stopped doing something if I asked them to stop	0.57	0.60				
1i. The staff helped me to try different positions	0.53	0.61				
1h. I felt like the staff tried to move things along for their own convenience ^a	0.44	0.64				
1l. The staff dismissed things I said to them ^a	0.42	0.55				
2k. I felt I had control over the way my baby was finally born	0.42					0.55
1f. The staff realised the pain I was in	0.41	0.79				
1g. I felt the staff had their own agenda ^a	0.33	0.69				
2g. I could get up and move around as much as I wanted	0.31					0.70
2o. I was able to control my reactions to the pain			0.81	0.70		
2p. I was in control of my emotions			0.80	0.67		
2u. I could control the sounds I was making			0.74	0.47		
2n. I was mentally calm			0.73	0.69		
2t. I behaved in a way not like myself ^a			0.71	0.47		
2m. I was overcome by the pain ^a			0.63	0.78		
2s. I gained control by working with my body			0.62	0.50		
2r. Negative feelings overwhelmed me ^a			0.60	0.57		
2q. I felt my body was on a mission that I could not control ^a			0.59	0.63		
2l. The pain was too great for me to gain control over it ^a			0.54	0.81		
2b. I could influence which procedures were carried out					0.79	0.88
2c. I decided whether most procedures were carried out or not					0.79	0.85
2a. I had control over when procedures happened					0.78	0.92
2d. I had control over the decisions that were made					0.77	0.73
2e. The people in the room took control ^a					0.66	0.75
2f. People coming in and out of the room was beyond my control ^a					0.50	0.69
Eigen values	6.2	13.2	4.3	2.9	3.5	2.3
%Variance explained	18.8	39.9	13.2	8.9	10.7	7.0

*TV: Turkish Version, **OV: Original Version.

^aItem is reverse scored.

It is noteworthy that five items (items 2g, 2h, 2i, 2j and 2k), which were expected to load originally on the EC subscale, loaded instead on S subscale. One possible reason might be the high significantly positive correlation between the S and EC subscales (0.26) compared to the lower significantly positive correlations between S and IC (0.13), and IC and EC (0.12) subscales ($p < 0.01$, $p < 0.05$). This probably reflects the different perceptions of Turkish women regarding the external control and support during the birth process.

The three-factor structure explained 42.85% of the total variance. In terms of variance explained by each factor S accounted for 18.8%, EC accounted for 10.7% and IC accounted for 13.2% of the variation on the DDKÖ. The careful examination of the factor loadings revealed a simple factor structure with all S, EC and IC showing strong loadings and all items loading substantially on only one factor. Table 4 demonstrates the Eigen values, percentages of variances explained by factors. Viewed together, analysis of data from this EFA guided to form the final DDKÖ (Appendix A) with 33 items on three subscales.

Confirmatory factor analysis

The CFA supported the three-factor solution that emerged from the EFA. The maximum likelihood estimations appeared between 0.31 and 1.30 and all t values ranging from 0.22 to 2 were significant at $p < 0.05$. Model specification and the parameter estimates are illustrated in Figure 1. This showed that the factor loadings of each item on the related dimension were of a reasonable size and they were appropriate to define S, EC and IC subscales.

Results of the three-factor model showed a fairly good fit relative to the assessment criteria. As a result of CFA of DDKÖ, χ^2 was 235 ($0 \leq \chi^2 \leq 984$), p was 1.00 ($0.05 \leq p \leq 1.00$), χ^2/df was 0.47 ($0 \leq \chi^2/df \leq 2$), RMSEA was 0.00 ($0 \leq RMSEA \leq 0.05$) and SRMR was 0.099 (< 0.10 ; Figure 1). Results from the CFA suggested that the three-factor structure fits well to the sample data with all fit indices indicating a good fit. All parameters were significant indicating that each item contributes significantly to the corresponding subscale.

Reliability analysis

Internal consistency

Reliability analysis with regard to the internal consistency yielded Cronbach alpha coefficients of 0.84 for the S, 0.83 for the EC and 0.87 for the IC, indicating satisfactory reliability. In a similar vein, a Cronbach's alpha coefficient of 0.84 ($p < 0.001$) was obtained for the DDKÖ total scale. Furthermore, the inspection of the item-total correlations showed that all items in each subscale contributed to the consistency of scores with item-total correlations higher than 0.40. These high and significant alpha coefficients can be considered excellent reliability indexes and suggest a high degree of internal consistency [35].

Test-retest reliability

Analyses performed to evaluate the temporal stability of the DDKÖ yielded a test-retest (ρ) coefficient of 0.86 ($p < 0.001$) for the total scale.

Discussion

Perceived support and control during birth affect satisfaction with birth and psychological well-being in the post-partum period [4]. There is no Turkish tool for evaluating the intrapartum support provided by midwives, nurses and doctors and women's perceptions of support and control during birth. Therefore, we adapted the SCIB to reflect Turkish culture.

In the Turkish SCIB, the EFA indicated that scale items were scattered widely and loaded on seven factors. To mirror the original SCIB, the factor structure was limited to three factors in the Turkish SCIB. The factor structures of the two scales were similar, except for the fact that five items loaded on external control in the original scale were loaded on support in the Turkish version. Confirmatory analysis demonstrated the fit of the model, and the total variance explained in the adapted version was close to that explained in the original scale; also, the factors in the adapted version accounted for an important amount of the total variance [14,29]. Our analysis showed that there was a strong relationship between the items of the scale and that the scale had a sufficient degree of reliability. The item correlation analysis showed a moderate correlation between new subscales in the Turkish SCIB. The findings reported here suggest that the Turkish version of SCIB is a valid, reliable and useful instrument.

As mentioned above, five items from the original SCIB that were loaded on "external control" were loaded on "support" in the Turkish version. The five items were related to women's ability to walk around as they wish, to receive information, to decide about the time and content of the information and to decide about the type of birth. Supportive care during labour as potentially provided by staff includes physical support and comfort, emotional support, instructional/informational support and advocacy support [7]. The aim of providing physical support is to enhance women's comfort. This can be achieved by arranging the physical environment, performing massage, encouraging the use of breathing exercises and relaxation techniques, encouraging movement and position changes, encouraging showers, implementing hot-cold compression and acupressure and by fulfilling the needs for personal and environmental hygiene [8–10]. As in many hospitals in Turkey, in the hospital where this study was conducted, pregnant women are mobilised with the assistance of health care professionals (HCPs). In this study, the women might have considered HCPs' encouragement for mobilisation as a kind of support offered by the staff. Other actions considered support by women in this study were receiving information and deciding on the method of delivery. Offering alternatives for delivery and informing women about these alternatives, and involving them in the decision-making process, increases women's satisfaction with their delivery [13]. In the hospital where this study was carried out, women can be offered information by the HCPs during treatment and examinations performed during the process of birth, and during follow-up. Such information relates to the process of birth, and available ways of supporting women during birth. Therefore, offering information might have been perceived by women in our sample as support from the HCPs.

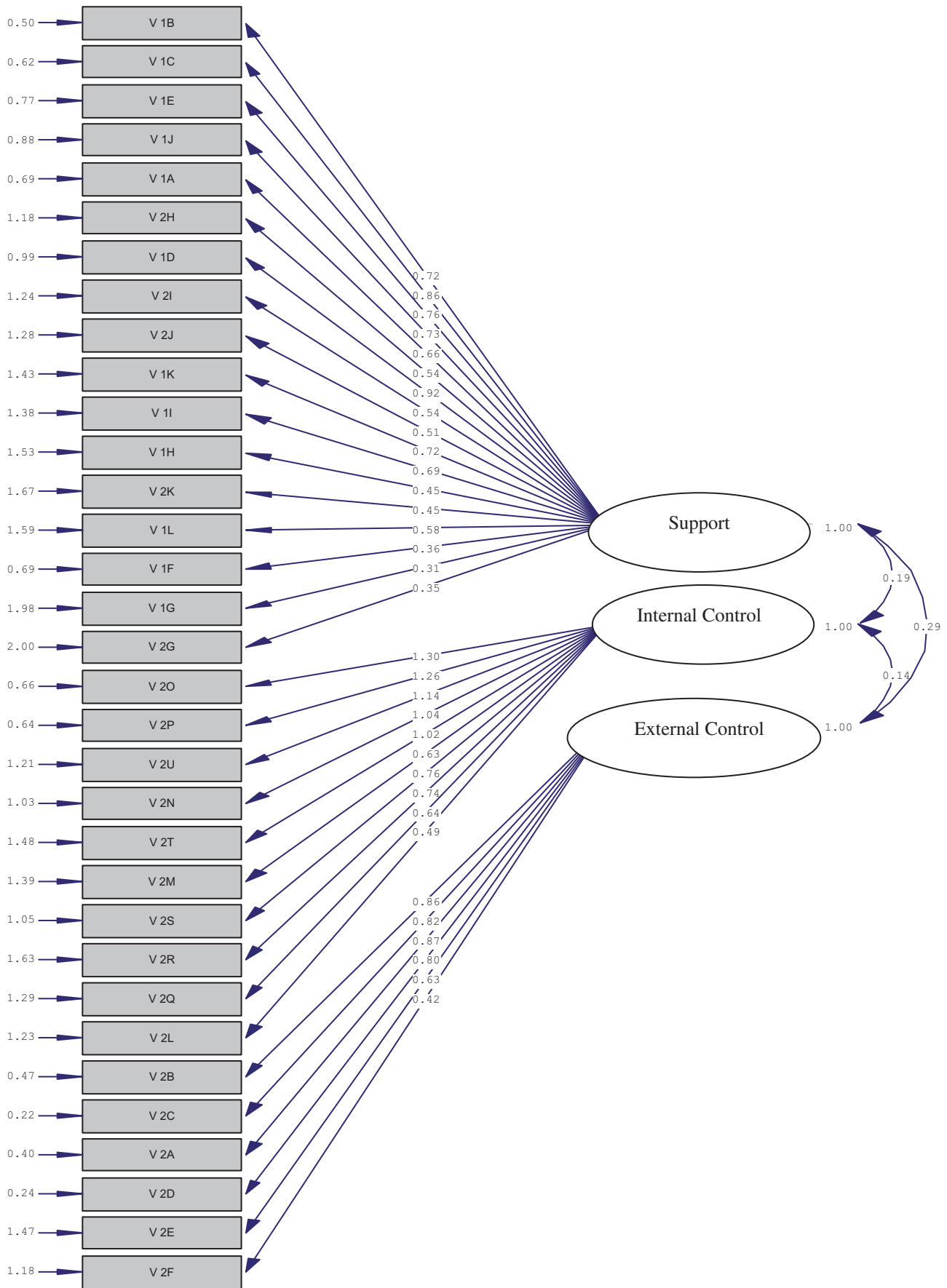


Figure 1. Flow diagram of the three-dimensional model of the Turkish version of SCIB.

Another aspect perceived as support was related to decision-making about the mode of delivery. According to the World Health Organization, the rate of caesarean section should not exceed 15%. However, the use of caesarean section has gradually increased in Turkey in recent years. Forty-eight percent of women now give birth by caesarean section [34]. The caesarean delivery is substantially higher than that reported at the time of the TDHS-2008 (37%) [33]. Advances in medical technology, insufficient number of midwives and doctors per patient, encouragement of elective caesarean section due to an increased litigation for malpractice, fear of suffering from pain during birth and the idea among women that caesarean section is safer than vaginal delivery may all contribute to a woman's preference to have caesarean section [36,37]. If no instrumental delivery facilities are available in the hospital, then the caesarean rate can be higher. As required by hospital protocol, none of the women received analgesia during birth in this study. Following the procedures of the hospital, forceps or vacuum-assisted delivery was not employed; rather, emergency caesarean section was performed if complications developed during the vaginal birth process. Thirty-six percent of women give birth there by caesarean section. A law directed towards lowering the rates of caesarean section has been enacted in Turkey; the law requires that caesarean sections can only be performed as necessitated by a medical condition in the mother or the foetus or in cases of intense fear of childbirth [38]. In a study conducted in Turkey, women's fears were related to labour pain [39]. In fact, fear may cause women to experience more severe pain [40] and their having control over labour decreases perceived pain in labour [41]. The experience of pain during childbirth varies across individuals and cultures. It has been noted that interventions in which water (entering a birth pool and having a shower, and others), relaxation, acupuncture and massage alleviate pain and increase satisfaction with labour [42]. Since no analgesia was used in delivery and labour in the hospital where this study took place, midwives and intrapartum nurses should inform and encourage women about the labour process non-pharmacological strategies on pain relief during delivery and labour.

In this study, providing women with information about and encouragement for the types of delivery might have been perceived as support. The reclassification of these five content areas from "external control" to "support" was discussed with the original developers of the SCIB. They agreed that in view of cultural differences and differences in birth-related practices between countries, the reclassification of these items was appropriate for the Turkish population.

Limitation of the study

The reliability measurement of the Turkish SCIB cannot be extended to women who underwent planned caesarean sections, since surgery was performed under general anaesthesia. Further research is needed to evaluate perceived support and perceived control in birth in this group of women. Another limitation is that the percentage of the participants repeating the measure for test-retest reliability was low. Socio-economic status and socio-cultural status of the women included in the sample is lower than those of the general

population, and most of the women did not have their own telephones. Therefore, re-contacting many of the participants was difficult. The response rate in the re-test can be increased by registering the women at the family health care centres and inviting them to these centres at the first interviews in order to conduct the re-test at face to face interviews. Finally, both the EFA and the CFA were conducted using the same data. CFA of the Turkish SCIB should be repeated in further studies.

Conclusion

The Turkish version of SCIB is a valid and reliable instrument for evaluating perceived support and perceived control during birth. This scale will be of great value in evaluating the support provided by HCPs in Turkish obstetric wards. Research using the scale can be used to inform changes in practices to enhance satisfaction with birth.

Declaration of interest

The authors declare no conflict of interest.

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Appendix A

DOĞUMDA KONTROL VE DESTEK ALGISI ÖLÇEĞİ (The Perceived Control and Support in Birth Scale)

Bu anket, bebeğinizi dünyaya getirdiğiniz doğum deneyiminiz hakkında sorular içermektedir. Eğer planlı sezaryen ile doğum yaptıysanız lütfen yaşadığınız deneyim doğrultusunda aşağıdaki soruları yanıtlayınız. Eğer sizin deneyiminizle ilgisi olmayan bir soru varsa “Hiç katılmıyorum” seçeneğini işaretleyiniz.

(This questionnaire contains questions about your birth experience you give birth to your baby. If you give birth by caesarean section, please answer following questions in direction with your experience. In case that there is a question which does not concern your experience, please mark the option “neither”).

Table A1

	Tamamen katılıyorum (Agree completely)	Katılıyorum (Agree slightly)	Kararsızım (Neither)	Katılmıyorum (Disagree slightly)	Hiç katılmıyorum (I Disagree completely)
(1) Doğum süresince sağlık çalışanlarından ne tür destekler aldınız? (What kind of support you get from healthcare staff during labour and birth?)	5	4	3	2	1
(a) Vazgeçmek istediğim zamanlarda sağlık çalışanları devam etmem için gereken desteği sağladılar. (The staff helped me to find the energy to continue when I wanted to give up)	5	4	3	2	1
(b) Sağlık çalışanları, ne istediğimi ya da neye ihtiyaç duyduğumu anlayabiliyorlardı (The staff knew intuitively what I wanted or needed)	5	4	3	2	1
(c) Sağlık çalışanları, beni rahatlatmak için her yolu denediler (The staff made an effort to comfort me)	5	4	3	2	1
(d) Sağlık çalışanları, beni yeni baş etme yolları denemeye teşvik ettiler (The staff encouraged me to try new ways to coping)	5	4	3	2	1
(e) Sağlık çalışanları, vücudumun doğal olarak yaptıklarıyla mücadele etmemem için beni teşvik ettiler (The staff encouraged me to not fight against what my body does naturally)	5	4	3	2	1
(f) Sağlık çalışanları, yaşadığım ağrının farkındaydılar (The staff realised the pain I felt)	5	4	3	2	1
(g) Sağlık çalışanlarının kendi programları olduğunu hissettim (I felt that the staff had their own agenda (r))	5	4	3	2	1
(h) Sağlık çalışanlarının olayları kendilerinin rahat edebilecekleri biçimde ilerlettiklerini hissettim (I felt that the staff moved things along in a way that would be convenient for them (r))	5	4	3	2	1
(i) Sağlık çalışanları farklı pozisyonları denememde bana yardımcı oldular (The staff helped me to try different positions)	5	4	3	2	1
(j) Sağlık çalışanları bana sorular sorabilmem için yeterince zaman Verdi (I was given time to ask questions)	5	4	3	2	1
(k) Bir şeyi yapmayı durdurmalarını istediğimde, sağlık çalışanları bu şeyi yapmayı bıraktılar. (If I wanted to stop doing something, the staff allowed this)	5	4	3	2	1
(l) Sağlık çalışanları, onlara söylediğim şeyleri dikkate almadılar (The staff did not pay attention to what I said (r))	5	4	3	2	1
(m) İsteddiğim kadar kalkıp gezebildim. (I could get up and walk around as much as I wanted)	5	4	3	2	1
(n) Bana bilgi verilir verilmeyeceğine ben karar verdim. (I decided on whether I will be provided information or not)	5	4	3	2	1
(o) Ne zaman bilgi alacağıma ben karar verdim. (I decided on time when I will get information)	5	4	3	2	1
(ö) Bana hangi bilgilerin verileceğinin kontrolü ben dedim (I had control over the kind of information I received)	5	4	3	2	1
(p) Bebeğimin doğum yönetiminin kararının benim kontrolüm altında olduğunu hissettim.(Consequently, I felt that how birth method of my baby would be was under my control)	5	4	3	2	1
(2) Doğumuz süresince kontrolünüz nasıldı? (How was your control during your labour?)	5	4	3	2	1
(a) İşlemlerin ne zaman yapılacağı konusunda kontrol ben dedim. (I had control over when procedures would happen)	5	4	3	2	1
(b) Hangi işlemlerin uygulanacağına etki edemedim. (I had impact about which procedures should be applied)	5	4	3	2	1
(c) Çoğu müdahale için karar verdim (I decided on whether most of procedures will be done or not)	5	4	3	2	1
(d) Verilen kararlarda kontrol ben dedim (I had control over the decisions to be made)	5	4	3	2	1
(e) Odada bulunan benim dışındaki insanlar kontrolü ele aldılar (The people being present in the room other than me took the control (r))	5	4	3	2	1
(f) Odaya kimin girip çıkacağı benim kontrolüm dışındaydı (I had no control about who may enter or exit the room (r))	5	4	3	2	1
(g) Yaşadığım ağrı, kontrol altına alabileceğimden çok daha fazlaydı (I was not able to control the pain I experienced (r))	5	4	3	2	1
(i) Ağrı tarafından ele geçirildim (I felt was far more than I could overcome (r))	5	4	3	2	1
(i) Zihinsel olarak sakinim (I was mentally calm)	5	4	3	2	1
(f) Ağrıya verdiğim tepkileri kontrol edebiliyordum (I could control my reactions to the pain)	5	4	3	2	1
(k) Duygularımı kontrol edebildim (I was able to control my emotions)	5	4	3	2	1
(l) Vücudumun, kontrol edemediğim bir şey yaptığını hissettim (I felt that my body was doing something I could not control(r))	5	4	3	2	1
(m) Olumsuz duyguların etkisi altında kaldım (I was under influence of negative feelings (r))	5	4	3	2	1
(n) Bedenimle birlikte hareket ederek kontrolü ele geçirdim. (I took the control by acting together with my body)	5	4	3	2	1
(o) Kendim değiştirmişim gibi davrandım (I behaved like it was not me (r))	5	4	3	2	1
(ö) Çıkardığım sesleri kontrol edebildim. (I could control sounds I made)	5	4	3	2	1

► Current knowledge on the subject

- Women's satisfaction with birth is very important for both their own and their babies' health.
- Dissatisfaction with birth may impair women's psychological health, which in turn may prevent women from adopting their motherhood roles and taking care of their babies.
- Two factors have been shown to influence this satisfaction, i.e. being able to receive support and having control over the body during birth.

► What this study adds

- The Turkish version of the SCIB is a valid and reliable instrument for evaluation of the perceived support and perceived control in birth in those women having experienced the process of birth.
- The Turkish version of the SCIB revealed that the items were loaded on three factors as in the original scale, but that five items loaded on external control in the original scale were loaded on support in the Turkish version.

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