

## Development and Validation of Submissive Behavior Scale for Women with Infertility in Pakistan

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The present study was conducted to develop and validate a self-report measure of Submissive Behavior Scale for Women with Infertility (SBS-WI). A mixed method approach was used to construct the scale. The exploratory factor analysis (EFA) was run to explore the factor structure of the scale. The factorial validity of 21 items scale was determined on a sample of 215 women with primary infertility, of age range from 20-45 year ( $M_{age} = 31.03$ ;  $SD_{age} = 6.18$ ). The sample was collected from private and government hospitals, and clinics of major cities of four provinces of Pakistan through a purposive sampling technique. The principal component analysis (PCA) with varimax rotation method yielded a unidimensional factor solution, which collectively accounted for 43.91 percent variance retaining 20 items. The confirmatory factor analysis (CFA) validated the findings of the EFA. The sample for CFA comprised 210 women with primary infertility whose ages ranged between 20 and 45 year ( $M_{age} = 32.42$ ,  $SD_{age} = 5.49$ ). A positive relationship with Submissive Behavior Scale (Allan & Gilbert, 1997) supported the convergent validity ( $r = .43$ ,  $p = .01$ ); and a negative relationship with Assertive Behavior Scale (Zahid, 2002) supported the divergent validity ( $r = -.57$ ,  $p < .001$ ) of the scale. Internal reliability of the scale was measured through Cronbach's alpha = .92. Moreover, the test-retest reliability was measured with one month interval ( $r = .94$ ,  $p < .001$ ). The SBS-WI appeared as a propitious measure with good items homogeneity, internal consistency, and effective patterns of validity.

**Keywords:** scale development, submissive behavior, primary infertility, Pakistani women

The desire to have children is quite universal and most of couples include children in their life plans (Donkor & Sandall, 2007; Hays, 1996; Wright et al., 1991; Yazdani, Kazemi, & Ureizi-Samani, 2016). Culture accentuates pregnancy and motherhood as a developmental landmark for every woman (Veevers, 1990), and giving birth to children serves as reducing conflicts between women and society (Dunlap, Sturzenhofecker, & Johnson, 2006). Though personal in nature, motherhood is a social reality for all women, and is strongly influenced by social factors and the family expectations, fulfilling rank-status of married women in family and society by giving birth to children. For women, this means achieving a better social status, rank and totality of motherhood (Dhingra, Baru, & Gupta, 2014; Hays, 1996; Lappegard & Ronsen, 2013).

Infertility leads to psychological distress, intense social suffering (Daar & Merali, 2002), and lowering of social rank (White, Langer & Welch, 2006). Women with infertility are marked as incomplete, subject to marginalization, and progressive devaluation (Connolly 2000; Jalil & Muazzam, 2013). A social consequence of infertility is a loss of social status (Dyer, Abrahams, Mokoena, Lombard, & Van der Spuy, 2005). Low social rank mainly manifests, preserves and promotes a sense of inferiority, ensures subordination, and submissive behaviors (Stevens & Price, 2000). The reason why social rank does that to infertile women is partly due to reproductive benefits embodied by a large number of women in developing and developed regions (King & Meyer, 1997).

During the course of human history, submissive and less important individuals have been prone to physical and mental pathology. Submissive people have less control over social environment and are at a greater risk of psychological disorders like

depression and other physical disorders (Wilkinson, 1996). Research suggests, depression as closely associated with submissive behavior (Allan & Gilbert, 1997) and submissive behavior is significantly higher in depressive patients (Connor, Berry, Weiss, & Gilbert, 2002). Submissive behavior consists of inhibition in situations of challenge or conflict (Gilbert & Allan, 1994) and is an independent predictor of depression (Ongen, 2006). Inferiority is the core attribute of submissive behavior, and a submissive person stifles feelings and memories when dominated by a capricious person. Self-blame is quite common in submissive people, especially when things go wrong, and they accept their dereliction leading to low self-esteem, internal anger, and psychosomatic problems. There is a considerable evidence, when people feel depressed because they compare unfavorably (threatened by) to others and see themselves as subordinates (Gilbert, 2004). *Evolutionary social rank theory* of depression (Stevens & Price, 2000) proposes that subordinates isolate them from conflict and its distress, and accept a subordinate role leading to depression as an adaptive response to losing status (rank).

Infertile women because of their conditions face acrimonious crises and problems when it comes to achieving a good social status and rank in the society like husband remarrying, divorce, emotional harassment, and withdrawal from inheritance or being returned to parent's family (Stephen & Chandra, 2006). This comes along with ostracism from family celebrations, taunting, and stigmatization, negative attitude as well as beating, withholding of food and health care (Sami & Ali, 2012). Furthermore, infertility subjects the woman to hatred and exploitation resulting in severe psychological, and physical disturbance affecting her physical, mental, and social health (Bentley & Talyor, 2000). Life events that involve dimensions of humiliation due to status and social standing (social defeats) losses were important predictors of major depression onset (Kendler, 2003).

Prevalence of depression is high among women with infertility (Domar, Broome, Zuttermeister, Seibel, & Friedman, 1992), two

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times more compared to fertile women (Rafique et al., 2015). Thus, depressive symptomatology often emerges as a direct response to losing rank in the society and developing a conception of a loser as compared to child bearing mothers (Allan & Gilbert, 1997).

Infertility affects about 8 to 12 percent of the couples globally (Inhorn & Van Balen, 2002). The failure to conceive a pregnancy after a year or more of regular intercourse without contraceptives is described as infertility (Jones & Hunter, 1996), compared to sub-fertility, which is used to describe any form of reduced fertility signified with unwanted and very long lack of conception.

In Pakistan, the rate of infertility is escalating (Tahir et al., 2004); a total of 8 percent of (adult women) population of Pakistan face infertility problems (Shaheen et al., 2010). In developing countries, including Pakistan, societal pressure dictates having large-sized families, which escalates burden on women to initiate bearing children as early as possible in their marital life, so as to develop a strong foothold with in-laws, and achieve better status/rank in family, especially in the in-laws (Ganth & Thiyagarajan, 2013; Odisho, Nangia, Katz, & Smith, 2014; Sami & Ali, 2006). There are studies that ranked infertility as being one of the greatest stressors in the lives of women in comparison to death, and divorce etc. (Jordan & Revenson, 1999; Klock, 2011).

Infertility in women can have detrimental effects that include negative emotions like crying helplessly, hopelessness, anger, frustration, stress, tension, feelings of inferiority, feelings of inadequacy, feelings of sadness etc. When diagnosed for the first time, the immediate reaction to this seems like an offense being committed by a woman in our culture. It impairs her sense of motherhood and is a huge threat to social rank or status of a woman after marriage in the family and society and she faces various crises and problems achieving a good social status/rank in the society supported by numerous studies (Dhingra, Baru, & Gupta, 2014; Hays, 1996; Lappegard & Ronsen, 2013). Furthermore, life events that involve dimension of humiliation in the form of losses of status and social standing (social defeats) making the person with infertility submissive, resulting in the onset of major depression (Kendler, 2003), anxiety, interpersonal problems with friends and family, guilt, loss of self-identity, an increased sense of self-blame and even in some cases, suicidal ideation (Monga, Alexandrescu, Katz, Stein, & Ganiats, 2004; Zhang & Hayward, 2001). Feelings of anger, guilt, denial, and a sense of isolation have also been found extensively in the couples experiencing infertility.

Women with infertility experience all these emotions with more intensity as previous researches reported that women with infertility experienced higher degree of stress, fiery burden, and depression, due to unfulfilled desire for a child (Berg & Wilson, 1991; Wright et al., 1991; Slade et al., 1997). Primary infertility in particular is a major health condition and indeed the most upsetting experience of women's lives resulting in significant pain supported by previous studies (Mascarenhas et al., 2013; Odisho, Nangia, Katz, & Smith, 2014; Thoma et al., 2013). Women with primary infertility becomes submissive and suffer from feelings of inferiority, inadequacy, self blame, social stigmatization, seclusion from social gatherings, and celebrations along with social isolation due emotional harassment and humiliating, taunting, and negative attitude of family and people around. People in the family take her for granted and assign her lots of household chores as well as numerous other tasks without asking her as they think that she is the freest woman in the family (Stephen & Chandra, 2006). The women with infertility face various bitter consequences along with severe emotional harassment in the form of exclusion from family events and criticism (Sami &

Ali, 2015). Thus, submissive tendencies and social humiliation leads to precipitate depression and other psychological problems as humiliating events.

The above discussion suggests that depression in women is largely due to submissive behavioral tendencies (Steven & Price, 2000) and to address this submissive behavior needs to be assessed. So far, such attempts have been made in the West to assess this phenomenon with Submissive Behavior Scale (Gilbert & Allan, 1994) and its improvement (Allan & Gilbert, 1997) largely based on Buss and Craik (1986) ideas, however, no such measure is available for Pakistani population, especially when infertile women are taken into account. Thus, this study invokes development and validation of a scale that would measure submissive behavior in Pakistani women with infertility.

### Objectives of the study

1. To construct a Submissive Behavior Scale for Women with Infertility (SBS-WI).
2. To explore the structure of SBS-WI by using exploratory factor analysis (EFA).
3. To confirm the factor structure of SBS-WI by confirmatory factor analysis (CFA).
4. To find convergent and discriminant validities of the scale.
5. To determine the reliability of SBS-WI.

### Method

The study comprised five phases. Phase I was aimed at the generation of item pool; phase II, a pilot study; phase III, analysis of factor structure and internal consistency of the scale determined through EFA, and validation of factor structure was done in phase IV through CFA. In phase V, the convergent and discriminant validities and reliability of SBS-WI were carried out.

#### Phase I: Generation of item pool

The items for the scale were generated by semi-structured interviews (inductive approach), and by consulting the relevant literature (deductive approach) using Burisch (1984) guidelines. We interviewed ten women with primary infertility; these semi-structured interviews were transcribed and analyzed through content analysis, yielding four major themes namely; social distress, emotional burden, personal incapacities, and coping. On the basis of these themes and social rank theory (Stevens & Price, 2000), initial pool of items was generated in Urdu and handed down to five judges (three psychologists and two gynecologists) for scrutinizing the items on a selection criteria that included construct fidelity, clarity of statement, conceptual validity, comprehensibility, and item redundancy. An eighty percent consensus was finally reached by the judges and 21 items were retained for SBS-WI. Item sequence in the scale was shuffled to randomize the items to avoid any possible carry-over effects. The response format on the items was based on 5-point Likert-type scale (0 = *Never*, 1 = *Rarely*, 2 = *Sometimes*, 3 = *Mostly*, and 4 = *Always*), because scale is balanced on both sides of the middle response and provides gradient for responses (Gregory, 2015).

#### Phase II: Pilot Study

Pilot study was carried out to ensure the comprehensibility and psychometric cleansing of the items by engaging 30 women with

primary infertility from Rawalpindi, following the purposive sampling strategy. The age range of the participants was 20 to 45 year ( $M_{age} = 31.37$ ,  $SD_{age} = 5.18$ ). It supported the process of item selection by determining the difficulty level and clarity of items. It ensured the exclusion of repetitive, ambiguous, and redundant items in the study as per the study participants' suggestions. Items were excluded based on the standard range of kurtosis and skewness for normality. The value of kurtosis for the final items was within the range of |3|, whereas the values of skewness for final items were not greater than |8| (Coakes & Steed, 2003). In order to ascertain the normality of this sample and data, a Shapiro-Wilk test was used on dependent measure where analysis W (30) = 0.96,  $p > .05$ , indicated that data were normally distributed in the group.

Table1  
Mean Values and Standard Deviations of Responses for each of the 21 Items of SBS-WI (N=30)

Item no	Mean	SD
SBS-WI 1	1.98	1.58
SBS-WI 2	1.83	1.26
SBS-WI 3	2.10	1.37
SBS-WI 4	1.90	1.42
SBS-WI 5	2.63	1.27
SBS-WI 6	2.27	1.31
SBS-WI 7	2.27	1.46
SBS-WI 8	1.70	1.48
SBS-WI 9	2.27	1.63
SBS-WI 10	2.70	1.48
SBS-WI 11	1.83	1.62
SBS-WI 12	2.50	1.22
SBS-WI 13	2.17	1.34
SBS-WI 14	1.90	1.58
SBS-WI 15	2.60	1.24
SBS-WI 16	2.17	1.41
SBS-WI 17	21.7	1.55
SBS-WI 18	1.70	1.60
SBS-WI 19	1.97	1.60
SBS-WI 20	2.30	1.51
SBS-WI 21	2.13	1.47

### Phase III: Factor Structure and Internal Consistency

To determine the factor structure and internal consistency of SBS-WI items were analyzed through EFA. Cronbach's alpha, items total scale correlation, and items sub-scales correlations were calculated to determine the reliability and internal consistency of the scale.

#### Sample

A purposive sample of 230 women with primary infertility, who were willing to take part in the study, were recruited in the study from government and private hospitals, clinics, and infertility centers of major cities of four provinces of Pakistan. Among them, 55 percent of the participants came from different cities of Punjab (Rawalpindi, Islamabad, Multan, and Lahore) and 45 percent were from provinces of Khyber Pakhtunkhwa =15 percent (Peshawar and Mardan), Baluchistan=15 percent (Quetta, Khuzdar, and Qila

saifullah) and Sindh 15 percent (Karachi, Sukkur, and Hyderabad). Age of the participants ranged from 20-45 year ( $M_{age} = 31.03$ ,  $SD_{age} = 6.18$ ). The education levels of the participants ranged from primary to postgraduate (PhD and MBBS). Participants belonging to lower socioeconomic classes, middle socioeconomic classes, and upper socioeconomic classes were well cooperative during completion of the questionnaires, however, eight participants left the study incomplete due to personal reasons and six could not return the questionnaires. So the final sample comprised 215 women with infertility.

#### Procedure

Permission from the authorities of the hospital, clinics, and fertility centers was sought for administration of SBS-WI. Participants were informed about the purpose of the study and their consent was taken from the participants before administering the scales. Participants were assured that their responses and personal information would be kept confidential and anonymous. Participants were told that there was no time limit to complete the questionnaires and it took 10 to 15 minutes to complete the scale. The participants were asked to complete the questionnaires on the spot, and their queries were answered before, during, and after the scale was completed. Most participants returned the questionnaire right away, while others took some time and returned the questionnaires after few days later, either personally or by post. Before factor analysis of the data, certain assumptions (e.g., sample size, normality, out liars among cases, and linearity) were tested and data was found to fulfill the criteria given by Field (2005).

#### Results

The Kaiser-Meyer-Olkin measure of sampling adequacy was .93, which was excellent for structure detection and Bartlett's Test of Sphericity was highly significant  $\chi^2$  (190,  $n = 215$ ) = 2390.33,  $p < .001$ , indicated that factor analysis was appropriate for these data.

#### Exploratory Factor Analysis

Twenty one items of SBS-WI were factor analyzed and data of 215 women with primary infertility was subjected to EFA, using varimax rotation method followed by PCA, yielded single factor solution. We followed the criterion of Kaiser (1960) and single well defined, interpretable, clear, and accurate factor was retained on the basis of scree plot, whose factor loading was greater than .40 with eigen values  $> 1$ , for theoretical relevance.

Item number 2 (I have good moral values) was discarded, because of low factor loading (.4), with an eigen value of less than 1. In order to find out the internal consistency of the total scale and subscale, reliability analysis was run on normative sample ( $N = 215$ ) which showed high internal consistency. Cronbach's alpha coefficient for the total scale was  $\alpha = .92$  and was also found reasonably high. The item-total correlation analysis was performed on 20 items and the proportion of correlation of each item with the total score of the scale was determined. Table 2 presents that each item on SBS-WI scale correlate positively (range .41 to .84) and significantly ( $p < .01$ ) with the sum of total items. Moreover, mean inter-item correlation was .64. Thus, all (20) items may be considered valid and reliable indicators of submissive behavior scale. We named the single factor, *submissiveness* ( $M = 51.00$ ,  $SD = 18.52$ ) with a variance of 42.04%.

Table 2  
*Factor Loadings and Item Total Correlations for Exploratory Factor Analysis with Varimax Rotation of SBS-WI with 21 items (N = 215)*

Old-New Item	Factor Loadings	Item-total Correlations	Mean	SD
SBSWI 1-1	<b>.48</b>	.44	2.24	1.53
SBS-WI3-2	<b>.67</b>	.63	2.47	1.43
SBS-WI4-3	<b>.54</b>	.50	2.50	1.37
SBS-WI5-4	<b>.44</b>	.39	2.71	1.30
SBS-WI6-5	<b>.57</b>	.52	2.71	1.26
SBS-WI7-6	<b>.78</b>	.75	2.52	1.42
SBS-WI8-7	<b>.56</b>	.52	2.39	1.46
SBS-WI9-8	<b>.56</b>	.52	2.73	1.33
SBS-WI10-9	<b>.54</b>	.50	2.47	1.54
SBS-WI11-10	<b>.64</b>	.61	2.33	1.53
SBS-WI12-11	<b>.41</b>	.38	2.87	1.31
SBS-WI13-12	<b>.53</b>	.50	2.34	1.56
SBS-WI14-13	<b>.59</b>	.54	2.21	1.57
SBS-WI15-14	<b>.75</b>	.70	2.99	1.18
SBS-WI16-15	<b>.80</b>	.74	2.71	1.32
SBS-WI17-16	<b>.83</b>	.78	2.62	1.44
SBS-WI18-17	<b>.84</b>	.79	2.54	1.49
SBS-WI19-18	<b>.79</b>	.73	2.46	1.53
SBS-WI20-19	<b>.78</b>	.73	2.66	1.37
SBS-WI 1-20	<b>.77</b>	.71	2.54	1.45

Table 2 shows that all loadings are greater than .40, items-total correlations are significant ranging ( $r=.33$  to  $r=.79$ ), and 42 percent variance is accounted for by these 20 items in the scale.

#### Phase IV: Confirmatory Factor Analysis

In order to confirm the factor structure of the newly constructed scale, the CFA was run by using AMOS (version 21.0) through structural equation modeling (SEM).

#### Sample

A purposive sample of 210 women, with primary infertility, who were willing to take part in the study were recruited in the study from government and private hospitals, clinics, and infertility centers of major cities of four provinces of Pakistan. Age of the participants ranged from 20-45 ( $M_{age} = 32.42$ ,  $SD_{age} = 5.49$ ) year and their educational levels ranged from primary to post-graduate. Participants belonged to lower, middle, and upper socioeconomic classes.

#### Procedure

In this phase, again the permission from the authorities of the hospital, clinics, and fertility centers was sought for administration of SBS-WI. Participants were informed about the purpose of study and informed consent was taken from the participants before administering the scales. Participants were assured that their responses and personal information would be kept confidential and anonymous. Participants were told that there was no time limit to fill in the questionnaire, and it took 10 to 15 minutes to complete the scale. They were asked to complete the questionnaires on the spot, and their queries were answered before, during or after the scale was filled. Most participants returned the questionnaire on the

same day, while others took some time and returned the questionnaires after few days later either personally or by post.

#### Results

Table 3  
*Mean Values and Standard Deviations of Responses on 20 Items of SBS-WI (N= 201)*

Item no	Mean	SD
SBS-WI 1	1.65	1.10
SBS-WI 2	1.56	1.04
SBS-WI 3	1.58	1.07
SBS-WI 4	1.94	1.20
SBS-WI 5	1.54	1.12
SBS-WI 6	1.51	1.17
SBS-WI 7	1.54	1.17
SBS-WI 8	1.50	1.12
SBS-WI 9	1.57	1.20
SBS-WI 10	1.58	1.18
SBS-WI 11	1.65	1.24
SBS-WI 12	1.57	1.19
SBS-WI 13	2.17	1.33
SBS-WI 14	2.23	1.27
SBS-WI 15	2.11	1.32
SBS-WI 16	1.71	1.29
SBS-WI 17	1.60	1.30
SBS-WI 18	2.23	1.34
SBS-WI 19	2.03	1.33
SBS-WI 20	1.82	1.36

The CFA was run on 210 participants to confirm the measurement model of the SBS-WI, and factor structure and dimensionality of the scale, 20 items retained through EFA were factor analyzed through CFA by using AMOS-21, through structural equation modeling (SEM).

The structure of the scale emerged in EFA was examined in CFA, and this factor structure did not illustrate a good fit to the data. By using modification indices, the parsimony of the model was improved. The final model obtained in Figure 1 comprised 20 items and the Model fit indices (Table 4) for SBS-WI showed adequate GFI, CFI and RMSEA. A Chi-Square  $\chi^2$  (316.82,  $df=155$ ) =,  $p < .01$ ,  $\chi^2/df = 2.044$  and other indices suggest the model fit acceptable. All the items were retained after confirmatory factor analysis.

Table 4  
*Model Fit Indices of CFA for SBS-WI*

Indexes	$\chi^2$	df	CFI	GFI	RMSEA
Model	316.82*	155	.91	.90	.07

#### Phase V: Convergent Validity

#### Sample

A purposive sample of 30 women, with primary infertility, was solicited from hospitals and clinics of Rawalpindi, Multan, and Lahore city. For test re-test reliability SBS-WI was administered twice on a sample of 37 women with primary infertility with a time lapse of one month from different cities of Punjab, Pakistan.

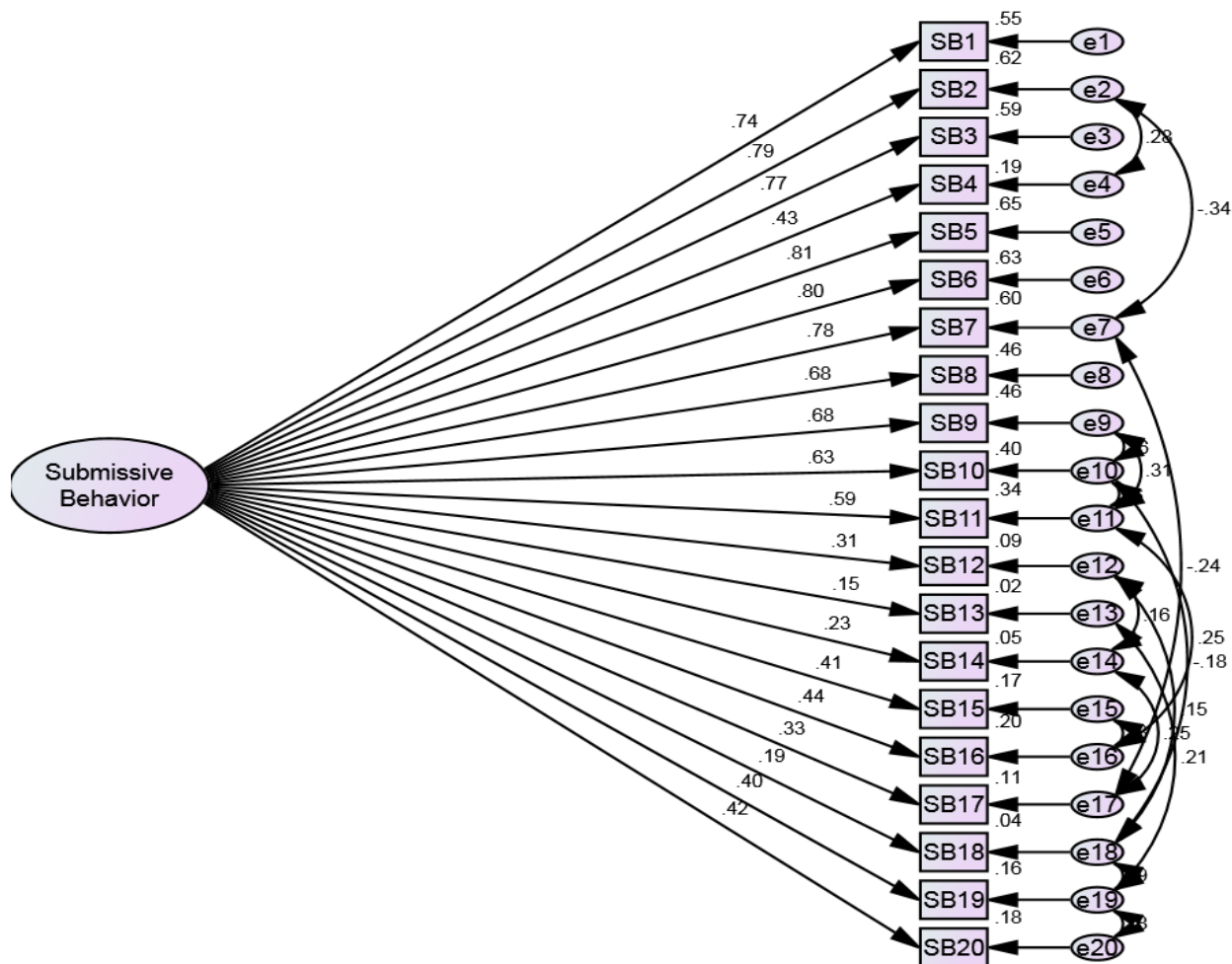


Figure 1. Complete standardized solution for SBS-WI ( $N = 210$ ).

### Instruments

**Submissive Behavior Scale for Women (SBS-WI).** The final SBS-WI is a unidimensional self-report scale that measures submissive behavior in women with infertility. It consists of 20 items with response format of 5-point Likert-type scale (Never = 0, Rarely = 1, Sometimes = 2, Mostly = 3, and Always = 4). The possible range of score is between 0 - 80, and higher scores indicate greater feelings of submissiveness.

**Submissive Behavior Scale (SBS).** The SBS was developed by Gilbert and Allan (1994) and refined by Allan and Gilbert (1997). The scale was translated and adapted in Urdu by the authors as a part of her PhD dissertation and it measures submissive behavior, a social rank behavioral component, derived from Buss and Craik (1986). The SBS consists of 16 items of submissive behavior (e.g., "I agree that I am wrong even though I know I'm not"), which people rate according to their behavioral frequency (from 0 = Never to 4 = Always). Higher scores indicate greater feelings of submissive. The scale has good reliability (Cronbach  $\alpha = .82$ ) tested in students and an  $\alpha = .85$  in the depressed patients (Allan & Gilbert, 1997). Gilbert, Allan, & Trent, (1996) documented a high four-month test-retest reliability ( $r = .84$ ) in students.

**Assertive Behavior Scale (ABS).** The ABS was developed by Zahid in 2002 in Urdu to assess self-assertiveness in adults. It consists of 28 items with response options that range on a 5-point Likert-type scale ranging from Strongly Agree (5) to Strongly Disagree (1). Six items (5, 10, 15, 16, 22, and 27) are reversed scored. Higher score expresses greater assertiveness, with a moderate to high reliability ( $\alpha = .70$ ; Zahid, 2002).

### Procedure

Permission from the authorities of the hospital, clinics and fertility centers was sought for administration of SBS-WI in order to assess convergent and discriminate validity of SBS-WI. Participants were informed about the purpose of study and informed consent was taken from the participants before administering the scales. Participants were assured that their responses and personal information would be kept confidential and anonymous. Participants were told that there was no time limit to complete the questionnaires but it normally took 10 to 15 minutes to complete the scale. They were asked to complete the questionnaires on the spot, and their queries were answered before, during, and after scale was filled. Most participants returned the questionnaires on the same

day, while others took some time and returned the questionnaires after few days later either personally or by post. Following were the results for the convergent and discriminate validity of the scales.

### Results

Pearson product moment correlation was carried out to find the relationship between SBS-WI and SBS (Allan & Gilbert, 1997) in order to determine the convergent validity. This relationship was positive ( $r = .43, p = .01$ ) and significant. In order to assess the divergent or discriminate validity, SBS-WI, was correlated with ABS (Zahid, 2002) which resulted in a significant negative relationship ( $r = -.51, p = .001$ ). Cronbach's alpha for SBS-WI, SBS and ABS were good and ranged from .81 to .95.

Pearson product moment correlation was carried out to find the relationship between SBS-WI scores two points time (with the gap of one month) to check the test-retest reliability of the scale. Results suggested that submissive behavior scale have good test-retest reliability ( $r = .94, p < .001$ )

### Discussion

The present study was carried out to develop and validate Submissive Behavior Scale for Women with Infertility (SBS-WI) in Pakistan. The scale development process was highly intensive, time consuming, scientific, comprised a mixed method research design. The items for the scale were generated using both inductive and deductive approach, and the factor structure of the scale was determined through EFA. Findings showed factor loadings and communalities of 21 items on one factor. The items with factor loadings greater than .40 were retained and only one item was discarded due to factor loading of less than .40 and eigen value less than 1 on this scale. Thus, 20 items with single factor solution were retained after EFA. Examination of the single factor revealed that they were quite comparable with the dimensions of submissive behavior scale developed by Allan and Gilbert (1994,1997) based on social rank theory (an evolutionary theory of depression) by Stevens & Price 2000 and work of Buss and Craik (1986) as they believed that the variety of behaviors identified as submissive had been associated with vulnerability to psychopathology.

The content of this scale indicated that women with infertility who scored high on this scale had strong submissive behavioral tendencies like feelings of inferiority, self blaming, accepting the mistakes even being not faulty, reduced communication, remaining quiet even if wants to speak, engaging in pleasing husband and the in-laws all the time, doing work to fulfill expectations of people rather own, unable to refuse extra work assigned by family and the in-laws, problems expressing feelings and emotions, avoiding eye contact with people, silently bearing negative and critical remarks of people, thanking people repeatedly even on petty things, socially isolating, and avoiding social gatherings to avoid negative talk, taunts and criticism by people due to infertility etc. In order to confirm the factor structure retrieved in EFA, CFA was run on a sample of 210 women with primary infertility. The final model showed fairly acceptable indices, so all items were retained in the final scale due to their theoretical importance and relevance. Hence, the final submissive behavior scale for women with infertility comprised 20 items with one dimensional factor and alpha coefficient of .86 of the scale. The positive relationship of this scale with SBS (Allan & Gilbert, 1997) supported its convergent validity ( $r = .43, p = .017$ ), whereas, negative relationship with ABS

supported its divergent validity ( $r = -.57, p < .001$ ). External reliability was measured through test re-test reliability  $r = .94, (p < .001)$ .

In the light of above discussion, the submissive behavior scale for women with infertility will be a valuable tool to assess and rule out submissive behavioral tendencies in women with primary infertility and interventions based on this assessment can be tailored to alleviate depression and reduce the negative psychological, personal, and social consequences of primary infertility, thus contributing in raising the well-being of women with primary infertility.

It can be concluded that the SBS-WI is an auspicious measure with good items homogeneity, internal consistency, and a fair pattern of validity.

### Limitations and Suggestions

Though the sample of the study was large enough and represented women from low, middle, and high socioeconomic status, but it was drawn from urban areas and those women who were not seeking treatment from any hospital or clinics were not included in the study. Further the sample for validity study was taken from the cities of Punjab only. So there is a room to improve the scale properties by expanding the sample to rural areas of Pakistan and including the sample from all provinces of Pakistan in validation study as well. The scale was meant for women with primary infertility only, so the items of the scale cannot be generalized to women with secondary infertility and to men with infertility.

Despite the above limitations, the newly developed scale seems to have high reliability and sound convergent and discriminant validities. The scale will be useful to assess the phenomenon of submissive behavior in Pakistani women with primary infertility.

### Implications

The scale developed in the study will open new vistas of research in the domain of submissive behavior and its correlates with reference to Pakistani women with primary infertility, and promote research that will validate social rank theory across cultures. The study suggests family counselors to develop a proper comprehensive intervention program to effectively deal with submissive behaviors leading to depression and other negative psychosocial consequences of primary infertility in Pakistani women. Furthermore, women with infertility, for instance, may need social skills training to assert themselves in everyday life situations so that they are not ostracized or in any way taunted by others. This will help increase their self confidence and prevent a self imposed social -isolation.

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