



Abstract: *The present study was designed to translate, validate, and adapt the Social Stigma Scale (SSS) (Maria et al., 2020) in the English language. The current study was designed in two phases. The first phase was the SSS's translation into the English language through the forward and backward translation methods. The linguistic equivalence between the English and Urdu versions of the scale of SSS was measured ($r=.97$) in the pilot study, where an item was excluded due to low inter-item reliability. Secondly, the psychometric properties of the translated version of the SSS were established using Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Convergent and Divergent Validity, and Test-Retest Reliability. The EFA retrieved a factors solution with 19 items, and the CFA confirmed a four-factor model with 12 items. The convergent and divergent validity and test-retest reliability showed that the translated version of the scale was a valid and reliable measure of the Social Stigma Scale among parents of disabled children.*

Key Words: Translation, Social Stigma Scale, Psychometric Properties, Disabled Children

Introduction

“Special Need Child” refers to a child with physical, mental, communication, learning, sensory, or intellectual disability. Disability is defined as a condition of the mind or a body that restricts an individual from doing certain activities and limits their world interaction. These disabilities can exist simultaneously and can sometimes overlap in specificity (*Disability and Health Overview 2020*). A physical disability is a chronic condition that causes impairment of a substantial part/s of a person's body, limiting their ability to function. It can be caused by injury, illness, accident, or a medical condition, for example, Epilepsy, Cerebral Palsy, etc. (Berg, 2020). Mental disability is a clinically significant disturbance in an individual's emotional, cognitive, and behavioral functioning. These may include Schizophrenia, Depression, Anxiety, etc. Communication disabilities involve deficits in speech and language use, adaptation, and production in an individual. Disability to comprehend or process verbal or non-verbal communication skills. These may include Selective Mutism, Stuttering, Social Pragmatism, etc. Learning disabilities are characterized by individuals with inadequate development of academic learning, which may include Dyslexia, Dyscalculia, Dysgraphia, etc. Sensory disability limits the brain's ability to adapt or process five sensory information, including sight, touch, smell, hearing, and taste. Autism Spectrum Disorder is an example of a sensory disability (APA, 2013). Intellectual disability individual shows significant limitations in intellectual functioning and adaptive behaviors, such as Down-Syndrome. In layman's terms, it is also defined as below-average intelligence (Byrd, 2022). Disabled child's academic, social, occupational, and personal areas of lives are disrupted significantly depending upon the severity of their disability (APA, 2013), and thus they rely on their immediate families or carers for support.

When a child is born or diagnosed with any disability, it becomes challenging for that child and their parents or carers to function normally in daily life and in society. Parents or carers are faced with a situational crisis, and the whole childrearing process can be exhausting and traumatic for parents, as a disabled child is unable to lead an independent life. High levels of depression, mental stress, and anxiety are observed in parents of disabled children (Thabet et al., 2013), intellectually disabled children (McLean & Halstead, 2021), and physically disabled children (Ahmad et al., 2013). Parents also experience high levels

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of emotional stress regarding the future of their child, parenting competency, and guilt about siblings' unfair attention (Heiman, 2021). However, these are overshadowed by the cost of therapy, diet, wheelchairs, special learning institutions, fewer job opportunities, tuition fees, etc., which can put a substantial financial strain on parents or carers (Padhyegurjar et al., 2018). In addition to psychological, emotional, and financial factors, parents of mentally ill children also face social consequences from both within the family and community. These consequences include blame, stigma, prejudice, burden, and social exclusion (Hailemariam, 2015). Parents often have limited friends and less time to engage in social activities. All these factors contribute to decreased quality of life of parents with disabled children (Werner & Shulman, 2013).

In a positive light, parents with a disabled child get the opportunity to change their life outlook (McLean & Halstead, 2021), strengthen their family relations, and increase levels of empathy and patience (Halstead et al., 2018). Stress experienced by parents can be mediated by parental cognitive appraisals of a child's disability. A family's understanding, adaptation, and perceptions about a child's disability can help them cope more positively (Dervishaliaj, 2013).

Although having protective factors, parents still have the looming threat of stigma over their heads. Goffman (1963) defined social stigma as a "characteristic that deeply discredits a person and reduces him or her from a normal person to a discounted one." He credited loss of social status and rejection by society as a whole as two main consequences of a social stigma (Goffman, 1963). Four types of stigmas are delineated in the literature, which include public stigma, institutional stigma, self-stigma, and family stigma. Attitudes of society toward a stigmatized person are called public stigma. When the choice of a stigmatized person is reduced by policies, it is known as institutional stigma. When a stigmatized person internalizes stigma, it is called self-stigma, and when people associated with a stigmatized person are targeted, it is called family stigma (Mitter et al., 2018). In particular, in relation to mental health disabilities, stigma incorporates concepts of discrimination, prejudice, and ignorance (Thornicroft et al., 2007).

Not only the child but the parents also experience stigmatization effects. When a child diagnosed with a disability shows visible symptoms, it can elevate the levels of stigma parents face as a result of their child's visible disability. A child with autism spectrum disorder (ASD) may show more behavioral difficulties in public than an intellectual or physically disabled child, and thus, parents of ASD children experience more stigma (Werner & Shulman, 2013). Neighbors often perceive the disability of a child as punishment from God (Rössler, 2016) and are pressured to even kill that child (Mwale et al., 2016), which results in parents being severely stigmatized. Social Stigma is manifested as stares and negative comments by the public (Oti-Boadi, 2017) and the use of language like "idiot" and "worthless," in addition to parents being blamed for their child's disability (Tekola et al., 2016).

When parents are constantly exposed to stigma about parenting competence, they develop negative actions and feelings towards their disabled child, and it may also affect parent-child adjustments (Broady et al., 2015). It may cause high levels of depression and stress in parents when they start to internalize this stigma (Mak & Kwok, 2010). There also seems to be a positive association between affiliate stigma and the subjective well-being of a family that has a disabled child (Werner & Shulman, 2013). In cross-sectional research, perceived stress was also positively correlated with the social stigma faced by parents of autism spectrum disorder (Alshaigi et al., 2020), and literature showed social stigma as a significant predictor of perceived stress in parents with children of special needs (Mazhar et al., 2020). Children with disabilities show emotional and behavioral difficulties, which became significant predictors of stigma (McLean & Halstead, 2021). A quantitative study was also conducted in Hongkong which found affiliate stigma as a predictor of psychological distress among parents of mentally disabled children (Wong et al., 2016). Many qualitative studies in different countries like Egypt, Turkey, and Ghana, etc. conducted on parents of differently disabled children showed social stigma as one of the major concerns in their difficulties (Gobrial, 2018; Duran & Ergun, 2018; Budak et al., 2018; Agyekum, 2018).

Review of Literature

As the above literature shows, parents of children with different disabilities face stigmatization, and thus, it can be measured using different standardized scales. Alshaigi et al. (2020) developed a tool that measures

felt and enacted stigma in parents of children having particularly ASD. It consisted of 25 items, which are divided into 14 items of felt stigma and 11 items of enacted stigma. The Cronbach's alpha value of scale was 0.77. Mitter, Ali, and Scior (2018) developed a self-report tool that measures family stigma among families of intellectually and developmentally disabled children. They named it Family Stigma Instrument (FAMSI), which had 26 items with a five-factor structure of perceived stigma, affective stigma, cognitive stigma, behavioral stigma, and positive outlook of caretakers. The scale showed .84 reliability. Morris et al. (2018) constructed a scale to measure self-stigma in immediate relatives of a mentally ill individual. It consisted of 30 items with responses on a 5-point Likert scale. The scale showed .9 reliability. Chang et al. (2015) developed a scale to measure affiliated stigma (cognitive, behavior, and affect) in caretakers of people with dementia using Rach analysis. It consisted of 22 items divided into seven items for cognitive, seven items for effect, and eight items for behavior. It is rated on a 4-point Likert scale and had 0.85–0.94 internal consistency. However, as the scale was developed specifically for the Chinese population and when translated into the English language, critical examination showed it was unsuitable for Western society and has limited applications in different ethnicities. All the available scales either measure stigma in relation to a particular disability or measure some specific forms of stigma. No English language scale was available that measures social stigma in parents of a disabled child.

An indigenous Social Stigma Scale (SSS) was developed to measure social stigma among parents of children with special needs in the Urdu language (Maria et al., 2020). Researchers used Goffman's theory of stigma to develop the items of the scale. Special needs included children having Autism, Down syndrome, or intellectual disability. It consisted of 20 items that were measured on a 5-point Likert scale. It has six factors of social stigma that include social discrimination, bullying/labeling, the stigma of a dark future, psychological distress, social isolation, and negative impacts of stigma. The scale showed Cronbach's alpha value of 0.94. The test-retest reliability, convergent and divergent validity showed that scale is a valid and reliable measure.

Significance and Objectives

Given the importance of social stigma among parents of disabled children, it has not yet been globally explored, perhaps due to a lack of reliable and valid tools. The Social Stigma Scale by Maria et al. (2020) was considered significant in translating Urdu into the Language. It would also be validated and adapted as it is the only tool available that measures social stigma among parents of children with disabilities. The aims of the current study included:

1. Translation and Adaptation of the Social Stigma Scale from Urdu to the English language.
2. Establishing the psychometric properties for the Social Stigma Scale.

Methodology

Social Stigma Scale (SSS)

Firstly, permission to use the Social Stigma Scale was granted by Mazhar, Kausar, and Bibi. The study was designed to translate and adapt this tool globally so the scale's utility for participants who can speak the English language will be increased. The current study was directed in two stages. In phase one, translation, adaptation, and validation were achieved, while in phase two, the scale's psychometric properties were measured.

The Social Stigma Scale (SSS) had 20 items that assessed social stigma among parents of special needs (Mazhar et al., 2020). Three categories of disabilities, Autism, Down syndrome, and intellectual disability, were evaluated for stigma. Parents had to respond with their answers on a 5-point Likert scale, which had responses like "Strongly disagree," "Disagree," "Don't Know," "Agree," and "Strongly Agree." The scale measured six factors of stigma with Cronbach's alpha value of "Social Discrimination" (.85), "Bullying/Labeling" (.33), "Stigma of Dark Future" (.82), "Psychological Distress" (.82), "Social Isolation" (.70), and "Negative Impacts of Stigma" (.54).

Phase I: Adaptation and Translation of the Social Stigma Scale (SSS)

The aim of this phase was to translate the original Urdu scale into the English Language equivalently and adapt it globally for English-speaking participants. The main intention was to qualify the scale's standard



and administer the scale practically in two languages equally, with Urdu as the original language and English as the translated language. To achieve this, the target population was selected from cities with high literacy rates and populations who have at least completed their high school education.

The key difference in the process of adaptation was the application of scale to parents of children with any kind of disability. This included Physical disability (Injury, Epilepsy, Cerebral Palsy, etc.), Mental disability (Psychotic disorders, Memory, Attention-deficit/Hyperactivity Disorder, etc.), Intellectual disability (Down syndrome, etc.), Sensory Disability (Speech, Hearing, Autism Disorder, etc.), and Learning disability (Dyslexia, etc.). Similarly, the original scale of SSS included only the parents who were living together in their study. In this adaptation, parents with diverse marital statuses will be included as married, divorced, separated, or widowed. It took four steps to translate the SSS into English and validate it cross-culturally.

Step 1: Forward Translation

The social stigma scale (Mazhar et al., 2020) was translated from Urdu to English Language with the help of an expert panel. Purposive sampling was used to select the expert panel. One panel of five experts was set up, which included two Ph.D. Assistant Professors of Psychology, two Ph.D. Scholars of Psychology and one Assistant Professor of the Centre for Language and Translation Department from the University of Gujrat, Pakistan. The bilingual experts translated every item of the scale independently, which was suitable for the English language, without removing any items. Each item was translated to get precision and semantic equivalence.

Step 2: Back Translation

The forward English translation scale of SSS was then given to three bilingual translators independently to translate it from English into Urdu. This process included four lecturers who had a degree of M.Phil in Psychology from the University of Gujrat, Pakistan, with at least three years of teaching experience. All the items were organized the same way they were on the original scale.

Step 3: Content Validity Ratio

The content validity ratio (CVR) method developed by Lawshe (1975) was used to measure agreement among the expert panelists regarding how essential items are in the Social Stigma Scale (SSS). Items were evaluated on a 4-point Likert scale, in which 1 represented Essential, two represented Useful but not essential, and three represented not essential. The positive content validity ratio ranges between .00 and .99, and CVR was calculated using the formula $CVR = \frac{n_e - (N/2)}{N/2}$ (Cohen et al., 2013).

Table 1

Content validity ratio of items of SSS (English translated version)

Item No.	CVR(Range)
1, 2, 3, 4, 5, 8, 10, 14, 15, 16, 17, 18, 19, 20	.66
6, 7, 9, 11, 12, 13	.33

Table 1 shows the CVR ranges of 20 items of the English-translated version of SSS. The content validity ratio indicated the value of items identified by five experts. All items in the English-translated version of SSS had positive values, as 14 items had a value of .66, and six items had a value of .33.

Step 4: Pilot Testing

Twenty items were translated and finalized for the pilot testing. This step aimed to evaluate the correlation between the Urdu and English versions of the Social Stigma Scale. The sample for this step was selected using the convenient sampling technique. Parents (n=30) of disabled children were selected from clinical settings in Lahore, Pakistan. The survey consisted of an informed consent form, demographic sheet, and Urdu and English versions of the Social Stigma Scale.

Cross-Language Validation

The cross-language validation of SSS (English and Urdu versions) was evaluated through both scales' inter-item and total correlation.

Table 2

Correlations of inter-items and a total of English and Urdu versions of the social stigma scale

Item No.	R
1	.872
2	.384
3	.334
4	.374
5	.636
6	.663
7	.872
8	.773
9	.710
10	.734
11	.609
12	.677
13	.440
14	.416
15	.442
16	.681
17	.442
18	.397
19	.345
20	.245
Urdu and English Version	.97*

Note. $n=25$, $**p<.01$.

Table 2 indicates the inter-items and the total correlation of English and Urdu scales. Results exhibited significant inter-item correlations between the English and Urdu versions of the Social Stigma Scale, except for item 20, whose range was below .3 and thus was excluded from the study. The Cronbach's alpha value was .97, which showed high internal consistency.

Phase II: Psychometric Properties for Social Stigma Scale (SSS)

Sample I

A sample of 300 was purposively collected to empirically estimate (Exploratory Factor Analysis, EFA) the translated SSS. The sample was collected from clinical settings, special children's schools, and disabled non-profit organizations in Lahore, Rawalpindi, and Islamabad, Pakistan. The sample consisted of higher numbers of fathers (54.3%) than mothers (45.7%), which mostly belonged to an age range of 36-45 years (43.1%), undergraduates (57.6%), married (89.7%), middle-class (75.9%), and most children having sensory disabilities (35.7%).

Sample II

In order to evaluate the Confirmatory Factor Analysis (CFA) of translated SSS, a sample of 311 was purposively collected from clinical settings, special children's schools, and disabled non-profit organizations in Lahore, Rawalpindi, and Islamabad, Pakistan. The sample consisted of higher numbers of mothers (73.6%) than fathers (26.4%), which mostly belonged to an age range of 26-35 years (39.5%), undergraduates (60.1%), married (84.9%), middle class (65.3%), and mostly their children have intellectual disabilities (38.9%).



Sample III

To establish convergent and divergent validity, a sample of 200 was purposively collected from clinical settings, special children's schools, and disabled non-profit organizations in Lahore, Rawalpindi, and Islamabad, Pakistan. The sample included 100 mothers and 100 fathers, which mostly belonged to an age range of 36 to 45 (46%), undergraduates (53%), married (90%), upper class (59.5%), and children with intellectual disabilities (43.5%). For test-retest reliability, a sample of 100 was purposively drawn as it was enough for a high-reliability estimate (Kennedy, 2022). Similarly, the sample consisted of higher numbers of mothers (66%) than fathers (33%), which mostly belonged to an age range of 36 to 45, undergraduate (57%), married (91%), upper-class (62%), and children with intellectual disabilities (35%).

Procedure

First, official permission was obtained from the University of Gujrat, followed by the schools/institutions, clinical settings, and NGOs of Disabled Children. Parents with any mental or physical disabilities were excluded from the current study. At the same time, parents of children with disabilities (mental, physical, learning, intellectual, developmental, or sensory disability, etc.) were included in the study. They were asked to rate each item as being closely related to their feelings. On average, it took 8-10 minutes to complete the questionnaire. For convergent and divergent validity, participants were again given instructions. Data were collected in two halves: at first, a convergent validity questionnaire was administered, and secondly, after 30 minutes, a divergent validity questionnaire was administered. On average, it took 8-10 minutes to complete both questionnaires.

Ethical Considerations

A verbal and written consent form was taken from parents, and the aim of the study was clearly mentioned. Clear instructions were written on the questionnaire and were also verbally explained. The questionnaires were enclosed in an envelope due to the sensitivity of the topic. The names of the parents were not required to maintain the confidentiality of the participants. They had the right to withdraw from the study at any time they wanted.

Statistical Analysis

For descriptive and inferential statistical analysis, the Statistical Package for Social Sciences (SPSS-24) and AMOS-24 were utilized.

Results

Exploratory Factor Analysis

To define the construct, the relationship between variables was examined using the Exploratory Factor Analysis (EFA) method. The Principle Component Analysis (PCA) form was employed to examine the overall variance of the variable. The Kaiser-Meyer Olkin adequacy of sample and loadings of factors were two principles that were taken into consideration to ensure a sufficient sample size.

Table 3

Measuring sampling adequacy

KMO	Barlett's Test of Sphericity		
Chi-Square	df	P	Sig.
SSS-E	2711.786	171	.00

Table 3 shows the Kaiser-Meyer-Olkin (KMO) sample adequacy for the 19 items of the SSS-E. KMO was rated at .80. According to Kaiser (1970), KMO .80 is a meritorious value with a high level of sufficiency. Bartlett's test of sphericity found that the R-matrix and SSS-E data set are factorable and suitable for exploratory factor analysis with an X^2 value of 2711.786 ($p < .001$).

The scree plot shows the factor solution after the 5th component with a clear break. Taking into account the factor loading, only five well-defined factors were retained in EFA with 19 items.

Figure 1

Scree plot indicating factor solution



Table 4

Factor loading of the social stigma scale English version (factor loading > .05), eigenvalues, variance' percentages, and the Cronbach alpha for five factors

Items	1	2	3	4	5
13	.87	.04	.12	.04	-.02
14	.87	.00	.17	-.30	.28
11	.79	.19	.06	.19	-.01
15	.66	-.06	.59	-.09	-.07
16	.64	.12	.12	-.30	.28
12	.56	.34	.22	.15	-.03
9	.30	.69	-.14	-.01	-.11
6	-.24	.69	.10	-.09	.19
8	.13	.67	.07	-.01	.13
10	.50	.57	-.13	.27	-.21
7	.22	.55	.02	.40	-.14
18	.20	.02	.90	.05	-.04
17	.63	.06	.68	-.12	-.07
4	.22	.16	.14	.72	.21
3	-.02	-.05	.07	.57	.41
5	-.12	.38	-.16	.49	.17
19	.08	.32	.18	-.49	.08
1	-.02	.09	-.13	.06	.77
2	.04	-.00	.02	.17	.68
Eigenvalue	5.38	2.66	1.72	1.28	1.05
%Variance	28.31	14.02	9.06	6.77	5.56
Cronbach's Alpha value	.87	.73	.82	.45	.46

Factors greater than .3 are bold.

Factors analysis was applied to 19 items from the English version (SSS) with the Varimax rotations. Table 4 also highlights five factors with items having loading higher than .30. Percentage of variance for factors 1 and 2 is also significantly higher than for factors 3,4,5. The Cronbach alpha reliability analysis was performed on a total of 19 items, which has a value of .87, indicating that this questionnaire has a high level of internal consistency.

Confirmatory Factor Analysis (CFA)

The CFA was administered to 311 participants (parents of children) in order to approve the model, as well as the factor structure. In the second phase of the study, AMOS 24.0 was used to convert the factor reserved after EFA to CFA.



AMOS is used to run CFA. This structure did not fit the data well (chi-square = 2257, df = 17.447, CFI = .758, RMSEA = .120, and GFI = .79) because the CFI value was less than the acceptable limit of .90. Modification indices were used to re-evaluate the model while keeping the covariance and regression weights in mind. Items 11, 16, 12, 6, 18, 17, 19 have high regression weights and were removed from the model due to their problematic status. Covariances were drawn to create a fit model. CFA was run on these 12 items again to assess the model. The model fit was good (chi-square = 125.269, df = 45, CFI = .93, RMSEA = .070, and GFI = .93). Four factors were confirmed with 12 items in the final model.

Figure 2

The CFA Model of the Social Stigma Scale English version with four factors

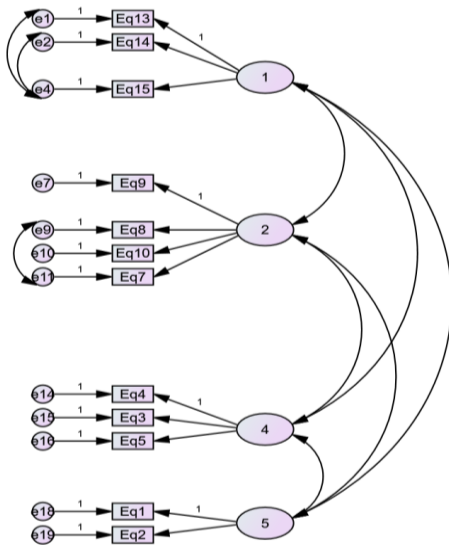


Table 5

Model fit summary of confirmatory factor analysis (n = 311)

Indexes	Chi-Square	Df	P	CFI	RMSEA	GFI
Model	125.26	45	.00	.93	.07	.93

On the second run, the CFI value was 0.93, within the acceptable range. After removing seven items, the scale had 12 items and four factors remaining. Factor 1 is called the stigma of a dark future, factor 2 is called social discrimination, factor 3 is called the stigma of social isolation, and factor 4 is called psychological distress.

Convergent and Divergent Validity

To measure the discriminant validity of SSS, a Subject Happiness Scale (Lyubomirsky & Lepper, 1999) was selected to correlate their scores with each other, as they measure opposite constructs. Lyubomirsky and Lepper (1999) developed this 4-item scale to measure subjective happiness. The scoring of the scale included a seven-point Likert scale, with the 4th item having reverse scoring. The subjective happiness scale had excellent internal consistency and good test-retest reliability.

Table 6

Discriminant validity between SSS and subject happiness scale

Variable	N	Mean	Standard Deviation	1	2
SSS	200	46.39	5.76	1	
Subject Happiness Scale	200	14.93	2.62	-.01	1

Note. $p > .01$

The results indicate a statistically non-significant negative correlation ($r = -.01, p > .05$) between the Social stigma scale scores and the Subject happiness scale scores.

A Perceived Stigma Scale was selected to correlate their scores with each other to measure the convergent validity of SSS, as they both measure similar constructs. It was developed by Mickelson in 2001 and had eight items. It was measured on a 5-point Likert scale. However, items 3 and 5 were reverse-coded. The scale had good internal consistency and test-retest reliability.

Table 7

Convergent validity between sss and perceived stigma scale

Variable	N	Mean	Standard Deviation	1	2
SSS	200	46.39	5.76	1	
Perceived Stigma Scale	200	29.90	4.12	.89**	1

Note. ** $p < .01$

The findings show a statistically significant and positive association between the Perceived Stigma Scale scores and the Social Stigma Scale scores ($r = .89$, $p < .01$).

Test-Retest Reliability

To measure the scale's consistency, the test-retest reliability was administered on 100 samples with a two-week gap, which is an adequate gap to measure this test (Marx et al., 2003). The results of this test indicated an excellent correlation ($r = .91$, $p < .05$) with a difference of two weeks between the administration of translated and adapted versions of SSS.

Discussion

The objectives of the current study include translation, adaptation, and validation of the Social Stigma Scale (Mazhar et al., 2020). It also investigated the psychometric properties of the English Version of SSS. Item analysis did not evaluate any negative values but showed item 20's value as less than .3, thus excluding it from the scale. The inter-item correlation between the Urdu and English versions of the scale was significant ($r = .97$). This showed that the items were valid and compatible with the test objectives.

The translated SSS was matched with the original Urdu version of the SSS. The original version scale included six factors, while the translated and adapted version had four factors. Similarly, the original version of SSS contained 20 items, and the new translated and adapted version of SSS finalized 12 items on the basis of the psychometric properties explained above. After a careful and extensive translation procedure of the scale, results showed the strong linguistic equivalence of both versions of the scale, and acceptable psychometric properties of the translated English version of SSS showed it is a suitable measure for the global utility of English-speaking participants.

The content validity ratio showed values from .33 to .66, which were all in acceptable ranges as described by Lawshe (1975), that CVR should be between -1 and 1. Where -1 represents perfect disagreement while +1 shows perfect agreement, and all values above 0 show that more than half of the experts agree an item is essential.

The analysis of data in EFA recognized five factors structure. The EFA evaluated the KMO value of .80, and Bartlett's test recognized significant results ($p < .001$). As explained by Tabachnick et al. (2013), the values of KMO ranging between .70 and 1 indicate that EFA would generate reliable factors. A similar study was conducted for the translation of the Moral Distress Questionnaire, where the KMO value of .79 was generated, which is consistent with the present study's findings. Similarly, another translated scale of the Multitasking Instrument showed a KMO value of .75, which was considered acceptable (Kalsoom & Kamal, 2022). The items in factor loading were all between .5 and .9, which was supported by the results of Rahn's (2018) study, which indicates that values higher than .40 fall into acceptable factor loading ranges.

In the Confirmatory factor analysis, four factors were finalized. Initially, the CFA did not yield a good fit, as its value was below .9, and other values were in normal ranges. For good model fit, seven items, a third factor, and two regression weights were executed. In the final version of the CFA, four factors were finalized, along with 12 items. The final analysis evaluated a .93 value for CFI. It is consistent with the acceptable ranges of CFI of .90 to .95, with an alpha value of less than .05 (Bentler & Bonett, 1980).



To establish convergent validity, a relationship was explored between the English version of SSS and the Perceived Stigma Scale, which had a similar construct. Findings revealed in Table (3.3.2) provided evidence for convergent validity of positive correlation with statistically significant scores ($r=.89$, $p>.01$) of the English version of the SSS and Perceived Stigma Scale. To summarize, the parents who yielded higher social stigma scores also showed greater scores on the Perceived Stigma Scale. It is reported that if similar scales showed a positive correlation with each other, convergent validity is established (Anastasi & Urbina, 1997).

The divergent validity was confirmed by exploring the relationship between the English version of SSS and the Subject Happiness Scale, which measured non-similar constructs. The findings revealed in Table (3.2.1) provided evidence for divergent validity of negative correlation with statistically non-significant scores ($r=-.01$, $p>.01$) between the English version of the SSS and Subject Happiness Scale. To summarize, the parents who yielded higher social stigma scores showed lowered scores on the Subject Happiness Scale. It is reported that if dissimilar scales show a negative correlation with each other, divergent validity is established (Anastasi & Urbina, 1997).

The test-retest reliability was also established after administering the English version of SSS on the same sample twice with a 2-week gap. The results of this test indicated an excellent correlation ($r=.91$, $p<.05$), thus proving that this version of the scale is a reliable measure of Social Stigma.

Strengths of the Study

The translation of the scale, which measures Social Stigma, was the vital strength of the current study. It would help researchers to measure Social Stigma among English-speaking participants globally. As proven by psychometric properties, the scale reports reliable results as it was administered to the educated population of Pakistan.

Furthermore, the previous scale measured the parental social stigma with children of three disabilities (Autism, Intellectual, & Down syndrome). However, the newly adapted version can now measure parental stigma with children of five disability categories (Physical, Mental, Intellectual, Sensory, and Learning disability). Similarly, the original SSS only collected data from parents who were living together. However, the translated and adapted version collected data from all marital statuses of the target population. It successfully adapted these limitations of the original SSS and produced reliable and valid results.

Limitations and Suggestions of the Study

The limitation of the study included the fact that participants were recruited from only two cities in Pakistan, thus limiting the generalizability of the scale. The present study recruited parents with at least a high school education, thus underrepresenting the less educated sample. The translated version should be administered to different cultures to measure ethical dilemmas. It is expected that future applications of this scale will enable health practitioners and researchers to evaluate the Social Stigma Scale in parents of disabled children.

Implications of the Study

The newly translated and adapted version of SSS can be administered to parents of different types of disabled children in clinical settings and for research purposes. The findings from the scale can be useful in providing counseling services for the parents. This scale can provide the levels of severity that can help to make intervention plans for parents experiencing social stigma. Awareness programs should be conducted by special education schools to make disabled children mindful of their parent's struggles.

Conclusion

The literature clearly shows the scarcity of availability of Social Stigma measures among parents of disabled children in order to measure bilingual participants' social stigma, a reliable and valid scale was needed.

Researchers now have a trustworthy and accurate tool to detect social stigma among parents of disabled children, according to this global study. The study highlighted samples with a range of marital

circumstances and adaptation to various sorts of disabilities. The scale's English translation is a valid and effective tool for assessing social stigma among parents of disabled children.

References

- Agyekum, H. A. (2018). Challenges of Parents with Autistic Children in Ghana. *Brain Disorders & Therapy*, 07(04). <https://doi.org/10.4172/2168-975x.1000248>
- Ahmad, T., Ishfaq, K., & Naeem, S. B. (2013). Impact of physical disability of children on their families; a study in Children Hospital & Institute of Child Health Multan, Pakistan. *International Journal of Medicine and Applied Health*, 1(2), 46–51.
- Alshaigi, K., Albraheem, R., Alsaleem, K., Zakaria, M., Jobeir, A., & Aldhalaan, H. (2020). Stigmatization among Parents of Autism Spectrum Disorder Children in Riyadh, Saudi Arabia. *International Journal of Pediatrics and Adolescent Medicine*, 7(3), 140–146. <https://doi.org/10.1016/j.ijpam.2019.06.003>
- Anastasi, A., & Urbina, S. (1997). Validity: basic concepts. *Psychological testing*, 7, 113–139.
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88(3), 588–606. <https://doi.org/10.1037/0033-2909.88.3.588>
- Berg, V. (2020). *Types of physical disabilities*. Carehome.co.uk. <https://www.carehome.co.uk/advice/types-of-physical-disabilities>
- Broady, T. R., Stoyles, G. J., & Morse, C. (2015). Understanding carers' lived experience of stigma: the voice of families with a child on the autism spectrum. *Health & Social Care in the Community*, 25(1), 224–233. <https://doi.org/10.1111/hsc.12297>
- Budak, M. I., Küçük, L., & Civelek, H. Y. (2018). Life Experiences of Mothers of Children with an Intellectual Disability: A Qualitative Study. *Journal of Mental Health Research in Intellectual Disabilities*, 11(4), 301–321. <https://doi.org/10.1080/19315864.2018.1518502>
- Byrd, F. (2022). *Intellectual Disability in Children*. WebMD. <https://www.webmd.com/parenting/baby/child-intellectual-disability>
- Chang, C.-C., Su, J.-A., Tsai, C.-S., Yen, C.-F., Liu, J.-H., & Lin, C.-Y. (2015). Rasch analysis suggested three unidimensional domains for Affiliate Stigma Scale: additional psychometric evaluation. *Journal of Clinical Epidemiology*, 68(6), 674–683. <https://doi.org/10.1016/j.jclinepi.2015.01.018>
- Cohen, R. J., Swerdlik, M. E., & Sturman, E. D. (2013). *Psychological testing and assessment: An introduction to tests and measurement (8th ed.)*. New York, NY: McGrawHill.
- Dervishaliaj, E. (2013). Parental Stress in Families of Children with Disabilities: A Literature Review. *Journal of Educational and Social Research*, 3(7). <https://doi.org/10.5901/jesr.2013.v3n7p579>
- Duran, S., & Ergün, S. (2018). The stigma perceived by parents of intellectual disability children: an interpretative phenomenological analysis study. *Anatolian Journal of Psychiatry*, 1. <https://doi.org/10.5455/apd.282536>
- Gobrial, E. (2018). The Lived Experiences of Mothers of Children with the Autism Spectrum Disorders in Egypt. *Social Sciences*, 7(8), 133. <https://doi.org/10.3390/socsci7080133>
- Goffman, E. (1963). Stigma and social identity. *Understanding Deviance: Connecting Classical and Contemporary Perspectives*, 256–265.
- Halstead, E., Ekas, N., Hastings, R. P., & Griffith, G. M. (2018). Associations Between Resilience and the Well-Being of Mothers of Children with Autism Spectrum Disorder and Other Developmental Disabilities. *Journal of Autism and Developmental Disorders*, 48(4), 1108–1121. <https://doi.org/10.1007/s10803-017-3447-z>
- Heiman, T. (2021). Parents' Voice: Parents' Emotional and Practical Coping with a Child with Special Needs. *Psychology*, 12(05), 675–691. <https://doi.org/10.4236/psych.2021.125042>
- Kalsoom, S., & Kamal, A. (2022). Translation, Adaptation, and Validation of a Multitasking Instrument in the Context of Collectivist Asian Culture. *Psychology in Russia: State of the Art*, 15(1), 135–153. <https://doi.org/10.11621/pir.2022.0109>
- Kennedy, I. (2022). Sample Size Determination in Test-Retest and Cronbach Alpha Reliability Estimates. *British Journal of Contemporary Education*, 2(1), 17–29. <https://doi.org/10.52589/bjce-fy266hk9>
- Lawshe, C. H. (1975). A Quantitative Approach to Content Validity. *Personnel Psychology*, 28(4), 563–575. <https://doi.org/10.1111/j.1744-6570.1975.tb01393.x>



- Lyubomirsky, S., & Lepper, H. S. (1999). A Measure of Subjective Happiness: Preliminary Reliability and Construct Validation. *Social Indicators Research*, 46(2), 137–155. <https://doi.org/10.1023/a:1006824100041>
- Mak, W. W. S., & Kwok, Y. T. Y. (2010). Internalization of stigma for parents of children with autism spectrum disorder in Hong Kong. *Social Science & Medicine*, 70(12), 2045–2051. <https://doi.org/10.1016/j.socscimed.2010.02.023>
- Marx, R. G., Menezes, A., Horovitz, L., Jones, E. C., & Warren, R. F. (2003). A comparison of two time intervals for test-retest reliability of health status instruments. *Journal of Clinical Epidemiology*, 56(8), 730–735. [https://doi.org/10.1016/s0895-4356\(03\)00084-2](https://doi.org/10.1016/s0895-4356(03)00084-2)
- Masulani-Mwale, C., Mathanga, D., Silungwe, D., Kauye, F., & Gladstone, M. (2016). Parenting children with intellectual disabilities in Malawi: the impact that reaches beyond coping? *Child: Care, Health and Development*, 42(6), 871–880. <https://doi.org/10.1111/cch.12368>
- Mazhar, M., Kausar, Dr. Noreena., & Rizwan, S. (2020). Social Stigma as a Predictor of Perceived Stress Among Parents of Children with Special Needs. *Journal of Peace, Development & Communication*, 4(3), 177–191. <https://doi.org/10.36968/jpdc-v04-i03-10>
- Mazhar, M., Kausar, N., & Bibi, B. (2020). Development of an indigenous social stigma scale for parents of children with special needs. *Elementary Education Online*, 19(4), 4616–4627.
- McLean, S., & Halstead, E. J. (2021). Resilience and stigma in mothers of children with emotional and behavioural difficulties. *Research in Developmental Disabilities*, 108, 103818. <https://doi.org/10.1016/j.ridd.2020.103818>
- Mitter, N., Ali, A., & Scior, K. (2018). Stigma experienced by family members of people with intellectual and developmental disabilities: multidimensional construct. *BJPsych Open*, 4(5), 332–338. <https://doi.org/10.1192/bjo.2018.39>
- Morris, E., Hippman, C., Murray, G., Michalak, E. E., Boyd, J. E., Livingston, J., Inglis, A., Carrion, P., & Austin, J. (2018). Self-Stigma in Relatives of people with Mental Illness scale: development and validation. *The British Journal of Psychiatry*, 212(3), 169–174. <https://doi.org/10.1192/bjp.2017.23>
- Oti-Boadi, M. (2017). Exploring the Lived Experiences of Mothers of Children With Intellectual Disability in Ghana. *SAGE Open*, 7(4), 1–12. <https://doi.org/10.1177/2158244017745578>
- Rössler, W. (2016). The stigma of mental disorders. *EMBO Reports*, 17(9), 1250–1253. <https://doi.org/10.15252/embr.201643041>
- Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2013). *Using multivariate statistics* (Vol. 6, pp. 497–516). Boston, MA: pearson.
- Tekola, B., Baheretibeb, Y., Roth, I., Tilahun, D., Fekadu, A., Hanlon, C., & Hoekstra, R. A. (2016). Challenges and opportunities to improve autism services in low-income countries: lessons from a situational analysis in Ethiopia. *Global Mental Health (Cambridge, England)*, 3, e21. <https://doi.org/10.1017/gmh.2016.17>
- Thornicroft, G., Rose, D., Kassam, A., & Sartorius, N. (2007). Stigma: ignorance, prejudice or discrimination? *British Journal of Psychiatry*, 190(3), 192–193. <https://doi.org/10.1192/bjp.bp.106.025791>
- Werner, S., & Shulman, C. (2013). Subjective well-being among family caregivers of individuals with developmental disabilities: The role of affiliate stigma and psychosocial moderating variables. *Research in Developmental Disabilities*, 34(11), 4103–4114. <https://doi.org/10.1016/j.ridd.2013.08.029>
- Wong, C. C. Y., Mak, W. W. S., & Liao, K. Y.-H. (2016). Self-Compassion: a Potential Buffer Against Affiliate Stigma Experienced by Parents of Children with Autism Spectrum Disorders. *Mindfulness*, 7(6), 1385–1395. <https://doi.org/10.1007/s12671-016-0580-2>