Bahria Journal of Professional Psychology, September 2025, Vol. 24, No. 1, 1–26

Linguistic Validation of Impact of Skin Diseases on Daily Life (ISDL) Scale

***Iqra Nazar and Fatima Kamran**

Institute of Applied Psychology, University of the Punjab, Lahore, Pakistan

The psychosocial impact of skin conditions such as Eczema, Psoriasis, and Acne Vulgaris significantly affects individuals' overall quality of life (QoL). Visible skin issues can lead to stigma, and social withdrawal, associated with anxiety, depression, and body image dissatisfaction, influencing relationships, work performance, and overall mental well-being. Different standardized measures have been developed that assess the QoL and psychosocial issues of individuals with skin conditions. Evers et al (2007) designed a multidimensional scale entitled Impact of Skin Diseases on Daily Life (ISDL) that not just measures the psychosocial impact of skin conditions, also assesses the level of satisfaction with QoL simultaneously. Therefore, the present study aimed to translate ISDL scale into Urdu language for Pakistani population. This scale comprised of 32 items with subscales including skin status, physical symptoms (itching, pain, fatigue), scratching, impact of disease on daily life, stigmatization, psychological functioning (anxiety, negative mood, positive mood), social support and illness cognition (helplessness, acceptance, perceived benefits). A high reliability coefficient was found .72. The present study was validated on Pakistani population (N =315) with an age range of M=28.5, SD=3.60. A Factor analysis through Structural Equation Modeling SEM-AMOS, was carried out using the confirmatory approach and validated the factorial structure. Results revealed strong psychometric properties of the ISDL scale which align with previous studies. These findings imply that the ISDL scale is an acceptable psychometric tool and an appropriate scale to investigate the psychosocial impact of skin diseases and QoL in individuals with chronic skin conditions.

Keywords. Psychosocial Impact, Quality of Life, Skin Conditions, Structural Equation Modeling.

*****Correspondence concerning this article should be addressed to Ms. Iqra Nazar, The Institute of Applied Psychology, University of the Punjab, Lahore, Pakistan. Email: nbuni1.ua@gmail.com

Introduction

As the body's largest organ, skin performs several critical functions — acting as a protective barrier, regulating immune responses, contributing to endocrine activity, and playing a role in physical appearance. Because skin conditions and psychological wellbeing influence one another so strongly, they can substantially shape an individual's overall quality of life (QoL). This bidirectional link likely stems from overlapping neurobiological, psychological, and social pathways. Verhoeven (2008) reported that skin-related complaints account for roughly 12.4% of the cases general practitioners encounter.

Picardi (2000) found that psychiatric morbidity is present in about a quarter of dermatology outpatients. Despite how common this comorbidity is, it remains under-recognized. Skin disorders can lower QoL on their own or intensify an existing mental health condition, yet doctors, insurers, and policymakers often fail to account for how these conditions affect people's day-to-day lives. Because most chronic skin diseases are not life-threatening, resources tend to be directed instead toward conditions viewed as more severe.

The psychosocial burden associated with dermatological conditions is often equal to, or even greater than, that seen with other chronic illnesses, and this burden can steadily erode overall QoL over time. Since most of these skin conditions have no cure, affected individuals frequently contend with them for life. Hong et al. (2008) similarly noted that although skin diseases rarely threaten survival, they can substantially undermine QoL — conditions such as Psoriasis, Eczema, and Acne Vulgaris being prime examples.

Chronic skin conditions take a toll on both physical health and emotional wellbeing, often disrupting schooling, relationships, career prospects, social life, leisure pursuits, and even intimacy (Megari, 2013). Their effects are not confined to the individual alone — caregivers and family members are also affected, physically and psychologically. Commonly reported difficulties include stress, anxiety, anger, depression, shame, withdrawal from social settings, poor body image, stigma, discrimination, strain within marriages, diminished self-esteem, and embarrassment (Sampogna et al., 2006).

Beyond pharmacological treatment, several psychotherapeutic approaches have proven useful for addressing the psychosocial fallout of skin conditions. Conditions that reflect this mind–skin connection are often labeled psychophysiological disorders (Jafferany & Pastolero, 2018). Eczema, Psoriasis, and Acne Vulgaris are among the most common examples — each rooted in physiological processes but capable of worsening under stress or emotional strain (White Swan Foundation, 2017).

Psoriasis affects close to 2% of people worldwide, with men and women impacted at similar rates (Raychaudhuri & Farber, 2001). A National Psoriasis Foundation survey (2006) found that roughly three-quarters of patients noticed their daily routines had shifted because of their condition. Eczema, clinically known as Atopic Dermatitis (AD), is a chronic inflammatory disorder tied to a range of atopic and non-atopic comorbidities that together contribute to considerable morbidity (Vakharia et al., 2017). It affects around 10% of adults and places a substantial burden — both medically and financially — on individuals and health systems alike (Johanssan et al., 2004). Itching is its hallmark symptom, often triggering excessive scratching, disrupted sleep, and secondary skin infections (Eichenfield et al., 2014).

Acne Vulgaris, too, has been shown in the literature to compromise QoL. This widespread condition arises when Propionibacterium acnes interacts with dehydroepiandrosterone, a naturally occurring hormone, producing both inflammatory and non-inflammatory lesions (George et al., 2018). Zaenglein et al. (2016) reported that it affects roughly 85% of teenagers and young adults, and Tan and Bhate (2015) rank it as the seventh most common disease globally. Because it is so common and often distressing, acne vulgaris can affect virtually every dimension of QoL — emotional wellbeing, close relationships, sport and leisure, social life, and career prospects.

A number of standardized instruments exist to gauge how skin conditions affect QoL. Evers et al. (2007) introduced one such tool, the multidimensional "Impact of Skin Diseases on Daily Life" (ISDL) scale, designed to capture both the psychosocial toll of skin conditions and skin-specific QoL. Although Urdu is spoken and understood throughout Pakistan as the national language, no Urdu translation of the ISDL currently exists.

Furthermore, Pakistani research on the impact of skin conditions has generally relied on translated instruments that assess only a single construct at a time, whereas the ISDL captures

multiple psychosocial dimensions simultaneously — skin status, scratching, physical symptoms, psychological functioning, stigmatization, and illness cognitions. Given the value an Urdu version of the ISDL would add to research on the psychosocial effects of skin conditions and skin-specific QoL in Pakistan, this study set out to produce a reliable and valid Urdu translation of the instrument.

This study pursued several objectives: translating the ISDL following standard procedures, assessing the psychometric properties of the translated instrument, examining its association with a comparative measure, and establishing criterion validity through known-group comparisons. Construct validity was further evaluated by comparing the Urdu and English versions of the ISDL, examining item-level correlations, and determining the factor structure within a Pakistani sample. It was hypothesized that the Urdu ISDL would show good reliability and sound psychometric properties, and that both language versions of the ISDL would correlate positively with the Dermatology Life Quality Index (DLQI).

Method

The scale measuring the Impact of skin diseases on daily life was translated and validated in Urdu language to be used in Pakistan. It was done in two phases. In the first part, the tool was translated from the original English version using MAPI guidelines (2014). The translated Urdu version was then administered on individuals (N= 315) with Psoriasis, Eczema and Acne Vulgaris. In order to determine the psychometric properties and statistical analysis was run using AMOS.

Instruments

Impact of Skin Disease on Daily Life (ISDL)

The scale included a total of 8 subscales: skin condition, physical symptoms (such as itching, pain, and fatigue), scratching behavior, disease's impact on daily life, stigmatization, psychological functioning, social support, and illness-related beliefs. It contained 32 items, assessed using a 4-point Likert scale. The theoretical range for each subscale was as follows: skin condition (9–36), itching (3–16), fatigue and pain (0–10), conscious and automatic scratching response (3–12), disease impact on daily life (10–40), stigmatization (6–24), anxiety (10–40), mood (both negative and positive, 0–24), helplessness, acceptance, and perceived benefits (6–24), and perceived support (5–20) (Ever et al., 2007).

Translation of ISDL in Urdu Language

This part describes translation procedure of the ISDL. Additionally, this part was divided into various steps. To determine whether the scale is adequate and whether professional translation is necessary, Step-I was created. In Step II, the scale underwent translation. Step III involved testing the questionnaire items from the pilot study. Step IV focused on performing confirmatory factor analysis to ensure the linguistic validation of the scale.

Step-I: Assessing Scale Appropriateness and Evaluating the Need for Translation

Expert Review of Instruments. The translated version was thoroughly reviewed by experts in the field of health psychology, dermatology, and psychometrics to ensure that the instrument is both psychometrically robust and appropriate for the target population.

Method. The subject experts assessed the scale to determine its face and content validity. Based on their informed opinions, the ISDL scale is deemed to be a valid measure of evaluating the psychosocial impact of skin conditions.

Participants. The panel of experts from the field of psychology, included an Assistant Professor and PhD candidate, a Health Psychologist and a Certified Dermatologist. Each expert ensured that the tool is user friendly and a valid measure.

Procedure. To evaluate the face validity, content validity, and necessity for translation of the selected psychometric measure, experts were given the questionnaire accompanied by a brief overview of the scale. These experts were asked to carefully review the symbolic language, sentence construction, and the suitability of the content for the intended population's comprehension level.

Results. The experts' feedback indicated no further modifications and major revisions in the instrument. They found it a must needed instrument for the target population. The procedure for translating ISDL scale was as follows.

Step II: Forward Translation

Two independent translations from Original English (OE) were done by two Bilingual psychologists. The translation process ensured that the scale is grammatically correct and the language used is understandable for most Pakistani Urdu speaking Individuals.

Reconciliation of Forward Translation. To reconcile the two independent forward translations of the scale, a meeting was convened. The translations were compared and evaluated for their conceptual equivalence, clarity, and comprehensibility in relation to the original questionnaires. The participants in the reconciliation process documented their evaluations for each item. They either selected the best translation or suggested a new one if neither was satisfactory. Special attention was given to cultural and linguistic differences that could complicate the translation of the English version into the target language. Ultimately, a consensus on the forward translations was reached under the supervisor's guidance. Several discussions led to the final version of the Urdu translation, chosen for its suitability.

Backward Translation. The final forward translation was presented to two English language experts, unfamiliar with the original and indigenous versions of the scale. They eligible to translate the scale back into English. Reconciliation of backward translated versions was done by expert panel. They noticed the similarities and discrepancies between the two back translated versions and the original instrument with the assistance of the research supervisor.

Review of the Forward and Backward Translations. The review aimed to evaluate the entire forward-backward translation process to ensure the final version was accurate. Two Dermatologists carefully reviewed and jointly finalized the translated scale. The backward translation was then compared to the original scale, with particular attention paid to any conceptual differences. The dermatologists examined each item by comparing the back-translated version to the original English items. The translation was intended to be simple, clear, and concise, with no conceptual discrepancies between the original and final versions. The primary goal was to achieve both conceptual equivalence and clarity, using language that was familiar and accessible.

Proof Reading. To ensure that the translation was error-free, grammatically correct, and accurately captured the original meaning, proofreading was done. Thus, the final translation into Urdu was finished.

Step III: Pilot Testing or Try Out

The third phase of the translation process involved conducting a pilot test to evaluate the psychometric properties of the translated questionnaire on a small sample. A total of 15 individuals with (n=5) Psoriasis, (n=5) Eczema, and (n=5) Acne Vulgaris were purposefully selected from a government hospital. The aim of this step was to determine whether the participants could comprehend the translated version of the ISDL and provide accurate responses. Each participant was asked to identify any words, phrases, or expressions they found difficult to understand. No significant ambiguities were reported by the participants.

Step IV: Linguistic Validation of ISDL Scale

In this step, the assessment measure was evaluated for its validity and reliability. Psychometric properties including convergent validity and criterion validation process called known group validity was done. Confirmatory Factor Analysis was also run on individual subscales of ISDL scale, in order to assess the factor structure.

Sample and Sampling Strategy. The sample was selected using a purposive sampling technique, which is a non-probability method. The sample was comprised of total N=315 individuals with Psoriasis (n=100), Eczema (n=105) and Acne Vulgaris (n=110). Age range of the participants was from 18 to 35 years (M = 28.5, SD = 3.60). Participants were recruited as referrals from dermatologists during their OPD visits from different government and private hospitals located in Lahore and Rawalpindi. Google forms were also circulated to get the sufficient amount of data through different social media platforms.

Inclusion Criteria

- Individuals diagnosed with Psoriasis, Eczema and Acne Vulgaris as screened and referred by dermatologists.
- Participants with contact dermatitis, atopic dermatitis, hand eczema and stasis eczema were recruited as these are the most common types reported in Pakistan specifically in Punjab Province.
- Individuals with all types of Psoriasis.
- Individuals with acne vulgaris having a minimum grade 2 (Dermatologists Grading Scheme) level of diagnosis.
- Duration of skin conditions for at least more than six months.
- Both men and women were included.

Exclusion Criteria

- Any other physical ailment or psychological comorbidity.
- Skin conditions other than Eczema, Psoriasis and Acne Vulgaris such as Allergy, Fungal Infection, Urticaria, Gangrene, Vitiligo and so on.
- Participants with no formal education (who could not read and write).

• Pregnant women were excluded from the study as pregnancy itself caused a lot of hormonal imbalance that might triggered skin conditions for shorter period.

Assessment Measures

Following assessment measures were used in the validation study along with the translated version of ISDL scale.

Demographic Information Sheet. A demographic information questionnaire developed by the researcher was used to get the personal, educational, occupational and familial information of the participants.

Clinical Information Sheets for Skin Conditions. A self-constructed clinical information sheet was used to gather knowledge about the exclusive medical information of individuals with different skin conditions (Psoriasis, Eczema & Acne Vulgaris).

Dermatology Life Quality Index (DLQI). When evaluating different skin problems, the Dermatology Life Quality Index (DLQI) is frequently used. It has ten items that assess how skin conditions have affected important facets of daily life throughout the previous seven days. Each question has four possible answers: (1) a little, (2) a lot, (3) very much, and (0) not relevant at all. Higher ratings indicate greater impairment in quality of life, with 30 being the highest attainable score. The following are the scoring ranges: According to Finlay and Khan (1994), 0–1 denotes no impact on the patient's life, 2–5 a slight effect, 6–10 a mild effect, 11–20 a severe effect, and 21–30 an extreme impact.

Procedure

The ISDL scale's Urdu translation was first administered with official permission from the appropriate authorities. The goals and aim of the study were explained to the participants. They gave their agreement, were reassured that their answers would be kept private, and disclosed pertinent details concerning their skin condition prior to filling out the questionnaire. After being briefed on the purpose of the study, the volunteers spent forty to forty-five minutes filling out the questionnaires. They were encouraged to finish the assessment protocol immediately, and any questions they had about the questionnaires were answered thoroughly. Throughout the process, all ethical guidelines were adhered to in interacting with the research participants.

Results

Determining Psychometric Properties of the Impact of Skin Disease on Daily Life (ISDL) Scale

This method was used to validate the ISDL questionnaire subscales. ISDL is a multidimensional tool and encompasses distinct concepts. A comprehensive factor analysis may be of limited value. However, as suggested by the original author that an overall factor analysis of all ISDL subscales is not advisable due to its multidimensional nature, so the factor analysis was conducted on the individual subscales. Later on, the scale's reliability and validity were evaluated. The demographic and clinical characteristics of participants with skin conditions is depicted in table 1.

Table 1

Demographic & Clinical Information of the Participants (N=315)

Variables	*f*(%)	*M*(*SD*)
Age		28.5(3.60)
Gender		
Men	143(45.4%)	
Women	172(54.6%)	
Occupation		
Working	171(54.3%)	
Non-Working	144(45.7%)	
Family System		
Nuclear	202(64.1%)	
Joint	113(35.9%)	
Type of Skin Condition		
Psoriasis	100(31.7%)	
Eczema	105(33.3%)	
Acne Vulgaris	110(34.9%)	
Part of Body Affected (Psoriasis)		
Exposed	36(11.4%)	
Unexposed	21(6.7%)	
Both	43(13.7%)	
Part of Body Affected (Eczema)		
Exposed	48(15.2%)	
Unexposed	13(4.1%)	
Both	44(14.0%)	
Part of Body Affected (Acne Vulgaris)		
Exposed	88(27.9%)	
Unexposed	-	
Both	22(7.0%)	

Confirmatory Factor Analysis of ISDL Subscale (Scratching)

Using IBM SPSS AMOS (Analysis of Moment Structure) version 25.0, Confirmatory Factor Analysis (CFA) was done on individual subscales of ISDL to validate the factor structure of psychosocial impact or skin specific QoL. Derived models and figures are presented in table 2.

Table 2

Fit Indices of Confirmatory Factor Analysis of the ISDL Subscale Scratching (N = 315)

Model	χ^2	*df*	χ^2/df	*GFI*	*CFI*	*NFI*	*RMSEA*	*SRMR*
Initial Model	71.842	9	7.982	.931	.911	.900	.149	.067
Model Fit	14.417	7	2.060	.986	989	.980	.058	.021

Note. GFI= Goodness of fit index, CFI=comparative fit index, NNFI = non-normed fit index, RMSEA= root mean square error of approximation, SRMR = Standardized root mean square.

Depicted in table 2 and figure 1, χ^2 (7) = 2.060, p <.05. was the model fit for the absolute CFA model. According to the model assessment, the sample variance-covariance and population variance-covariance are consistent, indicating an excellent fit. The RMSEA and SRMR values obtained from the model fit evaluation were.058 and.012, respectively. In addition, the chi-square

to degrees of freedom ratio (χ^2/df) was 2.060, and the GFI, CFI, and NNFI were .986, .989, and .980, respectively. Therefore, the model fit met the established criteria for adequate fit.

Figure 1

Confirmatory Factor Analysis of Scratching for Individuals with Skin Conditions (N = 315).

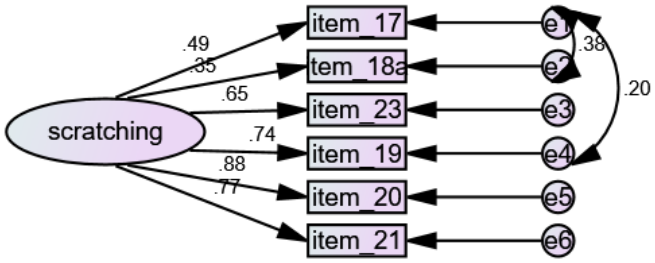

Table 3

Psychometric Properties of Scratching for Individuals with Skin Conditions (N = 315)

Factors	*α*	*CR*	*AVE*	*λ*
Scratching	.82	.85	0.51	
Item_1				0.64
Item_2				0.31
Item_3				0.74
Item_4				0.83
Item_5				0.85
Item_6				0.79

Note. CR = Composite reliability, AVE = Average variance extracted, λ = Standardized factor loading, α = Cronbach's alpha.

Composite reliability and average variance extracted (AVE) were used to evaluate the psychometric characteristics of scratching in people with skin problems, including validity and reliability. Reliability coefficients like Cronbach's alpha and composite reliability should be at least 0.70, per Henseler et al. (2016) and Hair et al. (2010). Additionally, to confirm that the factors have converged, the AVE index must be 0.50 or higher. Shown in table 3, it was observed that each item's factor loading exceeded 0.64 (Hair et al., 2010), and with the variance for scratching at 54%, this indicates strong convergent validity. The reliability coefficients, which ranged from 0.82 to 0.85, were likewise quite good. These included composite reliability and Cronbach's alpha.

Table 4

Fit Indices of Confirmatory Factor Analysis of the ISDL on Daily Life (N = 315)

Model	χ^2	*df*	χ^2/*df*	*GFI*	*CFI*	*NNFI*	*RMSEA*	*SRMR*
Initial Model	720.97	54	13.351	.743	.366	.355	.19	.14
Model Fit	130.71	46	2.842	.938	.919	.883	.07	.07

Note. GFI = Goodness of fit index, CFI = Comparative fit index, NNFI = Non-normed fit index, RMSEA = Root mean square error of approximation, SRMR = Standardized root mean square.

The fit of the CFA absolute model, as shown in table 4 and figure 2, was assessed with χ^2 (46) = 130.71, $p < .05$, indicating a strong model fit. This suggests that the variance-covariance between the sample and the population is consistent. The model's fit evaluation yielded RMSEA

and SRMR values of .07 and .07, respectively. Additionally, the GFI, CFI, and NNFI were .93, .91, and .88. Overall, these results meet the criteria for a good model fit.

Figure 2

Confirmatory Factor Analysis of the Psychosocial Impact of Skin Conditions (N =315)

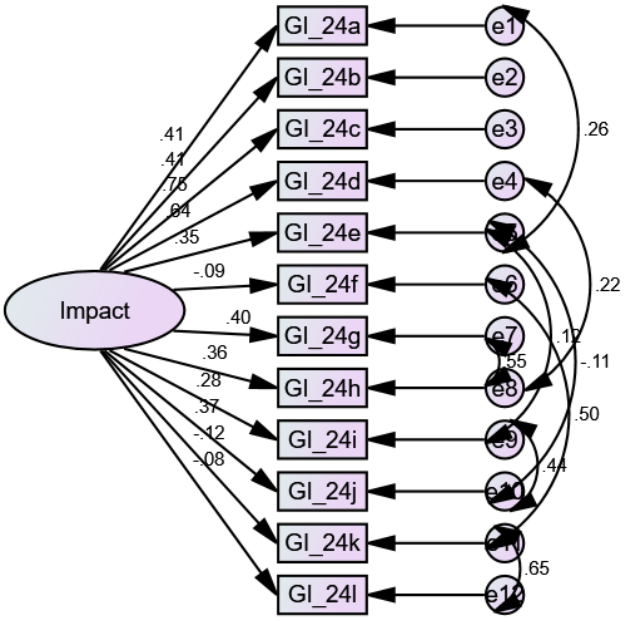

Table 5

Psychometric Properties of Psychosocial Impact of Skin Diseases on Daily Life (N = 315)

Factors	*α*	*CR*	*AVE*	*λ*
Impact of Skin Diseases	.60	0.89	0.41	
Item_1				0.63
Item_2				0.49
Item_3				0.57
Item_4				0.59
Item_5				0.47
Item_6				0.60
Item_7				0.68
Item_8				0.72
Item_9				0.69
Item_10				0.58
Item_11				0.90
Item_12				0.68

Note. CR = Composite reliability, AVE = Average variance extracted, λ = Standardized factor loading, α = Cronbach's alpha.

The factor loading for each item in the table was found to be around 0.47 or higher, indicating that the variance explained by each item was substantial (Hair et al., 2010). The variance percentages for each factor support strong convergent validity, with the psychosocial impact factor explaining 63% of the variance. Additionally, the reliability coefficients, including composite reliability and Cronbach's alpha, ranged from 0.60 to 0.89, which are considered to be within the range of good reliability estimates.

Table 6

Fit Indices of Confirmatory Factor Analysis of the Negative Mood (N = 315)

Model	χ^2	df	χ^2/df	GFI	CFI	NNFI	RMSEA	SRMR
Initial Model	70.995	9	7.888	.938	.950	.943	.14	.04
Model Fit	7.825	7	1.118	.992	.999	.994	.01	.01

Note. GFI = Goodness of fit index, CFI = Comparative fit index, NNFI = Non-normed fit index, RMSEA = Root mean square error of approximation, SRMR = Standardized root mean square.

The absolute model had a χ^2 (7) value of 1.118, with a p-value greater than 0.05. The evaluation of the current model fit, shown in table 6 and figure 3, revealed an RMSEA of 0.01 and an SRMR of 0.01. Similarly, for the negative mood, the GFI, CFI, and NNFI values were .992, .999, and .994, respectively. Thus, the model fit evaluation met the required fit criteria.

Figure 3

Confirmatory Factor Analysis of the Negative Mood (N =315)

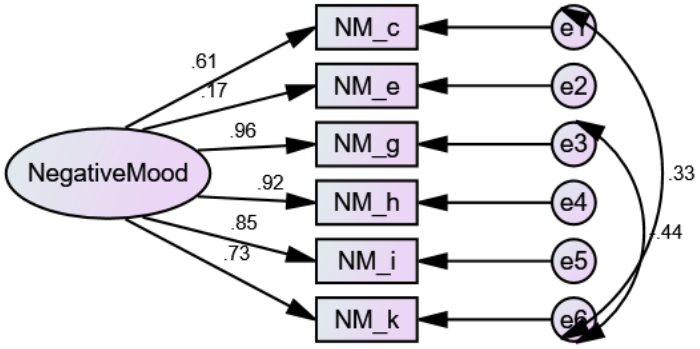

Table 7

Psychometric Properties of Negative Mood (N = 315)

Factors	*α*	*CR*	*AVE*	*λ*
Negative Mood	.81	0.85	0.50	
Item_1				0.57
Item_2				0.53
Item_3				0.84
Item_4				0.83
Item_5				0.77
Item_6				0.66

Note. CR = Composite reliability, AVE = Average variance extracted, λ = Standardized factor loading, α = Cronbach's alpha.

The factor loading for each item of negative mood, as shown in table 7, was found to be around .53 or higher, indicating that the variance explained by each item was substantial. The variance explained by negative mood was 62%. Additionally, the reliability coefficients, including composite reliability and Cronbach's alpha, ranged from .81 to .85, both of which are considered excellent reliability estimates.

Table 8

Fit Indices of Confirmatory Factor Analysis of the Positive Mood (N = 315)

Model	χ^2	*df*	χ^2/df	*GFI*	*CFI*	*NNFI*	*RMSEA*	*SRMR*
Initial Model	156.05	9	17.33	.886	.934	.930	.22	.02
Model Fit	26.898	6	4.483	.972	.991	.988	.10	.01

Note. GFI = Goodness of fit index, CFI = Comparative fit index, NNFI = Non-normed fit index, RMSEA = Root mean square error of approximation, SRMR = Standardized root mean square.

The chi-square statistic for the model was $\chi^2(6) = 4.483$, $p < .05$, as shown in table 8 and figure 4. The model fit assessment revealed an RMSEA of 0.10 and an SRMR of 0.01. Additionally, the GFI, CFI, and NNFI values for positive mood were 0.972, 0.991, and 0.988, respectively. Thus, the model fit met the required criteria. The revised model is shown below.

Figure 4

Confirmatory Factor Analysis of the Positive Mood (N =315)

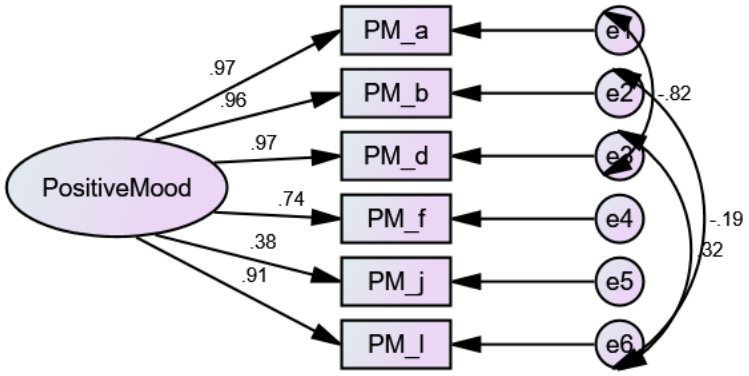

Table 9

Psychometric Properties of Positive Mood (N = 315)

Factors	*α*	*CR*	*AVE*	*λ*
Positive Mood	.92	.94	0.73	
Item_1				0.95
Item_2				0.95
Item_3				0.96
Item_4				0.80
Item_5				0.46
Item_6				0.92

Note. CR = Composite reliability, AVE = Average variance extracted, λ = Standardized factor loading, α = Cronbach's alpha.

The lambda values for each item of positive mood, shown in table 9, were found to be around 0.46 or higher, indicating that the variance explained by each item was nearing the expected level (Haire et al., 2010). The proportion of variance explained by each factor provides strong evidence of good convergent validity, with the variance for positive mood being 0.74. Moreover, reliability coefficients, including composite reliability and Cronbach's alpha, ranged from 0.92 to 0.94, which fall within the range of excellent reliability estimates.

Table 10

Fit Indices of Confirmatory Factor Analysis of the Stigmatization (N = 315)

Model	χ^2	*df*	χ^2/df	*GFI*	*CFI*	*NNFI*	*RMSEA*	*SRMR*
Model Fit	19.146	9	2.127	.981	.987	.976	.06	.02

Note. GFI = Goodness of fit index, CFI = Comparative fit index, NNFI = Non-normed fit index, RMSEA = Root mean square error of approximation, SRMR = Standardized root mean square.

The absolute model fit was $\chi^2(9) = 2.127$, $p < .05$, shown in table 10 and figure 5. The evaluation of the model fit revealed an RMSEA of .06 and an SRMR of .02. Additionally, the GFI, CFI, and NNFI values for the positive mood were .981, .987, and .976, respectively. Therefore, the model fit met the required criteria. The optimal model fit is shown below.

Figure 5

Confirmatory Factor Analysis of Stigmatization (N =315)

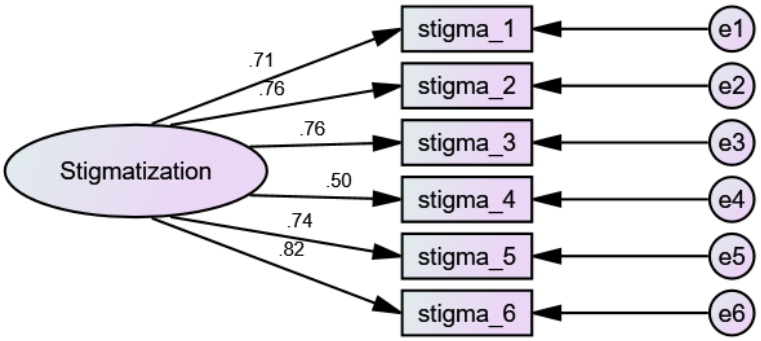

Table 11

Psychometric Properties of Stigmatization (N = 315)

Factors	*α*	*CR*	*AVE*	*λ*
Stigmatization	.86	.89	.59	
Item_1				0.76
Item_2				0.81
Item_3				0.81
Item_4				0.58
Item_5				0.78
Item_6				0.84

Note. CR = Composite reliability, AVE = Average variance extracted, λ = Standardized factor loading, α = Cronbach's alpha.

The factor loadings for each item of stigmatization, in table 11, were found to be at least 0.58, suggesting that each item accounted for a significant portion of the variance (Haire et al., 2010). The factor variance, with stigmatization accounting for 59%, provides strong evidence of convergent validity. Furthermore, reliability coefficients, including composite reliability and Cronbach's alpha, ranged from 0.86 to 0.89, indicating excellent reliability.

Table 12

Fit Indices of Confirmatory Factor Analysis of the Anxiety (N = 315)

Model	χ^2	df	χ^2/df	GFI	CFI	NNFI	RMSEA	SRMR
Initial Model	343.34	35	9.810	.791	.582	.561	.16	.14
Model Fit	86.735	27	3.212	.948	.919	.889	.08	.06

Note. GFI = Goodness of fit index, CFI = Comparative fit index, NNFI = Non-normed fit index, RMSEA = Root mean square error of approximation, SRMR = Standardized root mean square.

The absolute model showed a χ^2 (27) = 3.212, $p < .05$, shown in table 12 and figure 6. The model fit assessment revealed RMSEA and SRMR values of .08 and .06, respectively. Similarly, the GFI, CFI, and NNFI for the positive mood were .948, .919, and .889. Therefore, the model fit evaluation met the criteria for an acceptable fit to a certain degree.

Figure 6

Confirmatory Factor Analysis of the Anxiety (N =315)

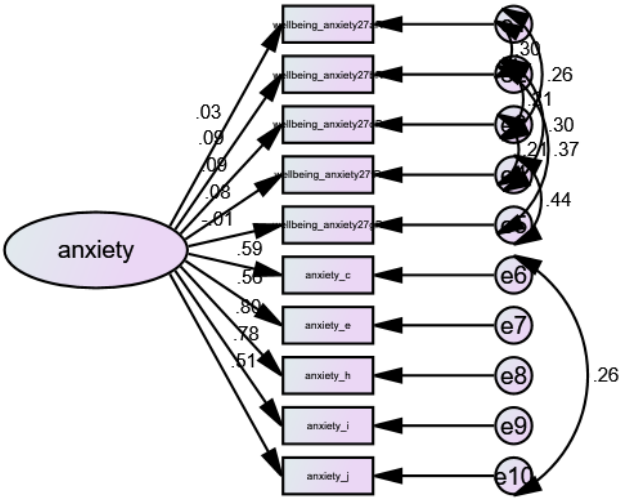

Table 14

Psychometric Properties of Anxiety (N = 315)

Factors	*α*	*CR*	*AVE*	*λ*
Anxiety	.71	.78	0.27	
Item_1				0.37
Item_2				0.56
Item_3				0.57
Item_4				0.43
Item_5				0.48
Item_6				0.55
Item_7				0.47
Item_8				0.63
Item_9				0.61
Item_10				0.47

Note. CR = Composite reliability, AVE = Average variance extracted, λ = Standardized factor loading, α = Cronbach's alpha.

The factor loading for each item of anxiety, shown in table 14, was found to be around 0.37 or higher, indicating that the variance explained by each item was significant (Haire et al., 2010).

The variance explained by anxiety was 0.50. Additionally, the reliability coefficients, including composite reliability and Cronbach's alpha, ranged from 0.71 to 0.78, which are considered to be excellent reliability estimates.

Validation of the ISDL Urdu Translation

Initially, Urdu translation of ISDL was administered on small sample (N=15) to assess the accuracy and appropriateness of the translated version. Later on, criterion validation process including convergent or construct validity and group known validity were assessed. Group differences were examined using Independent Sample t-Test and One Way ANOVA.

Table 15

Item Level Correlation and Mean Differences between ISDL English and ISDL Urdu Versions (N=315)

Items	URDU VERSION M(SD)	ENGLISH VERSION M(SD)	R
ISDL_1	3.00(.698)	3.00(.935)	.86***
ISDL_2	3.84(.796)	3.84(.884)	.73***
ISDL_3A	1.80(1.04)	1.81(1.05)	.97***
ISDL_3B	1.09(.349)	1.11(.387)	.74***
ISDL_3C	1.23(.609)	1.23(.609)	.76***
ISDL_3D	1.26(.680)	1.25(.666)	.61***
ISDL_3E	1.05(.304)	1.04(.289)	.91***
ISDL_3F	1.19(.565)	1.18(.562)	.68***
ISDL_3G	1.17(.531)	1.16(.525)	.72***
ISDL_3H	1.12(.456)	1.12(.459)	.65***
ISDL_3I	1.42(.842)	1.41(.837)	.84***
ISDL_4	2.70(.458)	2.71(.450)	.90***
ISDL_5	2.19(.884)	2.17(.887)	.83***
ISDL_6	1.48(.779)	1.51(.799)	.84***
ISDL_7	3.16(.748)	3.16(.745)	.86***
ISDL_8	3.19(.769)	3.18(.762)	.86***
ISDL_9	3.19(.766)	3.19(.766)	.87***
ISDL_10	3.14(.734)	3.13(.739)	.86***
ISDL_11A	2.90(.696)	2.88(.693)	.80***
ISDL_11B	1.37(.563)	1.45(.735)	.79***
ISDL_12	3.14(.715)	3.12(.724)	.83***
ISDL_13	3.11(.709)	3.10(.723)	.81***
ISDL_14	3.12(.684)	3.13(.676)	.83***
ISDL_15	3.15(.716)	3.14(.715)	.83***
ISDL_16	2.76(.867)	2.76(.879)	.83***
ISDL_17A	3.29(.631)	3.26(.640)	.90***
ISDL_17B	2.93(.672)	2.95(.677)	.92***
ISDL_17C	2.96(.662)	2.98(.665)	.88***
ISDL_17D	3.05(.670)	3.06(.668)	.88***
ISDL_17E	3.49(.692)	3.51(.683)	.87***
ISDL_17F	1.42(.907)	1.40(.887)	.79***
ISDL_17G	3.29(.596)	3.31(.591)	.86***
ISDL_17H	3.39(.605)	3.41(.598)	.84***
ISDL_17I	3.20(.638)	3.22(.635)	.89***
ISDL_17J	3.18(.643)	3.20(.649)	.93***
ISDL_17K	806.1(394.0)	815.6(386.0)	.88***
ISDL_17L	866.1(339.1)	875.6(328.6)	.90***

ISDL_18A	3.00(.686)	3.02(.690)	.86***
ISDL_18B	2.96(.743)	2.98(.752)	.84***
ISDL_18C	3.01(.704)	3.04(.710)	.76***
ISDL_18D	3.36(.707)	3.37(.700)	.82***
ISDL_18E	2.98(.688)	3.00(.693)	.82***
ISDL_18F	2.99(.731)	3.01(.735)	.84***
ISDL_18G	2.35(.965)	2.34(.975)	.79***
ISDL_19A	2.04(.473)	2.04(.470)	.86***
ISDL_19B	1.90(.480)	1.90(.479)	.84***
ISDL_19C	3.22(.637)	3.23(.641)	.80***
ISDL_19D	1.93(.446)	1.93(.442)	.84***
ISDL_19E	3.21(.596)	3.21(.596)	.83***
ISDL_19F	1.85(.493)	1.84(.500)	.83***
ISDL_19G	1.85(.498)	1.85(.496)	.83***
ISDL_19H	3.19(.632)	3.20(.634)	.74***
ISDL_19I	3.27(.587)	3.26(.592)	.83***
ISDL_19J	3.21(.635)	3.21(.638)	.75***
ISDL_20A	2.40(.681)	2.40(.680)	.82***
ISDL_20B	2.43(.712)	2.42(.715)	.71***
ISDL_20C	3.88(.827)	3.91(.830)	.76***
ISDL_20D	2.43(.726)	2.43(.725)	.75***
ISDL_20E	3.31(1.06)	3.33(1.07)	.90***
ISDL_20F	2.37(.748)	2.36(.747)	.83***
ISDL_20G	3.97(.708)	3.99(.711)	.76***
ISDL_20H	4.01(.691)	4.03(.687)	.76***
ISDL_20I	3.96(.713)	3.98(.715)	.72***
ISDL_20J	2.32(.626)	2.32(.624)	.82***
ISDL_20K	4.02(.697)	4.04(.701)	.75***
ISDL_20L	2.40(.695)	2.40(.695)	.87***
ISDL_21	2.56(1.09)	2.56(1.09)	1.00***
ISDL_22A	2.09(.644)	2.08(.635)	.85***
ISDL_22B	2.29(.895)	2.29(.887)	.89***
ISDL_22C	2.00(.709)	2.01(.704)	.86***
ISDL_22D	2.63(.861)	2.64(.856)	.89***
ISDL_22E	2.14(.684)	2.14(.680)	.85***
ISDL_23A	3.45(.618)	3.45(.618)	.83***
ISDL_23B	1.59(.563)	1.58(.565)	.81***
ISDL_23C	1.45(.570)	1.46(.570)	.83***
ISDL_23D	1.35(.511)	1.34(.509)	.82***
ISDL_23E	3.45(.648)	3.47(.639)	.83***
ISDL_23F	1.67(.520)	1.66(.513)	.82***
ISDL_23G	3.48(.588)	3.48(.588)	.77***
ISDL_23H	1.87(.878)	1.92(.927)	.84***
ISDL_23I	3.51(.614)	3.53(.603)	.83***
ISDL_23J	1.36(.494)	1.35(.493)	.90***
ISDL_23K	1.17(.377)	1.17(.377)	.79***
ISDL_23L	3.43(.627)	3.45(.618)	.84***
ISDL_23M	1.27(.447)	1.27(.446)	.84***
ISDL_23N	1.19(.395)	1.19(.393)	.82***
ISDL_23O	3.52(.554)	3.53(.554)	.81***
ISDL_23P	3.15(.838)	3.15(.839)	.78***
ISDL_23Q	1.26(.439)	1.25(.435)	.83***

ISDL_23R	1.16(.368)	1.15(.363)	.88***
ISDL_24	1.83(.858)	1.82(.837)	.83***

Note. ***p<.001

Table 15 showed item level correlations between ISDL English and Urdu versions. Results indicated highly significant and positive correlations between all the items of English and Urdu versions. These significant correlation coefficients underscore a substantial and consistent linear relationship between the English and Urdu versions of the scale. Overall, the findings point to a robust concordance between the two language versions for all scale items.

Convergent Validity

Convergent validity refers to the extent to which a test designed to measure a specific construct is related to other tests that evaluate the same or similar constructs (Nikolopoulou, 2022). To ensure the convergent validity, DLQI was used as it also measures the impact of skin conditions on overall QoL (Finlay & Khan, 1994). It was hypothesized that ISDL both English and Urdu versions are likely to be positively correlated with DLQI. Pearson Product Moment Correlation was done using SPSS. Findings are presented in table 16.

Table 16

Correlation between Original ISDL, Urdu ISDL and DLQI (N=315)

Variables	ISDL-Urdu	ISDL-English	DLQI
ISDL-Urdu	-	.996***	.175**
ISDL-English		-	.165**
DLQI			-

Note. ISDL=Impact of Skin Diseases on Daily Life Scale, DLQI= Dermatology Life Quality Index, **p<.01, ***p<.001.

Table 16 showed positive correlation between ISDL Urdu, English and DLQI that was used as a comparative questionnaire. Findings reflected that DLQI was positively correlated with both English and Urdu versions of ISDL, determining accuracy of the translated tool. Size of correlation of DLQI with both Urdu and English Versions of ISDL is comparable. Furthermore, as per the scoring procedure of the above mentioned scales, it is interpreted that higher psychosocial impact of skin conditions tend to have greater impact on individual's life resulting poor QoL.

Known Groups Validity

Known group validity, also referred to as criterion validation, is a type of construct validation. It involves assessing the validity of an instrument based on how effectively it produces different scores for groups that are known to differ on the variables being measured. In order to assess the various group differences, t-test and one way ANOVA were run.

Table 17

Gender Comparison in terms of Psychosocial Impact of Skin Conditions & QoL (N=315)

	Men		Women				95% *CI*		
Variable	*M*	*SD*	*M*	*SD*	*t*(313)	*p*	*LL*	*UL*	Cohen's d
Skin Status	11.33	1.26	11.36	1.02	-.237	.813	-.284	.223	-

Physical Symptoms									
Itching	12.94	2.30	11.68	2.53	4.56	.000***	.716	1.79	0.52
Pain	2.20	.862	2.18	.904	.237	.813	-.173	.221	-
Fatigue	1.41	.706	1.54	.832	-1.44	.150	-.300	.046	-
Conscious Scratching	9.24	1.48	8.47	1.83	4.05	.000***	.398	1.14	0.46
Automatic Scratching	9.76	1.67	9.06	1.88	3.41	.001**	.293	1.09	0.39
Scratching at Night	3.31	.665	3.02	.733	3.66	.000***	.134	.447	0.41
Scratching with Object	1.46	.566	1.29	.550	2.61	.009**	.040	.289	0.30
Impact on Daily Life									
General Impact	30.68	2.94	29.91	3.67	2.02	.043*	.023	1.52	0.23
Impact on Activities	16.01	1.83	15.54	2.39	1.93	.054	-.007	.953	-
Impact Sexual Function	1.62	1.07	1.25	.693	3.76	.000***	.181	.577	0.41
Impact on Eating & Sleeping	6.59	1.03	6.76	1.10	-1.42	.156	-.412	.066	-
Impact on Relationships	6.44	1.01	6.35	1.18	.740	.460	-.153	.339	-
Impact on the Partner	.790	1.49	.540	1.28	1.59	.112	-.058	.557	-
Impact on the Family	.384	1.04	.383	1.00	.008	.994	-.227	.229	-
Stigmatization	18.51	3.27	18.19	3.27	.860	.391	-.410	1.04	
Psychological Functioning									
Anxiety	21.84	2.07	21.87	1.93	-.115	.909	-.471	.419	-
Negative Mood	23.44	3.39	22.97	3.50	1.18	.236	-.305	1.23	-
Positive Mood	14.64	3.75	14.17	3.42	1.15	.247	-.327	1.26	-
Social Support									
Social Network	2.52	1.07	2.59	1.11	-.599	.550	-.318	.170	-
Potential Social Support	11.60	2.72	10.82	2.92	2.41	.016*	.144	1.40	0.27
Illness Cognitions									
Helplessness	18.65	2.20	18.43	2.29	.867	.386	-.280	.723	-
Acceptance	7.92	1.79	8.33	2.08	-1.84	.067	-.844	.028	-
Perceived Benefits	10.41	1.62	10.37	1.76	.247	.805	-.330	.425	-
ISDL Total Score	243.80	13.80	237.17	15.75	3.93	.000***	3.31	9.94	0.45
DLQI	22.51	4.15	23.02	4.34	-1.07	.283	-1.46	.430	-

Note. ISDL= Impact of Skin Disease on Daily Life, DLQI= Dermatology Life Quality Index, *p<.05, **p<.01, ***p<.001. Men n=143, Women n=172.

As depicted in table 17, the findings of the independent sample t-test revealed that men reported itching, conscious scratching, automatic scratching, scratching at night and scratching with object as a most commonly occurring symptoms as compared to women, which reflects poor physical functioning. In addition, men also reported greater impact of skin conditions on their daily life resulting adverse effects on their sexual functioning. Interestingly, it was found that men tend to

experience greater social support from family, friends and peers as compared to women that might help them to manage their skin condition. As per the total scores of ISDL scale, men tend to experience higher psychosocial impact of skin conditions resulting poorer QoL.

Table 18

Comparison of Working Status for Psychosocial Impact of Skin Conditions & QoL (N=315)

	Working		Non-working				95% *CI*		
Variable	*M*	*SD*	*M*	*SD*	*t*(313)	*p*	*LL*	*UL*	Cohen's d
Skin Status	11.43	1.19	11.25	1.06	1.36	.173	-.077	.429	-
Physical Symptoms									
Itching	12.59	2.53	11.85	2.42	2.64	.009**	.189	1.29	0.29
Pain	2.24	.873	2.13	.897	1.06	.287	-.090	.303	-
Fatigue	1.50	.777	1.47	.783	.348	.728	-.142	204	-
Scratching									
Conscious Scratching	8.92	1.65	8.70	1.80	1.13	.256	-.161	.607	-
Automatic Scratching	9.59	1.78	9.13	1.84	2.26	.024*	.061	.867	0.25
Scratching at Night	3.26	.682	3.02	.738	2.93	.004**	.077	.393	0.33
Scratching with Object	1.43	.613	1.29	.488	2.11	.035*	.009	.258	0.25
Impact on Daily Life									
General Impact	30.57	3.23	29.88	3.51	1.81	.071	-.059	1.43	-
Impact on Activities	15.96	2.05	15.50	2.28	1.87	.062	-.022	.938	-
Impact Sexual Function	1.50	1.00	1.32	.773	1.72	.086	-.024	.377	-
Impact on Eating & Sleeping	6.67	1.05	6.70	1.10	-.294	.769	-.275	.203	-
Impact on Relationships	6.43	1.07	6.34	1.14	.729	.467	-.155	.338	-
Impact on the Partner	.801	1.50	.479	1.22	2.06	.040*	.014	.629	0.23
Impact on the Family	.444	1.10	.312	.911	1.14	.255	-.095	.359	-
Stigmatization	18.36	3.31	18.29	3.23	.188	.851	-.659	.799	-
Psychological Functioning									
Anxiety	22.02	1.96	21.65	2.02	1.64	.102	-.073	.812	-
Negative Mood	23.41	3.65	22.91	3.19	1.27	.203	-.269	1.26	-
Positive Mood	14.52	3.46	14.22	3.71	.751	.453	-.492	1.10	-
Social Support									
Social Network	2.54	1.12	2.58	1.06	-.271	.787	-.277	.210	-
Potential Social Support	11.45	2.85	10.84	2.82	1.89	.059	-.023	1.24	0.27
Illness Cognition									
Helplessness	18.71	2.24	18.32	2.24	1.52	.129	-.113	.887	-
Acceptance	7.83	1.90	8.51	1.98	-3.08	.002**	-1.10	-.245	0.35
Perceived Benefits	10.32	1.68	10.47	1.71	-.821	.412	-.535	.220	-
ISDL Total Score	242.61	15.68	237.29	14.21	3.12	.002**	1.97	8.66	0.35

DLQI	22.57	4.01	23.05	4.53	-1.00	.318	-1.43	.465	-

Note. ISDL= Impact of Skin Disease on Daily Life, DLQI= Dermatology Life Quality Index, *p < .05, **p < .01, ***p < .001. Working n=171, Non-Working n=144.

Table 18 identifies differences between working and non-working individuals via independent sample t-test. Results indicated that working individuals tend to report more severe symptoms of itching and scratching as compared to non-working individuals. Similarly, findings suggested that working individuals who were married tend to report dissatisfied relationship with spouse. In addition, working individuals tend to receive greater social support from family, friends and peers that may have significant positive impact on QoL. Moreover, findings revealed that non-working individuals tend to accept their skin conditions as compared to working individuals. This finding suggested that skin conditions tend to have greater impact on work related QoL that might increase the psychosocial impact of skin conditions in working individuals. This might be a significant cause that working individuals didn't accept or adjust with their skin conditions. In the present study, working individuals tend to report higher psychosocial impact of skin conditions on their overall QoL as compared to non-working group.

Table 19

Comparison of Family Systems for Psychosocial Impact of Skin Conditions & QoL (N=315)

	Nuclear		Joint				95% *CI*		
Variable	*M*	*SD*	*M*	*SD*	*t*(313)	*p*	*LL*	*UL*	Cohen's d
Skin Status	11.32	.997	11.40	1.36	-.636	.525	-.348	.178	-
Physical Symptoms									
Itching	11.99	2.60	12.73	2.26	-2.54	.011*	-1.31	-.169	0.15
Pain	2.16	.885	2.25	.884	-.897	.370	-.297	.111	-
Fatigue	1.45	.760	1.54	.812	-1.01	.309	-.273	.086	-
Scratching									
Conscious Scratching	8.63	1.78	9.15	1.56	-2.61	.009**	-.921	-.129	0.31
Automatic Scratching	9.21	1.83	9.69	1.76	-2.24	.026*	-.896	-.058	0.26
Scratching at Night	3.11	.716	3.22	.716	-1.21	.224	-.268	.063	-
Scratching with Object	1.35	.591	1.39	.509	-.631	.528	-.172	.088	-
Impact on Daily Life									
General Impact	30.09	3.40	30.56	3.32	-1.19	.235	-1.25	.308	-
Impact on Activities	15.74	2.26	15.77	1.98	-.142	.887	-.538	.465	-
Impact Sexual Function	1.32	.811	1.59	1.04	-2.51	.012*	-.474	-.058	0.28
Impact on Eating & Sleeping	6.66	1.08	6.73	1.06	-.562	.574	-.320	.177	-
Impact on Relationships	6.36	1.10	6.46	1.11	-.759	.449	-.355	.157	-
Impact on the Partner	.460	1.18	1.00	1.64	-3.36	.001**	-.855	-.223	0.37
Impact on the Family	.272	.875	.584	1.22	-2.61	.009**	-.546	-.077	0.29
Stigmatization	18.27	3.24	18.45	3.34	-.465	.642	-.936	.578	-
Psychological Functioning									
Anxiety	21.84	1.92	21.89	2.12	-.222	.824	-.514	.409	-
Negative Mood	23.04	3.42	23.43	3.50	-.946	.345	-1.18	.414	-

Positive Mood	14.56	3.45	14.07	3.78	1.17	.241	-.333	1.32	-
Social Support									
Social Network	2.59	1.09	2.51	1.10	.627	.531	-.172	.334	-
Potential Social Support	11.03	2.84	11.43	2.86	-1.19	.235	-1.05	.260	-
Illness Cognitions									
Helplessness	18.61	2.29	18.39	2.18	.814	.416	-.305	.736	-
Acceptance	8.05	2.00	8.30	1.89	-1.10	.270	-.709	.199	-
Perceived Benefits	10.30	1.66	10.54	1.72	-1.21	.226	-.633	.149	-
ISDL Total Score	238.50	15.07	243.18	15.13	-2.64	.009**	-8.17	-1.19	0.30
DLQI	22.79	4.03	22.78	4.65	.019	.985	-.977	.995	-

Note: ISDL= Impact of Skin Disease on Daily Life, DLQI= Dermatology Life Quality Index, **p*<.05, ***p* < .01, ****p* < .001. Nuclear n=202, Joint n=113.

Results of t-test shown in table 19 indicated that individuals living in joint family system tend to report more severe symptoms of itching and scratching as compared to individuals with nuclear family system. It was also suggested that individuals in joint families tend to report poor sexual functioning due to their skin condition. In addition, individuals living in joint families tend to report negative impact of skin condition on their marital and family life which may have significant negative influence on QoL. Moreover, t-test revealed that individuals living in joint families tend to experience greater psychosocial impact of skin conditions. This can be a significant reason that individuals living in joint families tend to have a daily interaction with other family members that might trigger their psychosocial issues and cause adverse impact on QoL.

Table 20

One Way ANOVA Comparing Individuals with Different Types of Skin Conditions for Psychosocial Impact of Skin Disease (N=315)

Variable	Eczema *M(SD)*	Psoriasis *M(SD)*	Acne Vulgaris *M(SD)*	*F*(2,312)	*p*	Partial η^2
ISDL	241.3(14.11)	243.9(13.35)	235.6(16.78)	8.65	.000***	.053
DLQI	24.00(4.25)	22.16(3.62)	22.21(4.58)	6.53	.002**	.040

Note. ISDL= Impact of Skin Disease on Daily Life, DLQI= Dermatology Life Quality Index, η^2 = Eta Square, ***p*<.01, ****p*<.001.

Table 20 revealed that individuals with psoriasis tend to report higher psychosocial impact of skin condition on their daily lives as compared to individuals with eczema and acne vulgaris. On the other hand, it was found that individuals with eczema tend to report poorer QoL as compared to individuals with psoriasis and acne.

Table 21

One Way ANOVA Comparing Individuals with Exposed, Unexposed and Both Types of Psoriasis in terms of Psychosocial Impact and QoL (N=315)

Variable	Exposed *M(SD)*	Unexposed *M(SD)*	Both *M(SD)*	*F*(2,97)	*p*
ISDL	239.8(15.75)	242.3(12.32)	248.1(10.34)	4.27	.017**
DLQI	23.50(3.73)	22.09(2.80)	21.06(3.56)	4.75	.011*

Note. ISDL= Impact of Skin Disease on Daily Life, DLQI= Dermatology Life Quality Index, **p*<.05, ***p*<.01.

Table 21 indicates that individuals affected by psoriasis on both exposed and unexposed body parts tend to perceive higher psychosocial impact of skin condition on their daily lives as compared to those who got psoriasis patches on exposed and unexposed body parts only. On the other hand, it was found that individuals with exposed psoriasis tend to report poorer QoL as compared to other individuals.

Table 22

One Way ANOVA Comparing Individuals with Exposed, Unexposed and Both Types of Eczema in terms of Psychosocial Impact and QoL (N=315)

Variable	Exposed *M(SD)*	Unexposed *M(SD)*	Both *M(SD)*	*F*(2,102)	*p*
ISDL	241.1(14.84)	238.5(8.87)	242.3(14.68)	.377	.687
DLQI	24.10(5.04)	24.84(3.15)	23.63(3.58)	.427	.654

Note. ISDL= Impact of Skin Disease on Daily Life, DLQI= Dermatology Life Quality Index.

Surprisingly, findings of table 22 revealed no significant mean differences among individuals having eczema on exposed and unexposed body parts, in terms of psychosocial impact and QoL. Individuals with exposed and unexposed eczema are equally affected by the psychosocial impact of their skin condition resulting poorer QoL.

Discussion

This study set out to translate and validate the Impact of Skin Diseases on Daily Life (ISDL) Scale in Urdu. Most existing evidence on the psychosocial consequences of skin conditions comes from studies using the English ISDL, largely carried out in English-speaking countries. Because a full-length Urdu version was clearly needed, this study translated and validated the ISDL so that research on the multidimensional psychosocial impact of skin conditions could be extended to Urdu-speaking populations, both in Pakistan and beyond. A series of analyses were carried out on 315 individuals living with psoriasis, eczema, or acne vulgaris to assess the translation and its psychometric properties.

A standard forward-backward translation procedure was used to preserve accuracy and conceptual meaning, with a committee reviewing and approving the wording at every stage. This process yielded a high-quality translation, reflected in the strong correlation between the English and Urdu versions. People living with different skin conditions consistently report considerable psychosocial difficulty. Gupta et al. (2014) note that Asian populations may be especially vulnerable to skin-related psychological distress because of the visibility created by darker skin tones, which can carry strong social stigma, cause psychological discomfort, and disrupt interpersonal relationships. Many people with psoriasis, eczema, or acne vulgaris feel singled out for discrimination or hurtful comments because of their condition. Parsad et al. (2003) further suggest that, given persistent gender inequality in some societies, women in India may experience the most severe QoL impairment relative to men.

Notably, the present study found the opposite pattern for gender, with men generally reporting a greater psychosocial burden than women. Men's difficulties are often given less attention than women's, even when the underlying struggles are comparable. Gender roles — shaped by culture and society, and capable of shifting over time — dictate expected behaviors and attitudes tied to masculinity and femininity, and conforming to these expectations can itself be a

source of discomfort and stress for many men (Adil et al., 2017). Acne vulgaris, in particular, appears to weigh heavily on the psychosocial wellbeing of men in Pakistan; Naveed et al. (2021) found a clear link between acne severity and QoL impairment among young Pakistani adults, with male participants reporting notable psychosocial strain, and Khan et al. (2023) similarly reported moderate-to-severe QoL effects among Pakistani male adolescents with acne, underscoring the need for care that addresses both the physical and psychological sides of the condition.

Psoriasis shows a comparable pattern. Khawaja et al. (2015) linked psoriasis to psychiatric conditions such as depression and anxiety that spill over into professional and social life, and Ahmed and Javed (2014) point to social stigmatization and psychological distress as further contributors to diminished QoL. Direct evidence on Pakistani men with eczema specifically is scarcer, but broader research links eczema to a heightened risk of depression and anxiety (National Eczema Association, 2024). In Pakistan, eczema's visible symptoms, associated stigma, and chronic course likely contribute to psychological distress, particularly among men; Aman et al. (2017), for instance, found eczema to be the most frequently diagnosed skin disorder at a tertiary care hospital, accounting for 31.07% of cases, most of them men. These patterns mirror the present findings and reinforce the importance of attending to the psychosocial toll of skin conditions on men in Pakistan.

Visible skin conditions are also known to carry a substantial psychosocial cost for people in professional settings (Yew et al., 2020). Consistent with this, the known-group validation in the present study showed that working individuals experienced a greater psychosocial burden than their non-working counterparts and appeared to struggle more with accepting their condition. Yew et al. (2020) similarly found that people with skin diseases are more prone to depressive symptoms, social isolation, loneliness, and diminished QoL — all of which can spill over into work performance and professional relationships. Zhang et al. (2019) add that skin conditions can distort body image in ways that hurt psychosocial health and QoL, potentially reducing productivity and complicating workplace interactions, while Costeris et al. (2021) link skin disorders to lower self-esteem and weaker perceived social support, both of which can translate into professional difficulties and lower job satisfaction. The present results align closely with this body of work.

Skin conditions can also disrupt body image, self-confidence, self-concept, social functioning, and mental health more broadly. The present study found that individuals living in joint family systems reported a greater psychosocial burden from their skin condition — plausibly because the close, frequent contact with multiple generations of family members that characterizes joint living amplifies exposure and expectation (Yew et al., 2020). More people around means more chances for visible symptoms to trigger self-consciousness and anxiety (Zhang et al., 2019). Strong cultural and traditional values common in joint families may also lead to skin conditions being misunderstood or stigmatized, prompting feelings of shame or a need to hide the condition; even though joint families can offer valuable support, that support can turn into a source of stress when relatives lack understanding of the condition (Hughes et al., 2023). Taken together, these dynamics point to a real psychosocial burden for people with skin conditions in joint households, one that calls for a combined approach of medical treatment, psychological support, and family education. The study also found that psoriasis patients with scaly patches on exposed skin experienced a heavier psychosocial burden and poorer QoL — a pattern consistent with prior evidence. Costeris et al. (2021) found that visible skin conditions like psoriasis are tied to lower self-esteem and weaker perceived social support relative to non-visible conditions, both of which can impede social

functioning, while Germain et al. (2021) report that visible psoriasis is linked to greater depressive symptoms, isolation, loneliness, and stigmatization, with visibility itself intensifying emotional distress.

Finally, participants with eczema reported the poorest QoL among the three groups, a finding consistent with earlier work. Ho Na et al. (2019) note that atopic dermatitis undermines QoL across physical, psychosocial, and mental domains, with its chronic course fueling ongoing discomfort and distress. Kilic and Kilic (2023) similarly found reduced QoL alongside heightened anxiety and depression among people with eczema, and a National Eczema Foundation (2023) survey found generally poor QoL perceptions in this group. Holm et al. (2006) reported that atopic eczema affects health-related QoL more through mental health, social functioning, and emotional roles than through physical functioning per se, and other research points to lasting effects of eczema on daily functioning and overall QoL.

Collectively, this body of evidence highlights just how deeply skin conditions can affect QoL, reinforcing the need for treatment approaches that address the psychosocial dimension alongside the physical symptoms.

Conclusion

In conclusion, skin conditions have a profound psychosocial impact that goes far beyond the physical manifestations of the condition. It may have a major impact on individual's overall QoL. The psychosocial issues caused by Psoriasis, Eczema and Acne Vulgaris, emphasize how crucial it is to spread knowledge and support individuals who have been affected by it. The ISDL scale was translated, validated, and its psychometric properties were assessed. The results obtained were both accurate and reliable. The primary aim was to translate the impact of skin disease on daily life (ISDL) scale in native language according to Pakistani population. This study proved adequate validity and good reliability for the translated version of standardized measure. The translated questionnaire will enable other researchers to gather information more easily in their native language. In conclusion, the findings of the current study confirmed the hypothesis that an assessment tool with satisfactory reliability and validity is suitable for evaluating the psychosocial effects of skin conditions or skin-specific QoL.

Limitations, Recommendations, and Implications

This is the first study to examine the translation of the ISDL into Urdu and assess its psychometric validity and factor structure within the context of Pakistani culture. The study has followed rigorous procedures to establish the ISDL-Urdu version as a valid and reliable tool for evaluating the psychosocial impact of skin conditions in the Urdu-speaking population of Pakistan. However, there are some limitations that should be addressed in future research. First, the majority of participants were relatively young, leading to limited age diversity. Another concern is that all participants had a high level of education. For studies focused on basic psychometric properties and initial factorial validity, it is essential to ensure diversity in age, education, residential area, and socioeconomic status. While socioeconomic diversity was represented in this study, as participants were recruited from both government and private hospitals, the other factors require broader consideration.

Nevertheless, this study provides the first psychometric and factorial evidence for the ISDL Urdu version and its suitability for Pakistani culture. The ISDL-Urdu version will help facilitate

research on the psychosocial impact of skin conditions and skin-specific QoL in Pakistan, contributing to the inclusion of the Urdu-speaking population in larger datasets and enabling future cross-cultural comparisons.

References

Ahmad, M. K., & Javed, A. A. (2014). Assessment of physical and mental Health of psoriasis patients by short form 36 health survey scoring. *Pak Armed Forces Medical Journal, 64*(1): 14-17.

Aman, S., Nadeem, M., Mahmood, K., & Ghafoor, M. B. (2017). Pattern of skin diseases among patients attending a tertiary care hospital in Lahore, Pakistan. *Journal of Taibah University Medical Sciences, 12*(5). https://doi.org/10.1016/j.jtumed.2017.04.007

Bashyam, A. M., Ganguli, S., Mahajan, P., & Feldman, S. R. (2021). Lifelong Impact of Severe Atopic Dermatitis on Quality of Life: A Case Report. *Dermatology and Therapy, 11.* https://doi.org/10.1007/s13555-021-00515-x

Costeris, C., Petridou, M., & Loannou, Y. (2021). Psychological Impact of Skin Disorders on Patients' Self-esteem and Perceived Social Support. *Journal of Dermatology & Skin Science, 3(*1). Retrieved from: https://www.dermatoljournal.com/articles/psychological-impact-of-skin-disorders-on-patients-self-esteem-and-perceived-social-support.html

Eichenfield, L.F., Tom, W.L., Chamlin, S.L., Feldman, S.R., Hanifin, J.M., Simpson, E.L., Berger, T.G., Bergman, J.N., Cohen, D.E., Cooper, K.D. (2014). Guidelines of care for the management of atopic dermatitis. Diagnosis and assessment of atopic dermatitis. *Journal of American Academy Dermatology, 70*, 338–351.

Evers, A. W. M., Duller, P., Kerkhof, V. D., Valk, V. D., Jong, E., Gerritsen, M. J. P., Otero, E., Verhoeven, E. W. M., Verhaak, C M., & Kraaimaat, F. W. (2007). The Impact of Chronic Skin Disease on Daily Life (ISDL): a generic and dermatology-specific health instrument. *Epidemiology and Health Services Research, 158*(1), 101-108. https://doi.org/10.1111/j.1365-2133.2007.08296.x

Finlay, A. Y., & Khan, G. K. (1994). Dermatology Life Quality Index (DLQI): A simple practical measure for routine clinical use. *Clinical and Experimental Dermatology, 19*(3), 210–216. https://doi.org/10.1111/j.1365-2230.1994.tb01167.x

George, M., Hu, L. Z., Elias, P. M., & Man, M. Q. (2018). Therapeutic Benefits of Natural Ingredients for Atopic Dermatitis. *Clinical Journal of Integrated Med, 24*(4). https://doi.org/10.1007/s11655-017-2769-1

Germain, N., Augustin, M., François, C., Legau, K., Bogoeva, N., Desroches, M., Toumi, M., & Sommer, R. (2021). Stigma in visible skin diseases – a literature review and development of a conceptual model. *Journal of European Academy of Dermatology & Venereology, 35*(7). https://doi.org/10.1111/jdv.17110

Gupta, M., Mahajan, V. K., Mehta, K. S., & Chauhan, P. S. (2014). Zinc therapy in dermatology: a review. *Dermatology Research and Practice.* Retrieved from: https://doi.org/10.1155/2014/709152

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis (7th ed.).* Upper Saddle River, NJ: Prentice Hall.

Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: updated guidelines. *Industrial management & data systems, 116*(1), 2-20. https://doi.org/10.1108/IMDS-09-2015-0382

Ho Na, C., Chung, J., & Simpson, E. L. (2019). Quality of Life and Disease Impact of Atopic Dermatitis and Psoriasis on Children and Their Families. *Children Basel, 6*(12). https://doi.org/10.3390/children6120133

Holm, E. A., Wulf, H. C., Stegman, H., & Jemec, G. B. E. (2006). Life quality assessment among patients with atopic eczema. *British Journal of Dermatology, 154*(4). https://doi.org/10.1111/j.1365-2133.2005.07050.x

Hong, J., Koo, B., & Koo, J. (2008). The psychosocial and occupational impact of chronic skin disease. *Dermatologic Therapy.* https://doi.org/10.1111/j.1529-8019.2008.00170.x

Hughes, O., Shelton, K. H., Penny, H., & Thompson, A. R. (2022). Parent and child experience of skin conditions: relevance for the provision of mindfulness-based interventions. *British Journal of Dermatology, 188*(4). https://doi.org/10.1093/bjd/ljac129

Jafferany, M., & Pastolero, P. (2018). *Psychiatric and psychological impact of chronic skin disease.* Primary Care Companion CNS Disorders.

Khan, S. Z, Rizwan, S., & Rizwan, M. (2023). Psychosocial impact of acne vulgaris in adolescents presenting to skin OPD of a public hospital. *Journal of Pakistan Association of Dermatologists, 33*(3): 925-928

Khawaja, A. R., Bokhari, S. M. A., Rasheed, T., Shahzad, A., Hanif, M., Qadeer, F, & Jafferany, M. (2015). Disease Severity, Quality of Life, and Psychiatric Morbidity in Patients with Psoriasis With Reference to Sociodemographic, Lifestyle, and Clinical Variables: A Prospective, Cross-Sectional Study from Lahore, Pakistan. *The Primary Care Companion for CNS Disorders, 17*(3). https://doi.org/10.4088/PCC.14m01629

Kilic, N., & Kilic, M. (2023). Investigation of Quality of Life of Patients with Atopic Dermatitis and Quality of Life, Psychiatric Symptomatology, and Caregiver Burden of Their Mothers. *Children Basel, 10*(9). https://doi.org/10.3390/children10091487

MAPI Research Trust. (2014). *Translation Guidelines.* Retrieved from https://lms.su.edu.pk/download?filename=1606983527-mapi-translationguidelines.pdf&lesson=50584

Megari, K. (2013). Quality of Life in Chronic Disease Patients. *Health Psychology Research, 1*(3). https://doi.org/10.4081/hpr.2013.e27

National Eczema Association. (2023). *Eczema and Emotional Wellness.* Retrieved from: https://nationaleczema.org/eczema-emotional-wellness/

National Eczema Foundation. (2023). *Eczema Stats.* Retrieved from: https://nationaleczema.org/research/eczema-facts/

National Psoriasis Foundation. (2006). Psoriasis. Retrieved from: https://www.psoriasis.org/

Naveed, S., Masood, S., Rahman, A., Awan, S., & Tabassum, S. (2021). Impact of acne on quality of life in young Pakistani adults and its relationship with severity: A multicenter study. *Pakistan Journal of Medical Sciences, 37*(3): 727-732. https://doi.org/10.12669/pjms.37.3.2819

Nikolopoulou, K. (2022). *What is Convergent Validity? Definitions & Examples.* Retrieved from: https://www.scribbr.com/methodology/convergent-validity/

Parsad, D., Dogra, S., & Kanwar, A. J. (2003). Quality of life in patients with vitiligo. *Health Quality Life Outcome, 1*(58). https://doi.org/10.1186/1477-7525-1-58

Picardi, A. (2000). Psychiatric morbidity in dermatological outpatients: An issue to be recognized. *British Journal of Dermatology, 143*(5):983-91. https://doi.org/10.1046/j.1365-2133.2000.03831.x

Raychaudhuri, S. P., & Farber, E. M. (2001). The prevalence of psoriasis in the world. *Journal of European Academy Dermatological Venereology, 15*, 16-17. https://doi.org/10.1046/j.1468-3083.2001.00192.x

Sampogna, F., Tabolli, S., & Soderfeldt, B. (2006). Measuring quality of life of patients with different clinical types of psoriasis using the SF-36. *British Journal of Dermatology, 154*, 844–849. https://doi.org/10.1111/j.1365-2133.2005.07071.x

Tan, J. K. & Bhate, K. (2015). A Global Perspective on the Epidemiology of Acne. *British Journal of Dermatology, 172,* 3-12. Retrieved from: https://doi.org/10.1111/bjd.13462

Vakharia, P. P., Chopra, R., & Sacotte, R. (2017). Burden of skin pain in atopic dermatitis. *Ann Allergy Asthma Immunology, 119*, 548–552. https://doi.org/10.1016/j.anai.2017.09.076

Verhoeven, E. W. M., Klerk, S., Kraaimat, F W., Peter, C. M., Jong, M. J., & Evers, A. (2008). Biopsychosocial mechanisms of chronic itch in patients with skin diseases: a review. *Acta Derma Venereology, 88*(3). https://doi.org/10.2340/00015555-0452

White Swan Foundation. (2017). Retrieved from: https://www.whiteswanfoundation.org/

Yew, Y., Kuan, A., Ge, L., Yap, C., & Heng, B. (2020). Psychosocial impact of skin diseases: A population-based study. *Plos One, 15*(12). Retrieved from: https://doi.org/10.1371/journal.pone.0244765

Zhang, X., Wang, A., Shi, T., Zhang, J., Xu, H., Wang, D., & Feng, L. (2019). The psychosocial adaptation of patients with skin disease: a scoping review. *BMC Public Health, 19*. https://doi.org/10.1186/s12889-019-7775-0