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Urdu Translation and Validation of Learning Climate Questionnaire (LCQ-Short version)

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Abstract

The purpose of the current study was to translate and validate the Urdu version of the Learning Climate Questionnaire (LCQ-Short version) (Yu Shi et al., 2018) for usage in Pakistan so that it would be culturally and linguistically appropriate. The scale was translated by using the standardized procedure. the scale was tested by using the forward-backward translation method. 200 participants from the age range (18-27) completed the scale's Urdu translation (M = 26.7, SD = 8.3). confirmatory factor analysis (CFA), results showed that a single-factor model with the factor autonomy provided a good fit to the data with chi-square 15.46 (df = 8, $p < .05$), CFI =.98, GFI = .97, and RMSEA = .13. A sample of 20 participants' cross-language validation results were satisfactory. Reliability Cronbach's alpha coefficient was .81. Significant positive correlation of learning climate questionnaire with the wellbeing scale ($r = .68$, $p < .001$) and academic motivation scale ($r = .71$, $p < .001$) was find out to establish the convergent validity. non-significant correlation of the loneliness scale with the LQS-Shore version ($r = .17$, $p > .05$) revealed its divergent validity.

Keywords: Learning climate, scale, Urdu translation,

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Introduction

The LCQ (Learning Climate Questionnaire) measures the level of support for teacher autonomy in the classroom. The learning climate questionnaire has been the most used method for defining an environment in the classroom that supports student autonomy (Williams & Deci, 1996). There are other LCQ comes to interpreting, including a 6-item shortened version and a 15-item full-scale version (Simon, & Salanga, 2021).

The social, emotional, and physical circumstances that one learns in are referred to as the "climate of learning." The environment that supports learning is typically thought of in terms of a classroom setting, but it also exists in other settings where learning occurs, such as mentoring, coaching, tutoring and on-the-job training (Seif et al., 2012). The perceived connection, rapport, between the teacher and student can be used to define the learning environment in a classroom (Frisby & Martin, 2010). This impression is based on the interaction between the teacher and the students.

A form of teaching that supports the initiative, interest, and volition of others is known as autonomy-supportive teaching (Soenens et al., 2012). Supporting teacher autonomy in educational environments is essential to creating successful outcomes (Su & Reeve, 2011).

In a setting that supports autonomy, the instructor shows students empathy, supports their initiative, answers their questions, and provides them enough time to complete the assignments in their own unique style (Reeve & Jang, 2006). Teachers that support student autonomy enhance personal resources that support educational outcomes like academic self-regulation and build strong interpersonal interactions in the classroom (Chirkov & Ryan, 2001).

Self-Determination Theory and Teacher autonomy support

The social, emotional, and physical circumstances that one learns in are referred to as the "climate of learning." The environment that supports learning is typically thought of in terms of a classroom setting, but it also exists in other settings where learning occurs, such as mentoring, tutoring, coaching, and on-the-job training (Seif et al., 2012). The learning environment in a classroom can be described by the perceived relationship, rapport, or affinity between the teacher and students (Frisby & Martin, 2010). This impression is based on the interaction between the teacher and the students.

A meta-theory of human drive and character is called SDT (Ryan & Deci 2000). It asserts that motivation is essential to how people function and distinguishes between six different types of motivation along a

continuum of perceived autonomy, changing from an external to an inward incentive (Deci & Moller, 2005). According to research, having more autonomy leads to improved performance across a variety of fields, including schooling (Guay et al., 2008).

Adapted scale and psychometric properties

To measure autonomy support in educational settings, Williams, (1993), modified items from earlier research and created the Learning Climate Questionnaire as a single-factor scale. Since its debut more than 20 years ago, the LCQ used to measure autonomy support of students' perceptions in the classroom. Both the full 15-item version and the 6-item condensed version are employed (Levesque-Bristol et al., 2011).

The Teacher-as-Social Context Questionnaire, or TASCQ, is a substitute assessment tool for a school environment that promotes autonomy (Belmont et al., 1988). The autonomy support subscale (TASCASS), which consists of 12 items, is used to evaluate teachers' self-reported use of autonomy-supportive instruction. The remaining four subscales of these 12 questions, each of which consists of three items and represents one of the four aspects of autonomy support—, relevance, respect, controlling behavior and choice are further broken into these 12 items (Wellborn et al., 1992).

According to Roth et al., (2007), when teachers support student autonomy, students are more motivated to learn on their own and as a result, perform better (Guay et al., 2008). The Autonomous Motivation for Teaching Scale (AMTS) also looked at that scale to determine whether teachers were motivated independently (Roth et al., 2007). Along a continuum of perceived autonomy, this 16-item test, which is based on SDT, distinguishes between different motivational types (Ryan & Connell, 1989).

Basic psychological requirements and independent motivation are primarily focused on the learning environment. Basic psychological requirements and self-determined academic motivation were used in the current studies as linked variables with learning atmosphere (Yu Shi et al., 2018). When people have self-determined motivation, according to SDT, the driving forces behind their actions are consistent with their organic identities (Deci & Ryan, 2000).

Lack of psychometric support for the 6-item short form is a problem. To the best of our knowledge, no study has proven the short form of the learning climate questionnaire to be sufficiently psychometric and valid. Even though empirical studies that used the learning climate questionnaire indicated that it had strong internal consistency, we felt it was still important to undertake a thorough examination of the short-form (e.g., the Cronbach alpha generally falls between 0.75 and 0.95 among the studies

we reviewed). The degree to which the learning environment reflects students' perceptions that their teacher is encouraging student autonomy (Yu Shi et al., 2018).

The current study aims to translate the learning climate questionnaire in Urdu language. The learning climate questionnaire 6 –items are revised. The first LCQ have 15 items. These items are in English language. This scale also translated in Spanish language but it is important to translate LCQ-6 into Urdu because no Urdu version of LCQ-6 available in Urdu language. In Pakistan the national language is Urdu and their people also much better understand Urdu language. For 99% results, it must need to translate this scale in Urdu language. For that, translate this scale in Urdu by many people who are much better understand Urdu language. The LCQ has two forms: a long form with 15 items and a short form with 6 items. At the college or graduate school level, the questionnaire is generally employed in relation to particular learning environments, such as a particular class.

Method

Phase I: Translation of learning climate questionnaire (short version)

Shi Yu and Anne Traynor, the scales' authors, were contacted and asked for their permission before the translation into Urdu could begin. The scale's writers generously gave their approval for it to be translated into Urdu. Four steps were used to separate the translation process, and they are described in more detail.

Forward Translation

LCQ-Short version Scale was firstly translated using a standardized translation process from English to Urdu (Brislin, 1976). They recruited three dual-language experts, including an assistant professor of psychology from the department of psychology at the University of Sargodha. All multilingual specialists were fluent in both languages, were accustomed to both cultures, and had expertise creating psychological tests. The technical equivalency of the language, including its syntax, tenses, duration, allowable degree of abstraction, and its link to the sociocultural environment, were all things they were expected to consider. At the conclusion of this procedure, there were three separate LCQ translations into Urdu.

Translated Items Evaluation of by Committee

To reconcile the best translation pieces, three separate forward versions were compared. In order to assess the theoretical homogeneity of the items using the committee technique, this was done. This committee was composed of two assistant professors from the University of Sargodha's psychology department and one assistant professor from linguistics. The experts chose one translation for each item after carefully examining each one in light of its context, syntax, and language. This translation best captures each item's intended meaning. The forward translation was finally reconciled, and each item was chosen by unanimous decision among all experts as being the most appropriate translation of the items.

Backward translation

The scale's finalized Urdu version was independently translated back into English in the third phase by two multilingual specialists. This process was used in the current study to make sure the scale that was translated into Urdu was accurate, trustworthy, and free of linguistic biases. Two separate English translations of the scale's Urdu version at the conclusion in this phase.

By Committee of Experts, back translated materials are evaluated A team of professionals from the psychology department at the University of Sargodha, including three professors, evaluated the back translated pieces critically. Finally, the accuracy of the translation was a point on which all the experts agreed.

Phase II: Psychometric Properties determination and confirmatory factor analysis (CFA) of Urdu LCQ

Using AMOS 20 and the Statistical Package for Social Sciences, the data was examined for factorial validity, alpha reliability, correlations, and item-total correlations (SPSS).

Sample

The 200 participants in the study's sample, whose ages ranged from 18 to 27, made up the study's sample. Women (n = 101) and men (n = 99) both made up the sample. Students from public and private universities in the districts of Sargodha, Lahore, and Faisalabad provided the data. Participants came from various socioeconomic backgrounds.

Procedure

Convenient sampling was the strategy used to reach the individuals.

Online information from 200 individuals was gathered. The study was explained to the participants, and they received explicit directions on how to complete the scale's structure. Participants were asked to answer truthfully and were promised that their information would remain private. There was no set deadline for finishing the scales. 198 people returned the scales, but 200 scales were complete and were used for additional data analysis. Participants were praised for their assistance and gracious cooperation at the conclusion.

Confirmatory factor analysis

CFA was carried out to confirm the factor structure and measurement model of (SMPBS), In the present study various criteria and indices were checked to explain the best model fit (CFI, GFI, and RMSEA).

Table 1

Model fit indices of CFA for LCQ-6(N = 200)

Indexes	*Chi square*	*df*	*CFI*	*RMSEA*	*GFI*	*TLI*	*RMR*
Model	15.46	8	.98	.06	.97	.96	.05

Based on the initial model fit criteria, item loading >.35, the results of the model fit indices and factor loadings of the CFA for the translated Learning Climate Questionnaire (short version) are shown in Table 1 and Figure 1. Through confirmatory factor analysis, the initial model with just one factor structure (autonomy) was investigated. The one factor structure showed a good match to the data with chi squared at 15.46 (df = 8), CFI =.98, GFI =.97, and RMSEA =.06. The final model has one factor with six autonomous elements. The objects' factor loadings ranged from.56 to.79.

Figure 1.

Urdu Translated modal of Learning Climate Questionnaire short version.

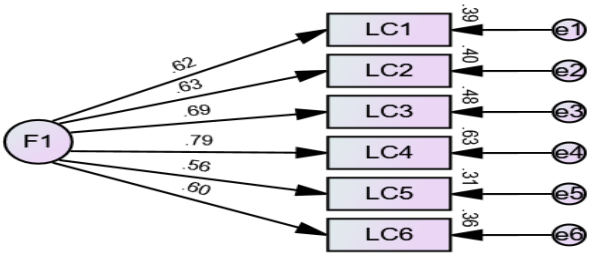

Table 2.

Mean, Standard Deviation, Reliability of Scale (N= 200).

Scale	No of items	M	SD	A
Learning climate	6	26.7	8.3	.81

learning climate questionnaire having mean and standard deviation (M = 26.7, SD = 8.3). Cronbach alpha reliability of item was .81 and to find out the reliability of the translated scale alpha reliability analysis was used.

III Phase: Cross-Language validation

To determine the empirical equivalence of the Urdu version of the learning climate Questionnaire with the original learning climate Questionnaire, the English and Urdu versions of the questionnaire were compared during the cross-language validation procedure. This procedure helped in the assessment of the quality of the Urdu-translated version to determine its empirical equivalence with the original version.

Sample

To cross-validate the sample included 10 individuals with a minimum age range: 18–27 (M: 28.3; SD: 8.8). In the test and retest phases, two groups containing 10 participants made up the sample. Their degree of education ranges from undergraduate to graduate studies. Participants from various socioeconomic classes were enlisted.

Instruments

Learning climate questionnaire shorter version: LCQ-Short version developed by Yu, Shi et al., (2018) was use for translation. The scale contains 6 items having no subscale measures autonomy. 7-point Likert scale (1=Strongly Disagree, 2=Slightly Disagree, 3= Disagree, 4= Neutral, 5= Agree 6= Slightly Agree, 7=Strongly Agree) was used as response format in LCQ-Short version.

Procedure

A sample (N = 20) from the University of Sargodha performed pre-post testing. Data from two groups were gathered during pretesting. The LCQ-Short version was given in groups with each group having ten participants, while the Urdu version of the LCQ-Short version was given to another group.

Result

The equivalent of the Urdu translation to the original English version is shown in Table 3. The relationships between each test-retest phase of the LCQ-Short version administration are shown in this table. It shows that these scales' test-retest phases are significantly correlated with one another, with correlation values as high as.96.

Table 3.

Correlation between Urdu- English and English- Urdu versions of Learning Climate Questionnaire.

Scale	*R*
Learning Climate Questionnaire- Short version	
Urdu – English	.97**
English – Urdu	.97**

Phase IV: Convergent and divergent validation of Urdu translated LCQ-short version

Phase IV aimed to find out the convergent and divergent validity of the Learning Climate Questionnaire. Wellbeing scale (Stewart-Brown et al., 2009) and Academic motivation scale (Vallerand et al., 1992) (Urdu translated) were used to examine the convergent LCQ-Short version. This questionnaire measures different types of learning requirements. The convergent validity of the LCQ-short version was predicted to have a positive relationship between learning climate, well-being scale, and academic motivation. Furthermore, loneliness scale Urdu translated was predicted to be non-significant with LCQ and a Negative correlation of Urdu Translated LCQ-Short version with empathy will confirm the divergent validity of the scale.

Sample

The sample consisted of N= 120 (male= 65, female= 55) was taken from age range 18-27. The sample is taken from different universities. For collecting data convenient sampling technique was used.

Instrument

Well-being Scale: Well-being Scale was developed by Stewart-Brown et al., (2009). The mental wellbeing scale will contain 7 items. 5 point liked scale will be used to measure the scale (1= none of the time, 2= rarely, 3 = some of the time, 4 = often, and 5 = all of the time). Th scale having no subscale and there will be no revers scoring items.

Academic motivation scale: academic motivation scale was developed by Vallerand et al., (1992). The scale comprised of 28 items (having 3 subscale intrinsic motivation items= 12, extrinsic motivation having items = 12 and amotivation having 4 items). Response format of this scale is 7 point Likert scale (Does not correspond at all = 1 to Corresponds exactly = 7).

Loneliness scale: 20 items scale designed by Russell et al., (1980). This scale used 4 point Likert scale response format (0= never to 4= often). Revers coded items was Items 1, 5, 6, 9, 10, 15, 16, 19, 20.

Procedure

The study's participants received all the scales needed for the validation of the LCQ-short version. the data was taken online. After sending the informed consent, 120 participants were given instructions on how to read all provided materials, answer all questions, and do so carefully. most of the A total participants returned surveys, and 120 questionnaires were fully completed. The data from these 120 participants were then analyzed.

Results

Table 4

Pearson Correlation LCQ-6 Among Convergent and Divergent Scales(N = 120)

Variable	1	2	3	4
Learning climate	-	.684**	.717**	.178
Well-being scale		-	.713**	.063
Academic motivation			-	.219*
Loneliness scale				-

*p<.05. **p<.01. ***p<.001.

Table 4 shows that correlation was computed among LQS-Short version, wellbeing scale, academic motivation scale, loneliness scale and empathy scale to provide convergent and divergent validity evidence for the LCQ-Short version. Table 3 fully provides the evidence of convergent validity as it indicates that LCQ-Short version is significant positive correlate of Wellbeing Scale ($r = .68$, $p < .001$) and Academic Motivation Scale ($r = .71$, $p < .001$). Table also provide the evidence of divergent validity of the scale as it is shows that there is a non-significant correlation of loneliness scale with LQS-Shore version ($r = .17$, $p > .05$). These findings demonstrate the convergent and discriminant validity of the LCQ-Short version that was translated into Urdu.

Discussion

The educational environment of students has a big impact on their experiences and performance in a learning climate. It encompasses the overall conditions, mindsets, and ambiance that affect how individuals learn. By encouraging curiosity, teamwork, and a sense of belonging, a supportive atmosphere promotes active engagement and discovery. Because of their enthusiasm, support, and open communication, teachers play a crucial role in fostering this environment. A hostile or unfavorable setting, on the other hand, can lower student anxiety, motivation, and learning as well as disengagement. For this reason, creating a warm and encouraging learning atmosphere is crucial to promoting students' overall wellbeing as well as their academic and personal growth. This is a topic that learning communities ought to keep considering and researching.

An atmosphere that is conducive to students' intellectual, social, and emotional growth is the cornerstone of a positive learning climate. Such an atmosphere fosters involvement and a sense of belonging by making students feel safe, respected, and valued. Because they promote open communication, provide constructive criticism, and demonstrate a sincere concern for their students' achievement, instructors play a crucial role in fostering this environment.

Additionally, learning experiences that promote student autonomy and collaborative thinking empower students to take ownership of their education and develop their critical thinking skills. A good learning environment respects each student's unique experiences, opinions, and abilities in addition to promoting diversity. As a result, students exhibit higher levels of motivation, engagement, and resilience, all of which improve academic achievement and general development. In the end, a nurturing learning environment fosters success in both academic and extracurricular activities and establishes the foundation for lifetime learning for students.

The "classroom or learning atmosphere" is defined as the "intellectual, social, emotional, and physical settings in which our learners learn." p. 170 of (Ambrose et al., 2010). Classroom climate can be impacted by smaller, subtler "micro-inequities" that accumulate and have significant detrimental impacts on learning. These "micro-inequities" may be directed at a particular person or group of people, the entire classroom, or both (Hall, 1982). Incivilities that are not properly addressed not only have a detrimental effect on learning in the course in which they occur, but they may also have a negative impact on a student's progress at the institution (Hirschy & Braxton, 2004). The psychometric accuracy and usefulness of the short-form LCQ were broadly validated by the current investigations.

The results of conventional correlation analysis are in line with theoretical forecasts, so demonstrating the scale's criterion validity. The IRT parameter estimations demonstrated that the majority of items are effective at differentiating perceived learning environments that favor autonomy.

The LCQ initially has a long form with 15 items and a short form with 6 items. In a college or graduate school setting, the questionnaire is often used in relation to a particular setting, such as a particular class. As a result, the questions are occasionally modified significantly, at least in the instructions, so that the terminology is relevant to the specific circumstance being studied—for instance, an organic chemistry class. In these situations, the issues at hand concern the autonomy a particular professor, preceptor, or instructor is supported by. The questions are expressed in relation to the autonomous support of the faculty members generally if, on the other hand, it is being used to evaluate a general learning environment in which each student has multiple instructors. You can find the 15-item questionnaire below that is framed in terms of "my instructor." Ó Simply recreate the questionnaire using only items #1, #2, #4, 7, 10, and 14 if you want to utilize the 6-item version.

The individual item scores are averaged to determine the scores for both the 15-item and 6-item version s. A higher level of perceived autonomy support is shown by higher average scores. The scale was primarily written in English when it was published. Urdu is the official language of Pakistan. There is no assessment of the learning environment in Pakistan that compares to the LCQ, which has a psychometrically robust component structure and is really based on relationships between teachers and students. Therefore, LCQ must be translated into Urdu. The LCQ-6 scale was released in 2018. The Cronbach's α of LCQ-6 is .81 which shows good internal consistency and the scale is reliable for our Pakistani papulation. The correlation of LCQ-6 is .97 when English to Urdu translate, shows significantly high positive correlation and correlation of LCQ-6 is .97 when Urdu to English translate, also show high positive correlation in cross language validation. We employ a practical sampling strategy and an age range of 18 to 27 for translation. 120 people made up the sample, 65 of whom were men and 55 of whom were women. The information is gathered from several universities. The accuracy of the translated scale is examined using convergent and divergent scales. First, translate the LCQ-6 using the forward and backward translation technique. Then, using convergent and divergent scales, collect data using a simple sampling method. The LSQ-6 is highly positive correlation with convergent scales (Academic motivational scale, Well-being scale) and there is no correlation with divergent scale (Loneliness scale), which is strengthen my scale. The factor loading in CFA show good factor structure.

Conclusion

The scale's translation will assist in the development of research on various aspects of the learning environment (i.e it provides opportunities for researchers to research the learning environment in Pakistani settings). Additionally, it will help to deal with the learning atmosphere among those groups that does not respond to very lengthy measures because it is a short measure. The social science discipline will benefit from the translation of this scale because it makes it simple and quick to assess learning. This will open up new possibilities for those whose primary language is Urdu when it comes to learning and classroom environments.

Limitation and suggestions

Learning climate questionnaire is a revised version of learning climate questionnaire-15 items. New version contain 5 items was also introduced but the 5 item version of LCQ is not used in this research. 6-item scale lacked the psychometric evidences.

It is suggested that for the further study 4 item will be seemed by researcher. It also suggested that 5-item LCQ scale will also be translated into urdu language. Psychometric evidences will also be focused by further researchers. It is also suggested that general population form all over the Pakistan will be taken.

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