

A PILOT STUDY ON MEASURING SINDHI-SPEAKING UNDERGRADUATE STUDENTS' ATTITUDES TOWARD SINDHI, URDU, AND ENGLISH

Mushtaq Ahmed Solangi¹ Hatesh Kumar²

¹Assistant Professor, Department of Basic Sciences, Dawood University of Engineering and Technology, Karachi, Pakistan

²Lecturer, Sindh Madressatul Islam University Karachi

Corresponding author's Email: mushtaque.solangi@duet.edu.pk

Abstract

Pilot studies are valuable for determining the clarity, feasibility, and reliability of research instruments before they are implemented on a large scale. This study used a closed-ended language-attitude questionnaire to assess the attitudes of Sindhi-speaking undergraduate students towards Sindhi, Urdu, and English. A quantitative pilot study design was employed, and data were collected from 125 students in education, computer science, media and mass communication, and business administration at the University of Karachi. The questionnaire consisted of demographic items, self-reported language proficiency items, and 36 closed-ended attitude items, evenly distributed across the three languages. The data were analyzed using IBM SPSS Statistics Version 27, with Cronbach's alpha used to assess internal consistency reliability. The questionnaires took an estimated 12-14 minutes to complete and were not reported to have any problems with wording, instructions, or response format. Reliability analysis yielded α : 0.817 and α : 0.802, both of which were above the .70 threshold for good internal consistency. The questionnaire was thus deemed appropriate for a wider application.

Keywords: Pilot study; language-attitude questionnaire; Sindhi-speaking students; Sindhi; Urdu; English

1 Introduction

The purpose of a pilot study is to help determine the feasibility, clarity, and technical soundness of a research study's design before the main study takes place. The literature contains several countries that have used pilot studies for constructing instruments, for identifying weaknesses in the instruments, to test participants' understanding of a questionnaire, and to make sure the data collection process is feasible in the intended setting (Van Teijlingen & Hundley, 2001; Cohen, Manion, & Morrison, 2007). Dörnyei (2007) calls pilot research in applied linguistics a "dress rehearsal" for the major study, in which the instruments used to assess complex constructs such as motivation, beliefs, attitudes, identity, and language-related preferences are questionnaires. Therefore, the pilot study is not just a technical step but a methodological precaution that helps enhance the quality, credibility, and maturity of the research instrument. Pilot testing is even more emphasized when a questionnaire is adapted from another instrument for use in a new sociolinguistic context. The instruments created in one context may not necessarily work in another, since the linguistic and educational backgrounds, cultural assumptions, and key concepts of the participants may vary. When the items in the questionnaire have not yet been tested, pilots can be used to help determine whether the wording of the items is understandable, whether the response options are understandable, whether the length of the questionnaire is reasonable, and whether the items are operating as a scale (Thabane et al., 2010; In, 2017). In a sense, then, reliability and validity are key issues in questionnaire research conducted in a pilot manner. Validity is related to the measurement of the construct; reliability is related to the instrument's consistency and stability. Likert-type scales are commonly used to measure this, and Cronbach's alpha is generally used to evaluate the internal consistency of Likert-type scales, particularly in cases where multiple items are specific to subdimensions of a construct (Tavakol & Dennick, 2011; Taber, 2018).

In this kind of language attitude study, the need for pilot testing is especially emphasized due to the multidimensional nature of language attitudes and the presence of cognitive, affective, and behavioral orientations towards languages and language speakers (Garrett, 2010;

Dragojevic, 2017). To measure such attitudes, it is important that the instrument has theoretical fit and is contextually meaningful for the participants. This is particularly true in Pakistan, where Sindhi, Urdu, and English languages have different social and institutional values in multilingual situations. Sindhi has connotations of mother-language identities and cultural belonging; Urdu is linked to national and broader communication; and English is linked to education, prestige, employment, and mobility. This makes it necessary to carefully test the questionnaire, which will be administered to Sindhi-speaking students to measure their attitudes towards these three languages, before it is administered widely.

The present study reports a pilot closed-ended language-attitude questionnaire for Sindhi-speaking undergraduate students. The instrument was reconceptualized to examine attitudes towards four main languages (Sindhi, Urdu, and English) in higher education institutions in Pakistan, where students are multilingual. Symptoms were obtained from 125 Sindhi-speaking undergraduate students across the four departments of the University of Karachi (Education, Media and Mass Communication Studies, Business Administration, and Computer Science). This study aimed to determine the clarity, suitability, and internal consistency reliability of the questionnaire prior to its application in a larger study. The present study is both methodologically and statistically informative for applied linguistics and sociolinguistic studies, as it focuses on the pilot testing of the instrument, with the aim of providing methodological evidence for the use of a context-oriented quantitative instrument for measuring multilingual language attitudes of Sindhi-speaking undergraduate students.

2 Methodology

2.1 Research Design

The present study adopted a quantitative pilot study design to examine the clarity, contextual appropriateness, feasibility, and internal consistency reliability of a language-attitude questionnaire prior to its broader administration. Pilot studies are frequently employed to pre-test research instruments, uncover procedural and/or wording issues, and determine whether the proposed instrument is appropriate for the target participants (Van Teijlingen & Hundley, 2001; Thabane et al., 2010; In, 2017). The purpose of this study was to test the instrument, not to obtain definitive generalizable results; thus, a pilot design was deemed appropriate. The study was directed towards understanding the questionnaire items, the reasonable time needed to complete the questionnaire, and the reliability of the closed-ended items on attitudes.

2.2 Research Setting

The pilot study was conducted at the University of Karachi, Pakistan. This setting was chosen because it was appropriate for a multilingual academic context to test a questionnaire designed for Sindhi-speaking undergraduate students. The participants were selected from the following four departments: Education, Media and Mass Communication Studies, Business Administration, and Computer Science. The selected departments were representatives of various intellectual orientations and language-use demands in domains of education, communication, profession, and technology.

2.3 Participants and Sampling

The participants included 125 Sindhi undergraduate students from the University of Karachi. The participants were selected based on the following inclusion criteria: undergraduate students from one of the selected departments whose primary language at home or mother tongue is Sindhi. The sampling methodology adopted for the pilot sample was similar to that planned for the larger study, in which students were selected from the appropriate academic batches and departments. This was, however, a pilot administration, so emphasis was placed on testing the research instrument rather than obtaining an accurate estimate of the population. This method is consistent with the idea that pilot samples are primarily used to evaluate the feasibility of conducting the tests on a large scale and the quality of the instruments (Lancaster, Dodd, &

Williamson, 2004; Julious, 2005). A final sample of 125 questionnaires was used, which were complete and usable.

2.4 Research Instrument

A structured language-attitude questionnaire was used as a research instrument, adapted from Lai's (2005) language-attitude questionnaire and modified for the multilingual context in Pakistan. For the present pilot paper, only the closed-ended quantitative part of the instrument was considered. The questionnaire comprised 36 closed-ended language-attitude questions, a self-reported language proficiency, and demographic questions. There were 12 items in each of the three languages (Sindhi, Urdu and English) for the attitude section. The aim was to assess three dimensions of language attitudes (cognitive, affective, and behavioral), which are widely recognized in the literature as the dimensions of language attitude measurement in linguistic research (Garrett, 2010; Dragojevic, 2017). These encompassed language prestige, comfort, usefulness, emotional attachment to the language, as a method of instruction, national representation, mother-tongue identity and future importance.

2.5 Pilot Administration

The researcher provided a brief explanation of the pilot study's purpose and instructions for completing the questionnaire before distributing it to participants. A survey was conducted in a classroom setting with the researcher's assistance. Participants were asked to complete the questionnaire independently and indicate whether they found any questions, instructions, or answer options confusing. Average completion time was approximately 12-14 minutes, suggesting questionnaire was easily administered in a classroom. The participants reported no major difficulty with the items; thus, the items were acceptable and understandable.

2.6 Validity Procedure

The validity of the questionnaire was checked through context and expert review. The items of the questionnaire were adapted from an existing language-attitude questionnaire and further modified to suit undergraduate students of the Sindhi language at the University of Karachi, with the conceptual focus of the items in mind. The items were examined for clarity, relevance, and consistency with the three types of language attitudes, namely cognitive, affective, and behavioral. Expert review is widely used in questionnaire development to ensure face and content validity, especially when the instrument is adapted for a different population and context (Taherdoost, 2016; Boateng et al., 2018). This process ensured that the instrument was suitable for measuring students' attitudes towards Sindhi, Urdu, and English in Pakistan's multilingual higher education system.

2.7 Reliability Procedure

The internal consistency of the questionnaire was assessed using Cronbach's alpha. Cronbach's alpha is often used to assess whether the multiple items function as a scale and to evaluate the degree of similarity among the items in measuring the same general concept (Tavakol & Dennick, 2011; Taber, 2018). This procedure was applied to the 36 closed-ended language-attitude items to determine whether the items functioned consistently as a scale; the reliability analysis aimed to determine the feasibility of a generalizable application of the questionnaire with minimal changes. Cronbach's alpha was the primary statistical indicator of the instrument's internal consistency in this pilot study.

2.8 Data Analysis

The quantitative data were coded and analyzed through the IBM SPSS Statistics Version 27. Questionnaires were first screened for completeness and utility. Basic descriptive statistics were employed to summarise relevant participant data and the patterns of their responses. The 36-item language-attitude scale was then subjected to Cronbach's alpha to assess its internal consistency. To keep the study a pilot investigation, the analysis focused primarily on the

clarity, feasibility, and reliability of the questionnaires, rather than on extensive inferential testing.

2.9 Ethical Considerations

The research was carried out in accordance with the fundamental ethical rules for educational studies, as determined by a survey. The participants were informed of the objectives of the questionnaires, and no one was compelled to participate. No personally identifying details were required for data analysis, and participants were assured that any responses given would be anonymous and used only for academic research. The processes used align with the ethical standards for education and social science research, namely informed participation, confidentiality, and risk minimization (Creswell & Creswell, 2018).

3 Results

This section presents the quantitative outcomes of the pilot administration of the language-attitude questionnaire. The analysis includes the demographic profile of the participants, the structure of the questionnaire, evidence of questionnaire clarity and feasibility, and the internal consistency reliability of the closed-ended attitude scale. The findings provide an empirical measure of the instrument to gauge the appropriateness of assessing the attitudes of Sindhi-speaking undergraduate students towards Sindhi, Urdu, and English in a multilingual Higher Education setting.

3.1 Demographic Profile of the Pilot Participants

This pilot study was carried out at the University of Karachi with 125 Sindhi-speaking undergraduate students. The participants were drawn from four departments (Education, Computer Science, Media and Mass Communication Studies, and Business Administration). The participants were all part of the population targeted for the study and reported that Sindhi was their first language at home. Table 1 shows the demographic profile of the pilot participants.

Table 1 Demographic profile of University of Karachi pilot participants, n = 125

| Demographic variable | Category | Frequency (n) | Percentage (%) |
|---------------------------------|--------------------------------------|---------------|----------------|
| Gender | Male | 83 | 66.4 |
| | Female | 42 | 33.6 |
| Age | 18–20 years | 21 | 16.8 |
| | 20–22 years | 20 | 16.0 |
| | 22–24 years | 44 | 35.2 |
| | 24 years and above | 40 | 32.0 |
| Place of birth | Interior Sindh | 92 | 73.6 |
| | Karachi | 33 | 26.4 |
| University | University of Karachi | 125 | 100.0 |
| Department | Education | 46 | 36.8 |
| | Computer Science | 38 | 30.4 |
| | Media and Mass Communication Studies | 32 | 25.6 |
| | Business Administration | 9 | 7.2 |
| Batch / Year of study | 1st Year | 18 | 14.4 |
| | 2nd Year | 24 | 19.2 |
| | 3rd Year | 24 | 19.2 |
| | 4th Year | 59 | 47.2 |
| Primary language spoken at home | Sindhi | 125 | 100.0 |

Table 1 presents the demographic information. The pilot sample consisted of 83 male and 42 female participants. As for age, the largest group was 22-24 years old, followed by the 25-24 age group. More than 90% of the participants were born in Interior Sindh; the remaining were born in Karachi. When compared at the departmental level, participants in the Department of Education had the highest number, followed by the departments of Computer Science, Media and Mass Communication Studies, and Business Administration. As shown in the batch-wise distribution, the largest share of students in the pilot sample was 4th-year students. Most importantly, across all responses, the primary language spoken at home was Sindhi, indicating that the sample was suitable for testing the questionnaire among Sindhi-speaking undergraduate students.

3.2 Questionnaire Variables and Number of Items

The questionnaire was modified to gather quantitative data on students' socio-demographic backgrounds, their language proficiency (self-perceived), and their attitudes towards Sindhi, Urdu, and English. For the current pilot paper, closed-ended quantitative items of the questionnaire were to be analyzed. The questionnaire layout is presented in Table 2 below.

Table 2 Questionnaire variables and number of items

| Section / variable | Description | Number of items |
|--|---|-----------------|
| Demographic information | Gender, age, place of birth, university, department, batch/year of study, and primary language spoken at home | 7 |
| Self-reported language proficiency | Reading, writing, listening, and speaking proficiency in English, Urdu, and Sindhi | 12 |
| Attitudes toward English | Closed-ended items measuring students' attitudes toward English | 12 |
| Attitudes toward Urdu | Closed-ended items measuring students' attitudes toward Urdu | 12 |
| Attitudes toward Sindhi | Closed-ended items measuring students' attitudes toward Sindhi | 12 |
| Total attitude items used for reliability analysis | Closed-ended language-attitude items | 36 |

Table 2 shows that the questionnaire comprised background information and language-related variables. The self-reported skill section comprised reading, writing, listening, and speaking ability in English, Urdu, and Sindhi. The attitude section was divided equally across the three languages; 12 items were included for each language (English, Urdu, and Sindhi). This well-organized distribution enabled the assessment of attitudes towards the three languages on the same quantitative scale. The items used for reliability analysis were the 36 attitude items, which were closed-ended and represented the main language-attitude scale of the questionnaire.

3.3 Questionnaire Clarity and Feasibility

The pilot administration indicated that the questionnaire was practical for classroom use. All participants were administered the questionnaire under the researcher's observation, without assistance from others. Average completion time was about 12-14 minutes, showing the questionnaire was of manageable length without excessive burden on the participants. The participants did not identify any high-level problems with the wording, instructions, or response format for the items. These outcomes indicate that the questionnaire was clear and understandable for Sindhi-speaking undergraduate students. No major comprehension problems indicate that the questionnaire's adaptation to the target participants was adequate and appropriate. Thus, in the pilot administration, the instrument was shown to be applicable

in a context similar to higher education, without significant reorientation of its structure and/or language.

3.4 Level of Reliability

The reliability result were interpreted according to the commonly accepted Cronbach's alpha values. The criteria were used to assess the internal consistency of the attitude items with an open-ended format. The reliability interpretation scale is presented in Table 3.

Table 3 Level of reliability

| Cronbach's alpha score | Level of reliability |
|-----------------------------|----------------------|
| $.90 \leq \alpha \leq 1.00$ | Excellent |
| $.80 \leq \alpha < .90$ | Good |
| $.70 \leq \alpha < .80$ | Acceptable |
| $.60 \leq \alpha < .70$ | Questionable |
| $.50 \leq \alpha < .60$ | Lowly acceptable |
| $\alpha < .50$ | Not acceptable |

Table 3 presents the interpretive criteria for assessing the questionnaire's internal consistency. The level of reliability was the key factor used to determine whether the questionnaire should be retained, revised, or rejected, as the pilot study was designed to test this.

3.5 Reliability Statistics of the Questionnaire

Cronbach's alpha was used to assess the internal consistency reliability of the 36 closed-ended Language-attitude items. The analysis yielded high Cronbach's alpha values of α : 0.817 and α : 0.802 for the standardized alpha. The reliability statistics are presented in Table 4.

Table 4 Reliability statistics of the language-attitude questionnaire

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | Number of items |
|------------------|--|-----------------|
| α : 0.817 | α : 0.802 | 36 |

Table 4 shows that the questionnaire achieved a Cronbach's alpha value of α : 0.817 for the 36 closed-ended attitude items. This reliability falls within the "Good" range based on the reliability levels presented in Table 3. The Cronbach's alpha for the standardized items was α : 0.802, which was at the same level of reliability as the preceding one. These findings suggest that the questionnaire items were coherent and exhibited a good level of internal consistency in measuring language attitudes towards Sindhi, Urdu and English. This reliability is especially significant, since the questionnaire was cross-translated for its use in a multilingual context. This good alpha value indicates that there was no significant change in the items during the contextualization process for Sindhi-speaking undergraduate students in Karachi. Thus, evidence of reliability would be favorable to the instrument's use in broader administration with similar participants.

3.6 Overall Findings of the Pilot Study

Results indicate that the overall questionnaire was very clear, feasible, contextually appropriate, and reliable for use with the undergraduates of the Sindhi-speaking community. A demographic profile was conducted to establish that the participants were from the target group, that all of them were Under Grade students at the University of Karachi, and that they reported Sindhi as their mother tongue at home. It is a well-balanced questionnaire design in terms of coverage, with questions consisting of closed-ended attitude items (12 items each for English, Urdu, and Sindhi).

In addition, the pilot administration suggested that the questionnaire was easy to administer, had a reasonable administration time, and had no serious subject-question/response difficulty

issues. The Cronbach's alpha internal consistency value of α : 0.817 was the most significant statistical finding. Little or no changes were needed to the questionnaire before it could be used widely. Based on this finding, it was deemed appropriate to conclude that the instrument was capable of measuring the attitude of undergraduate students at universities towards Sindhi, Urdu, and English in a multilingual higher education system in the context of Sindhi-speaking students.

4 Conclusion

In the present study, the clarity of a closed-ended language-attitude questionnaire developed for Sindhi-speaking undergraduate students was examined, and its feasibility and internal consistency reliability were also assessed. Pilot administration was carried out with 125 students from four departments of the University of Karachi. There were three parts to the questionnaire: the demographic items, the items measuring language proficiency as reported by students and the 36 closed-ended items measuring students' attitudes towards Sindhi, Urdu and English. The findings indicated that the questionnaire was understandable, manageable for administration in classroom and appropriate. All participants took about 12-14 minutes to complete the instrument, and there were no major issues with the wording, instructions, and response format of the items. The reliability test was also conducted to assess the instrument's internal consistency, and the results were good, with α : 0.817 and α : 0.802. The results indicated that, in general, there is no need for major changes to the questionnaire and that the questionnaire is valid for general use. The research instrument can therefore be utilized in future research to explore the attitudes of undergraduate learners towards multilingualism, with Sindhi as the L1.

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