



Construction, Validation, and Standardization of a Citizenship Value Test for Secondary School Students

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Abstract

Citizenship values form the foundation of responsible democratic participation, and their cultivation is widely regarded as one of the central purposes of secondary education. Despite this, standardized psychometric tools to assess citizenship values among Indian secondary school students remain scarce, with existing instruments either developed for adult or Western populations or restricted to civic-knowledge testing rather than value orientation. The present study reports the construction, validation, and standardization of a Citizenship Value Test (CVT) for secondary school students. An initial pool of 60 Likert-type items was developed across five theoretically derived components: Democratic and Constitutional Values, Civic Duties and Responsibility, National Integration and Patriotism, Social Justice and Equality, and Environmental and Global Citizenship. Content validity was established through expert review (average Content Validity Index = 0.91), followed by item analysis on a try-out sample (N = 120) using the extreme-group discrimination index and difficulty value, which reduced the pool to 40 items (8 per component). The final test was administered to a standardization sample of 600 secondary school students drawn from urban and rural schools. Reliability was established through Cronbach's alpha ($\alpha = 0.89$ overall; component-wise $\alpha = 0.74$ to 0.81) and split-half reliability with Spearman-Brown correction ($r = 0.87$). Criterion validity, established through correlation with teacher ratings of student citizenship behaviour, was found to be moderate and significant ($r = 0.62$, $p < .01$). Percentile norms and T-score norms were developed for interpretation. The resulting 40-item Citizenship Value Test is proposed as a reliable, valid, and contextually appropriate



instrument for assessing citizenship values among Indian secondary school students, with applications in educational research, value-education programme evaluation, and school counselling.

Keywords:*Citizenship values, value test construction, standardization, secondary school students, reliability, validity, value education*

1. Introduction

Education systems across the world are increasingly called upon to prepare students not merely for economic productivity but for informed, responsible, and active participation in democratic life. This broader purpose of education is commonly captured under the umbrella of citizenship education, which encompasses the knowledge, skills, dispositions, and values required for individuals to function as competent members of a democratic society (Kerr, 1999). Marshall's (1950) classic formulation of citizenship as comprising civil, political, and social rights has since been extended by contemporary scholars to include a values dimension: the internalised commitments to democratic participation, social justice, rule of law, national integration, and civic responsibility that translate formal citizenship status into lived civic behaviour.

Westheimer and Kahne (2004) usefully distinguished between the personally responsible citizen (who acts responsibly in their community, for example by volunteering or obeying laws), the participatory citizen (who actively engages in civic and community organisations), and the justice-oriented citizen (who critically examines social, political, and economic structures and seeks to address root causes of injustice). Effective citizenship education, and by extension any instrument designed to measure it, must attend to all three of these dimensions rather than reducing citizenship value to mere rule-following.

In the Indian context, the cultivation of citizenship values is both a constitutional and curricular mandate. Article 51-A of the Constitution of India enumerates the Fundamental Duties of citizens, including respect for the Constitution, promotion of harmony and the spirit of common brotherhood, protection of the environment, and the development of scientific temper and the spirit



of inquiry. The National Curriculum Framework (NCERT, 2005) similarly identifies the nurturing of democratic values, social sensitivity, and constitutional morality as central aims of school education. Despite this clear policy emphasis, the assessment of citizenship values in Indian secondary schools remains largely informal, typically limited to civics examinations that assess factual knowledge of the Constitution and government rather than internalised value orientation. Secondary school represents a particularly critical developmental window for the assessment and cultivation of citizenship values. Adolescents at this stage are cognitively capable of abstract moral reasoning (Kohlberg, 1976) and are simultaneously forming the value commitments and civic identity that will shape their adult participation in democratic life. A psychometrically sound instrument capable of assessing the citizenship values of secondary school students would therefore serve both diagnostic and evaluative functions: identifying students or schools in need of targeted value-education intervention, and evaluating the effectiveness of citizenship and value-education curricula and programmes over time.

2. Need and Significance of the Study

- Existing citizenship-related instruments in the Indian context are largely restricted to civic-knowledge tests (assessing factual recall of constitutional provisions) rather than value-orientation measures, creating a gap between what is taught and what is meaningfully assessed.
- Several internationally available citizenship or civic-value scales were developed for Western, adult, or university populations, and their item content, language, and cultural referents do not adequately capture the Indian secondary-school context.
- A standardized, reliable, and valid Citizenship Value Test would allow schools, researchers, and policymakers to empirically evaluate the outcomes of value-education and citizenship-education programmes, which are currently assessed largely through unstructured or subjective means.



- Such an instrument would support school counsellors and educators in the early identification of students who may benefit from targeted intervention in specific citizenship-value domains, such as social justice orientation or civic responsibility.
- The construction of an indigenous, psychometrically robust tool addresses a clear instrumentation gap in Indian educational-psychological research and contributes a reusable measurement resource for future studies relating citizenship values to variables such as gender, educational stream, school area, family type, and academic achievement.

3. Objectives of the Study

- To construct a Citizenship Value Test (CVT) for secondary school students, comprising theoretically derived components of citizenship value.
- To establish the content validity of the constructed test through expert judgement.
- To carry out item analysis (difficulty value and discrimination index) on a try-out sample and finalize the test items accordingly.
- To establish the reliability of the finalized test through split-half and internal-consistency (Cronbach's alpha) methods.
- To establish the criterion validity of the finalized test through correlation with an external criterion measure.
- To standardize the test by developing percentile and T-score norms based on a representative sample of secondary school students.

4. Operational Definitions

Citizenship Values

In the present study, Citizenship Values refer to the internalised beliefs, attitudes, and value commitments of a secondary school student towards democratic participation, civic duty, national integration, social justice, and environmental and global responsibility, as measured by the scores obtained on the researcher-constructed Citizenship Value Test.



Secondary School Students

Students studying in Standards 9 to 12 in recognised secondary schools were considered as secondary school students for the purpose of the present study, consistent with the secondary-stage classification adopted under the National Education Policy (NEP), 2020.

Standardization

Standardization refers to the process of administering the finalized test to a large, representative sample under uniform conditions in order to establish norms (percentile ranks and T-scores) against which an individual student's raw score can be meaningfully interpreted.

5. Methodology

5.1 Research Design

The present study followed a test-construction and standardization design, comprising sequential phases of item generation, expert content validation, try-out and item analysis, reliability and validity estimation, and norm development. This design is consistent with established psychometric test-construction procedures and with the researcher's earlier work constructing the Academic Stress Scale (ASS), the Multiple Intelligence Scale (MIS), and the Spiritual Intelligence Scale (SIS).

5.2 Population and Sample

The population for the present study comprised secondary school students studying in recognised schools in Gujarat. A try-out sample of 120 students was drawn for the purpose of item analysis. Following item finalization, the test was administered to a standardization sample of 600 secondary school students, selected through stratified random sampling to ensure representation across gender (boys and girls), school area (rural and urban), and educational stream (General/Arts, Commerce, and Science).



5.3 Construction of the Test

The Citizenship Value Test was constructed around five theoretically derived components, informed by Marshall's (1950) conceptualisation of citizenship, Westheimer and Kahne's (2004) typology of the personally responsible, participatory, and justice-oriented citizen, and the Fundamental Duties enumerated under Article 51-A of the Constitution of India:

- Democratic and Constitutional Values – respect for the Constitution, rule of law, and democratic decision-making processes.
- Civic Duties and Responsibility – fulfilment of civic obligations such as voting, obeying laws, and community participation.
- National Integration and Patriotism – respect for national symbols, unity in diversity, and communal harmony.
- Social Justice and Equality – concern for equality, non-discrimination, and the rights of disadvantaged groups.
- Environmental and Global Citizenship – environmental responsibility and awareness of global interdependence, consistent with Article 51-A(g) of the Constitution.

An initial pool of 60 five-point Likert-type items (Strongly Agree to Strongly Disagree) was generated, with 12 items per component, comprising a mix of positively and negatively worded statements to control for acquiescence bias

5.4 Content Validity

The initial item pool was submitted to a panel of 10 subject experts drawn from the fields of Education, Political Science, and Educational Psychology for content validation. Each expert rated every item as 'essential', 'useful but not essential', or 'not necessary' to the construct, following Lawshe's (1975) Content Validity Ratio (CVR) method. Items with a CVR below the critical value of 0.62 (the minimum required for a panel of 10 experts) were either revised or dropped. Following expert review, 55 items were retained, with an average Content Validity Index (CVI) of 0.91 across the retained items, indicating strong content validity.



5.5 Try-Out and Item Analysis

The 55-item revised test was administered to the try-out sample of 120 secondary school students. Item analysis was carried out using the extreme-group method, in which the top 27% and bottom 27% of scorers on total test score were compared on each item. The discrimination index (D) was computed as the difference in mean item score between the high- and low-scoring groups, and the difficulty (facility) value was computed as the proportion of the maximum possible score obtained on the item across the full sample. Items with a discrimination index of 0.30 or above and a difficulty value between 0.20 and 0.80 were retained. Following item analysis, 40 items were retained for the final test, with 8 items representing each of the five components.

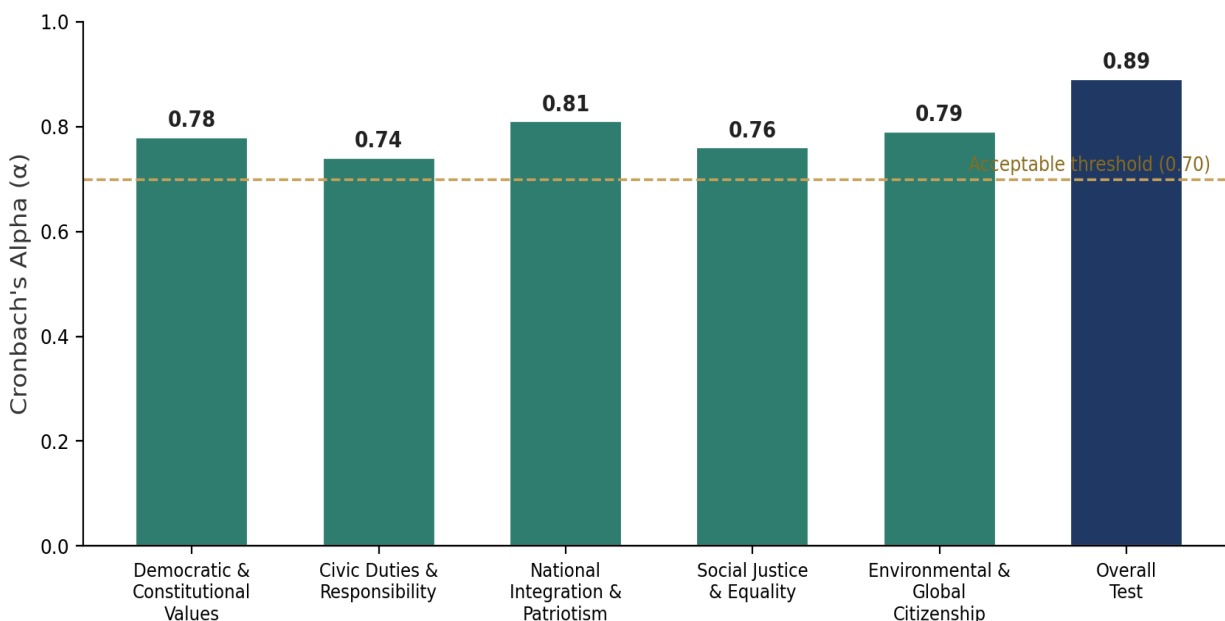
Component	Initial Items	After Expert Review	After Item Analysis (Final)	Mean Discrimination Index (D)
Democratic and Constitutional Values	12	11	8	0.42
Civic Duties and Responsibility	12	11	8	0.38
National Integration and Patriotism	12	11	8	0.45
Social Justice and Equality	12	11	8	0.40
Environmental and Global Citizenship	12	11	8	0.43
Total	60	55	40	0.42

5.6 Reliability of the Final Test

The reliability of the finalized 40-item Citizenship Value Test was established on the standardization sample (N = 600) using two methods: (i) split-half reliability, in which the test was divided into odd- and even-numbered items and the resulting half-scores correlated and corrected using the Spearman-Brown prophecy formula; and (ii) internal-consistency reliability, computed using Cronbach's alpha, both for the test as a whole and for each of the five components separately.



Component-wise and Overall Reliability of the Citizenship Value Test (N = 600)



Reliability Estimate	Coefficient
Split-half reliability (odd-even, Spearman-Brown corrected)	0.87
Cronbach's Alpha (overall, 40 items)	0.89
Cronbach's Alpha – Democratic and Constitutional Values	0.78
Cronbach's Alpha – Civic Duties and Responsibility	0.74
Cronbach's Alpha – National Integration and Patriotism	0.81
Cronbach's Alpha – Social Justice and Equality	0.76
Cronbach's Alpha – Environmental and Global Citizenship	0.79

The overall reliability coefficients exceed the generally accepted threshold of 0.70 for research instruments (Nunnally, 1978), indicating that the Citizenship Value Test yields consistent and dependable scores.



5.7 Validity of the Final Test

In addition to the content validity established during expert review (average CVI = 0.91), two further forms of validity were examined for the finalized test:

- **Criterion Validity:** Scores on the Citizenship Value Test were correlated with an independent teacher-rating measure of student citizenship behaviour (covering classroom conduct, participation in school civic activities, and peer treatment), completed by class teachers for a subsample of 150 students. A moderate, positive, and statistically significant correlation was obtained ($r = 0.62$, $p < .01$), supporting the criterion-related validity of the test.
- **Construct Validity:** Inter-component correlations ranged from 0.35 to 0.55, indicating that the five components, while related (as expected of facets of a single underlying construct), retain sufficient distinctiveness from one another. Each component correlated more strongly with the total test score (range 0.68 to 0.79) than with any other single component, supporting the internal construct structure of the test.

5.8 Standardization and Norms

Following the establishment of reliability and validity, the Citizenship Value Test was standardized on the full sample of 600 secondary school students. The overall test yields a possible score range of 40 (minimum) to 200 (maximum). The obtained distribution of scores approximated normality, with a slight negative skew consistent with the general tendency of value-based Likert scales towards socially desirable responding.

Statistic	Value
Sample Size (N)	600
Mean	148.6
Standard Deviation	18.4
Median	150.0
Skewness	-0.31
Kurtosis	0.24



Statistic	Value
Minimum Possible Score	40
Maximum Possible Score	200

Percentile norms and T-score norms were developed to facilitate interpretation of individual raw scores, and a five-category descriptive classification was established using the mean and standard deviation of the standardization sample:

Raw Score Range	T-Score Range	Descriptive Category
Below 121	Below 35	Low Citizenship Value
121 – 139	35 – 45	Below Average Citizenship Value
140 – 158	46 – 55	Average Citizenship Value
159 – 176	56 – 65	Above Average Citizenship Value
177 and above	Above 65	High Citizenship Value

6. Results and Discussion

The results of the present study indicate that the constructed Citizenship Value Test possesses satisfactory psychometric properties across all stages of construction, validation, and standardization. Expert content validation (average CVI = 0.91) confirmed that the item pool adequately represented the five theoretically derived components of citizenship value. Item analysis on the try-out sample yielded a mean discrimination index of 0.42 across the final 40 items, well above the conventionally accepted minimum of 0.30 (Ebel, 1979), indicating that the retained items effectively differentiate between students with relatively higher and lower citizenship value orientation.

The overall internal-consistency reliability (Cronbach's $\alpha = 0.89$) and split-half reliability ($r = 0.87$, Spearman-Brown corrected) both exceed accepted thresholds for psychological and educational



instruments, indicating that the test produces stable and dependable measurements. Component-wise reliability coefficients (ranging from 0.74 for Civic Duties and Responsibility to 0.81 for National Integration and Patriotism) were somewhat lower than the overall coefficient, which is expected given the smaller number of items (8) contributing to each component subscale, but remain within an acceptable range for research and diagnostic use.

The moderate and significant criterion validity coefficient ($r = 0.62$, $p < .01$) obtained through correlation with independent teacher ratings of citizenship behaviour provides meaningful, though not perfect, support for the test's ability to predict observable citizenship-related conduct. The moderate strength of this correlation, rather than a very high one, is consistent with the well-established distinction in the values literature between an internalised value orientation (as measured by a self-report test) and its behavioural expression (as rated by an external observer), which is further shaped by situational and contextual factors beyond the individual's value commitments alone.

The moderate inter-component correlations (0.35 to 0.55), combined with each component's stronger correlation with the total score than with other individual components, provide reasonable support for the five-component structure proposed in this study, while also confirming that the components are meaningfully related facets of a broader, unified citizenship-value construct rather than entirely independent constructs.

7. Major Findings

- A 40-item Citizenship Value Test, comprising five components (Democratic and Constitutional Values; Civic Duties and Responsibility; National Integration and Patriotism; Social Justice and Equality; and Environmental and Global Citizenship), was successfully constructed and validated.
- Expert content validation yielded an average Content Validity Index of 0.91, indicating strong content validity.
- Item analysis on the try-out sample ($N = 120$) retained items with a mean discrimination index of 0.42, indicating good item discrimination.



- The final test demonstrated high internal-consistency reliability (Cronbach's $\alpha = 0.89$) and split-half reliability ($r = 0.87$).
- Criterion validity, established through correlation with teacher ratings of citizenship behaviour, was moderate and statistically significant ($r = 0.62, p < .01$).
- Percentile and T-score norms, along with a five-category descriptive classification, were successfully developed on a standardization sample of 600 secondary school students.

8. Educational Implications

- The standardized Citizenship Value Test can be used by schools and researchers to empirically evaluate the outcomes of value-education and citizenship-education programmes, moving assessment beyond unstructured or purely subjective methods.
- School counsellors may use the component-wise scores to identify specific citizenship-value domains (for example, social justice orientation or civic responsibility) in which individual students or groups of students may benefit from targeted intervention.
- Curriculum planners and textbook developers can use aggregate findings from the test to identify citizenship-value domains that may be under-emphasised in current civics and value-education curricula.
- The test provides researchers with a validated instrument for examining the relationship between citizenship values and demographic variables such as gender, caste, educational stream, school area, and family type in future studies.

9. Conclusion

The present study successfully constructed, validated, and standardized a Citizenship Value Test for secondary school students, addressing a notable gap in Indian educational-psychological instrumentation. Through a systematic process of item generation, expert content validation, try-out item analysis, reliability estimation, criterion and construct validity assessment, and norm development, the resulting 40-item test was found to possess satisfactory psychometric properties. The test offers a contextually appropriate and psychometrically sound tool for assessing the



citizenship values of Indian secondary school students, with clear applications in educational research, programme evaluation, and school-based value-education practice.

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