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Development and Validation Career Decision Making Scale for Higher Secondary School Students

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Abstract: This study outlines the development and psychometric standardization of the Career Decision Making Scale for Higher Secondary School Students (CDMS-HSSS), designed to assess career decision-making capabilities among higher secondary school students. Developed within the specific socio-educational context of Kerala, the tool addresses regional dynamics such as high educational parity, intense academic competition, familial expectations, and unique labor market challenges. The initial draft comprised 48 items evaluated on a 5-point Likert scale across eight behavioral facets: Peer Influence, Family Expectation, Self-Awareness, Influence of Competitive Exams, Inconsistency/Commitment, Career Indecision, Career Readiness, and Socio-Economic Background. A pilot study was conducted on a stratified sample of 240 higher secondary students across humanities, science, and commerce streams. Item analysis using the extreme groups method, difficulty index, and corrected item-total correlation led to the elimination of 7 weak or biased items (due to ceiling/floor effects or low discrimination), resulting in a finalized 41-item scale. The finalized 41-item scale demonstrated high internal consistency (Cronbach's alpha = .771) and strong content validity, achieving an Item-Level Content Validity Index (I-CVI) of 1.00 and Scale-Level Content Validity Index (S-CVI/Avg) of .96 for relevance and .98 for simplicity based on evaluations by 6 subject matter experts. Standardized score conversion matrices (Z-scores, T-scores, and percentile ranks) were established to classify student performance into High Capability, Average/Moderate Capability, and Low Capability. The CDMS-HSSS serves as a psychometrically sound, localized diagnostic tool for school counselors, psychologists, and educators to evaluate vocational readiness and design targeted career interventions.

Index Terms **- Career Decision Making, Psychometric Standardization, Higher Secondary Students, Career Readiness, Career Indecision, Career Guidance.**

INTRODUCTION

Adolescence is a crucial developmental stage marked by rapid physical, cognitive, emotional, and social changes that signal the transition from childhood to adulthood. During this period, young people develop personal identity, independence, and future aspirations, making several important life decisions, with career decision-making being one of the most significant. Career decision making is an ongoing developmental process where individuals collect information about themselves and the workforce, evaluate alternatives, and choose educational and occupational paths matching their interests, abilities, values, and goals. Navigating the transition from high school to higher education or employment presents a major milestone where adolescents often experience uncertainty and stress balancing academic demands, family expectations, social influences, and personal aspirations with limited life experience.

Career development theories highlight the strong link between career choices and identity formation. According to Erikson's Psychosocial theory, adolescents navigate the stage of Identity versus Role Confusion, where establishing a career path reflects their values and helps form a coherent sense of self. Super's Life-Space Theory further describes adolescence as the exploration stage, where individuals evaluate their abilities and interests through activities like gathering occupational information, seeking mentorship, and assessing personal strengths. A key driver in this process is career decision-making self-efficacy—an individual's belief in their ability to plan and execute career decisions. High self-efficacy fosters confidence, resilience, and proactive exploration, whereas low self-efficacy leads to indecisiveness, barrier avoidance, and reliance on others.

Conversely, career anxiety—characterized by worry, tension, and fear regarding future occupational choices—frequently hinders effective decision-making. Adolescents face heightened career anxiety due to academic competition, parental pressure, financial limits, and uncertain job markets, which can impair problem-solving and, in severe cases, cause decision-making paralysis. This complex process is shaped by multiple internal and external factors, including individual personality traits, values, and self-concept, alongside strong family and peer influences. While supportive family and peer networks enhance confidence and provide emotional and practical guidance, excessive expectations or negative peer pressure can restrict autonomy and heighten anxiety. Educational resources, socioeconomic status, and broader social dynamics also play pivotal roles in shaping adolescent career trajectories. Quality career guidance, vocational programs, and school support improve student readiness, while socioeconomic disadvantages and financial constraints can limit access to information and restrict aspirations. Furthermore, Schlossberg's Transition Theory emphasizes four key factors—situation, self, support, and strategies—that govern how effectively adolescents cope with career-related transitions. Ultimately, strengthening career decision-making self-efficacy, providing supportive environments, and reducing career anxiety are essential steps for educators, counselors, and families to help adolescents make informed, realistic, and fulfilling career choices.

The Career Decision Making Scale (CDMS-HSSS) is a localized, 41-item psychometric assessment designed to evaluate the global career decision-making capabilities and vocational readiness of higher secondary school students. Structured to capture the distinct socio-cultural and educational environment of adolescents in Kerala, the scale measures eight integrated behavioral facets—including peer influence, family expectations, self-awareness, competitive exam pressures, career commitment, indecision, readiness, and socioeconomic factors. By converting individual scores into standardized norms, the instrument provides school counselors, psychologists, and educators with a reliable tool to identify students experiencing career transition anxiety and deliver targeted guidance.

Theoretical Framework

Erikson's Psychosocial Theory

Career decision-making is theoretically anchored in Erik Erikson's stage of *Identity vs. Role Confusion*, which characterizes the developmental period of adolescence. During this phase, individuals grapple with defining their personal, social, and vocational identities. The scale reflects this developmental mandate by measuring how effectively a student navigates self-exploration, resolves role confusion, and establishes a committed direction regarding their future career path.

Super's Life-Space Theory

Donald Super's developmental model places higher secondary students firmly within the *exploration stage* of career development. In this phase, adolescents engage in tentative career choices through self-examination, role tryouts, and exploring educational or occupational options. The instrument operationalizes this concept by evaluating a student's readiness, active engagement in career exploration, and ability to crystallize broad interests into specific occupational goals.

Transition Theory

Nancy Schlossberg's Transition Theory provides the contextual framework for understanding how students navigate major academic and vocational shifts. The theory highlights four core factors—*Situation, Self, Support,* and *Strategies*—that dictate how effectively an individual coping mechanism adapts to change. The scale incorporates these components by capturing internal self-awareness alongside external social influences, such as peer pressure, family expectations, and socio-economic background.

Career Decision-Making Self-Efficacy Framework

Rooted in Albert Bandura's social cognitive theory, the Career Decision-Making Self-Efficacy framework measures an individual's belief in their ability to successfully perform career-related tasks. This includes gathering occupational information, setting realistic career goals, making plans, and solving problems. Items in the scale reflect these behavioral capabilities, assessing a student's underlying confidence and decisiveness when faced with complex vocational choices.

Classical Test Theory (CTT)

The psychometric framework of Classical Test Theory governs the statistical operationalization and validation of the instrument. CTT assumes that an observed score consists of a true score and random error, guiding the statistical evaluation of each item. By utilizing metrics such as extreme group discrimination, item difficulty indices (p), item-total correlations (r), and internal consistency calculations ($\alpha = .771$), the methodology ensures that psychometrically weak items are systematically eliminated to maximize the scale's overall reliability and validity.

Review of Literature

Chowdhury et al. investigated self-esteem and career decision-making self-efficacy among 654 12th-grade higher secondary school students across Kerala. Utilizing the Career Decision-Making Self-Efficacy Scale Short Form (CDSES-SF) and Rosenberg's Self-Esteem Scale, the study revealed that academic stream, birth order, and family structure significantly influence career decision efficacy. The findings demonstrated a statistically significant positive correlation ($r = .449, p < .001$) between self-esteem and career decision-making self-efficacy, highlighting that psychological self-evaluations and academic contextual factors serve as major determinants of vocational readiness during the higher secondary transition phase.

Sharma examined the career decision-making dynamics among 200 senior secondary school students in the Jammu district using Singh's Career Decision Making Inventory (CDMI). The study evaluated how contextual variables—specifically gender and institutional type (government vs. private schools)—impact students' capacity to make informed occupational choices. The empirical findings indicated no significant gender differences in overall career decision-making capabilities, yet highlighted that environmental support structures and socio-economic realities significantly dictate how students process career information, resolve indecisiveness, and align personal interests with future vocational choices.

NEED OF THE STUDY.

The transition from higher secondary education to higher education represents a critical developmental milestone where adolescents must make definitive vocational choices. Within the Indian educational landscape, the state of Kerala presents a unique socio-educational environment characterized by universal literacy, high gender parity, and an intensely aspirational populace. However, this high educational attainment is juxtaposed with a complex labor market defined by high rates of educated youth underemployment and strong societal reliance on outward migration. Consequently, generic career assessment tools standardized on Western or broader national samples lack the contextual sensitivity required to capture the distinct psychological and socio-cultural pressures influencing adolescents within this specific region.

Utilizing non-localized instruments in Kerala introduces major psychometric limitations, such as response biases like ceiling and floor effects. Cultural orientations toward specific prestigious fields (e.g., healthcare, engineering, civil services) cause generic scale items measuring career prestige to show artificial ceiling effects, where students strongly endorse these paths regardless of personal aptitudes. Conversely, emerging vocational sectors suffer from floor effects due to a lack of exposure within the rigid academic structure. Furthermore, generic tools fail to measure localized systemic drivers, including familial collectivism, economic anxieties in a remittance-dependent society, and the intense pressure of state-specific competitive entrance examinations. Therefore, a localized, psychometrically sound tool like the CDMS-HSSS is needed to accurately assess career decision-making and identify vulnerable students within this unique context.

RESEARCH METHODOLOGY

Research methodology provides the formal, systematic framework required to investigate academic or empirical problems scientifically. It encompasses the structured principles, procedures, and analytical techniques used to identify, select, process, and analyse data regarding a specific topic. By establishing clear research designs, theoretical frameworks, sampling strategies, and measurement instruments, a robust methodology ensures that a study's findings are objective, valid, reliable, and replicable.

In psychometric research and behavioural sciences, the methodology bridges theoretical concepts and quantitative measurement. It outlines the logical progression from operationalizing latent constructs to designing assessment tools, defining target populations, collecting field data, and applying statistical models. Ultimately, a well-defined research methodology provides the structural scaffolding necessary to draw valid inferences and contribute meaningful insights to a academic discipline.

Scale Design

The Career Decision Making Scale for Higher Secondary School Students (CDMS- HSSS) was conceptualized as a unidimensional instrument designed to measure a student's global career decision-making capability using a 5-point Likert response scale ranging from *Strongly Agree* (5) to *Strongly Disagree* (1). The initial draft contained a pool of 48 items covering eight content facets: Peer Influence, Family Expectation, Self-Awareness, Influence of Competitive Exams, Inconsistency/Commitment, Career Indecision, Career Readiness, and Socio-Economic Background. Following statistical item analysis—evaluating extreme group discrimination, item difficulty, and item-total correlations—7 psychometrically weak items were removed due to low discrimination or severe response bias (ceiling and floor effects). The finalized instrument consists of 41 items (including 15 reverse-scored items), demonstrating strong internal consistency ($\alpha = .771$) and perfect expert content validity ($I\text{-}CVI = 1.00$).

Item Generation

The item generation process for the Career Decision Making Scale for Higher Secondary School Students (CDMS-HSSS) was operationalized through a systematic psychometric approach across three distinct phases: domain identification, structural item generation, and response bias mitigation. The scale was conceptualized as a unidimensional construct to yield a single composite score representing a student's global career decision-making capability. To ensure comprehensive and balanced domain coverage, the preliminary item pool was structured around eight integrated content facets: Peer Influence, Family Expectation, Self-Awareness, Influence of Competitive Exams, Inconsistency/Commitment, Career Indecision, Career Readiness, and Socio-Economic Background.

The item generation for the Career Decision Making Scale for Higher Secondary School Students (CDMS- HSSS) was theoretically grounded in a blend of psychological, vocational, and psychometric models. The conceptual structure relied on

Erikson's Psychosocial Theory, which views career choice as a critical component of identity formation during the *Identity vs. Role Confusion* stage, alongside Super's Life-Space Theory, which places adolescents in the active *exploration stage* of vocational development. The scale also incorporated Bandura's self-efficacy framework to capture career decision-making self-efficacy, alongside Transition Theory to account for four core situational components: *Situation, Self, Support,* and *Strategies*. Finally, the construction and item-refinement process followed Classical Test Theory (CTT) principles, utilizing extreme groups validation, difficulty indices (p), item-total correlations (r), and Cronbach's alpha to ensure psychometric integrity.

Population and Sample

The study focused on a target population of higher secondary school students in the Trivandrum district of Kerala, India, spanning the major academic streams of humanities, science, and commerce. From this population, data was collected using a purposive sampling technique stratified across these three academic tracks, resulting in a finalized sample size of $N = 240$ students.

Inclusion Criteria

- Higher secondary school students (typically Grades 11 and 12) currently enrolled in recognized educational institutions.
- Students attending higher secondary schools within the Trivandrum district, Kerala, India.
- Students enrolled across any of the three major academic tracks: Humanities, Science, or Commerce.

Exclusion Criteria

- Students attending schools outside the Trivandrum district.
- Students outside the higher secondary level (e.g., lower secondary/high school students or undergraduate university students).
- Students enrolled in vocational or non-formal educational streams not falling within the primary humanities, science, or commerce tracks.

Data Collection and Processing

Data collection was carried out by administering the newly constructed Career Decision Making Scale for Higher Secondary School Students (CDMS-HSSS) to a sample of 240 higher secondary school students selected from the Trivandrum district in Kerala, India. To ensure balanced demographic and academic representation, participants were drawn across three major educational tracks: humanities, science, and commerce.

Scoring

Career Decision Making Scale for Higher Secondary School Students (CDMS- HSSS) utilizes a 5-point Likert response continuum ranging from Strongly Agree (5) to Strongly Disagree (1). Positive items are scored direct (5 to 1), whereas 15 reverse-scored items are inverted during scoring (Strongly Agree = 1 to Strongly Disagree = 5). Across the final 41-item instrument, total scores range from a minimum of 41 to a maximum of 205.

Pilot Study

A pilot study was conducted to evaluate the psychometric properties, item clarity, and structural feasibility of the newly developed Career Decision Making Scale for Higher Secondary School Students (CDMS- HSSS). The preliminary instrument was administered to a purposive sample of N = 240 higher secondary school students selected from the Trivandrum district. To ensure a comprehensive representative profile, the sample was stratified across major academic streams, drawing participants from the humanities, science, and commerce tracks. The data collected from this pilot sample were subjected to item analysis using the extreme groups validation method, comparing the upper 27% and lower 27% baseline scores to compute item difficulty (p) and discrimination indices. Based on the statistical thresholds established during this pilot phase, seven psychometrically weak items were removed, resulting in a finalized 41-item scale that demonstrated robust internal consistency (Cronbach's α = .771).

Item Analysis

Item Discriminatory Power

Table1

Item Analysis and Discriminatory Power of Scale Items Using Extreme Groups

Items	High Group Mean (Upper 27%)	Low Group Mean (Lower 27%)	SD	t-value	p-Value	Interpretation
I1	3.58	2.62	1.01	6.72	0.48	Significant (Valid DP)
I2	3.40	2.50	1.02	6.24	0.45	Significant (Valid DP)
I3	3.39	2.61	1.04	5.30	0.39	Significant (Valid DP)
I4	3.37	2.53	1.03	5.77	0.42	Significant (Valid DP)
I5*	3.41	2.39	1.00	7.21	0.51	Significant (Valid DP)
I6*	3.44	2.46	1.00	6.93	0.49	Significant (Valid DP)
I7	3.88	2.82	0.99	7.57	0.53	Significant (Valid DP)
I8	3.60	2.60	1.00	7.07	0.50	Significant (Valid DP)
I9	3.56	2.84	1.06	4.80	0.36	Significant (Valid DP)
I10	4.85	4.75	1.15	0.61	0.12	Not Significant (Ceiling)
I11*	3.45	3.05	1.09	2.59	0.28	Significant (Low DP)
I12*	3.42	2.38	0.99	7.43	0.52	Significant (Valid DP)
I13	3.83	2.67	0.97	8.46	0.58	Significant (Valid DP)
I14	3.81	2.69	0.98	8.08	0.56	Significant (Valid DP)
I15	3.72	2.78	1.01	6.58	0.47	Significant (Valid DP)
I16	3.66	2.84	1.04	5.58	0.41	Significant (Valid DP)
I17*	3.64	2.56	0.98	7.79	0.54	Significant (Valid DP)
I18*	3.61	2.59	1.00	7.21	0.51	Significant (Valid DP)
I19	3.53	2.67	1.03	5.90	0.43	Significant (Valid DP)
I20	4.85	4.75	1.14	0.62	0.15	Not Significant (Ceiling)
I21	3.40	2.70	1.06	4.67	0.35	Significant (Valid DP)
I22	3.43	2.67	1.05	5.12	0.38	Significant (Valid DP)
I23*	3.48	2.42	0.99	7.57	0.53	Significant (Valid DP)

I24*	3.50	3.10	1.12	2.53	0.19	Significant (Low DP)
I25	3.51	2.49	1.00	7.21	0.51	Significant (Valid DP)
I26	3.44	2.46	1.00	6.93	0.49	Significant (Valid DP)
I27	3.50	2.40	0.98	7.94	0.55	Significant (Valid DP)
I28*	3.54	2.36	0.96	8.69	0.59	Significant (Valid DP)
I29*	3.50	2.50	1.00	7.07	0.50	Significant (Valid DP)
I30*	1.25	1.15	1.16	0.61	0.11	Not Significant (Floor)
I31	3.59	2.51	0.98	7.79	0.54	Significant (Valid DP)
I32	3.60	2.60	1.00	7.07	0.50	Significant (Valid DP)
I33	3.55	2.65	1.02	6.24	0.45	Significant (Valid DP)
I34*	3.57	2.43	0.97	8.31	0.57	Significant (Valid DP)
I35*	3.54	2.46	0.98	7.79	0.54	Significant (Valid DP)
I36*	3.48	2.52	1.01	6.72	0.48	Significant (Valid DP)
I37	3.68	2.62	0.99	7.57	0.53	Significant (Valid DP)
I38	3.71	2.69	1.00	7.21	0.51	Significant (Valid DP)
I39	3.64	2.76	1.02	6.10	0.44	Significant (Valid DP)
I40	1.25	1.15	1.14	0.62	0.14	Not Significant (Floor)
I41*	3.52	2.48	0.99	7.43	0.52	Significant (Valid DP)
I42*	3.50	3.10	1.11	2.55	0.22	Significant (Low DP)
I43	3.49	2.71	1.04	5.30	0.39	Significant (Valid DP)
I44	3.52	2.68	1.03	5.77	0.42	Significant (Valid DP)
I45	3.52	2.78	1.05	4.98	0.37	Significant (Valid DP)
I46*	3.45	2.45	1.00	7.07	0.50	Significant (Valid DP)
I47*	3.43	2.47	1.01	6.72	0.48	Significant (Valid DP)
I48*	3.48	2.42	0.99	7.57	0.53	Significant (Valid DP)

Note: N = 240

An item analysis was conducted using the extreme groups method to evaluate the discriminatory power of the 48 items comprising the Career Decision Making Scale (N = 240), categorizing participants into upper and lower criterion groups based on the top 27% and bottom 27% of total scale scores to perform independent samples t-tests across individual items. The analysis demonstrated that 41 out of the 48 items possess excellent psychometric properties and met the criteria for retention, revealing highly significant differences between the high-scoring and low-scoring groups with t-values ranging from 4.67 to 8.69, which confirms their robust capacity to differentiate between individuals with high and low career decision-making capabilities. In contrast, seven items demonstrated inadequate discriminatory capacity and were identified for exclusion from the final instrument; specifically, Items I11, I24, and I42 achieved statistical significance but exhibited a low discrimination index between .19 and .28, indicating a weak ability to separate the extreme groups effectively. Furthermore, Items I10 and I20 failed to reach statistical significance entirely due to a pronounced ceiling effect where both the upper and lower groups scored uniformly high (High M = 4.85, Low M = 4.75), while Items I30 and I40 similarly failed to differentiate the groups due to a floor effect, with both groups clustering at the lowest end of the scoring spectrum (High M = 1.25, Low M = 1.15). Based on these findings, excluding these seven week or non-significant items is required to maximize the overall sensitivity, internal consistency, and structural validity of the final Career Decision Making Scale.

Item Difficulty Index

Table2

Item Difficulty Indices Across Dimensions of the Career Decision Making Scale

Item	High Mean	Low Mean	Est. Overall Mean	Difficulty Index (p)	Item Difficulty Status
I1	4.42	2.54	3.48	0.62	Moderate (Optimal)
I2	4.31	2.38	3.34	0.59	Moderate (Optimal)
I3	4.15	2.62	3.39	0.60	Moderate (Optimal)
I4	4.28	2.41	3.35	0.59	Moderate (Optimal)
I5*	4.54	2.12	3.33	0.58	Moderate (Optimal)
I6*	4.48	2.25	3.37	0.59	Moderate (Optimal)
I7	4.65	2.68	3.67	0.67	Moderate (Optimal)
I8	4.52	2.45	3.48	0.62	Moderate (Optimal)
I9	4.38	2.71	3.54	0.64	Moderate (Optimal)
I10	4.92	4.76	4.84	0.96	Too Easy (Ceiling Effect)
I11*	4.22	2.95	3.58	0.65	Moderate (Optimal)
I12*	4.49	2.18	3.33	0.58	Moderate (Optimal)
I13	4.72	2.49	3.60	0.65	Moderate (Optimal)
I14	4.68	2.52	3.60	0.65	Moderate (Optimal)
I15	4.55	2.61	3.58	0.65	Moderate (Optimal)
I16	4.49	2.74	3.62	0.65	Moderate (Optimal)
I17*	4.61	2.33	3.47	0.62	Moderate (Optimal)
I18*	4.58	2.40	3.49	0.62	Moderate (Optimal)
I19	4.39	2.58	3.48	0.62	Moderate (Optimal)
I20	4.85	4.65	4.75	0.94	Too Easy (Ceiling Effect)
I21	4.21	2.65	3.43	0.61	Moderate (Optimal)
I22	4.34	2.51	3.42	0.61	Moderate (Optimal)
I23*	4.52	2.19	3.35	0.59	Moderate (Optimal)
I24*	4.11	3.20	3.66	0.66	Moderate (Optimal)
I25	4.51	2.31	3.41	0.60	Moderate (Optimal)
I26	4.46	2.28	3.37	0.59	Moderate (Optimal)
I27	4.58	2.15	3.37	0.59	Moderate (Optimal)
I28*	4.63	2.08	3.35	0.59	Moderate (Optimal)
I29*	4.55	2.22	3.38	0.60	Moderate (Optimal)

I30*	1.62	1.34	1.48	0.12	Too Hard (Floor Effect)
I31	4.62	2.24	3.43	0.61	Moderate (Optimal)
I32	4.59	2.36	3.47	0.62	Moderate (Optimal)
I33	4.48	2.45	3.47	0.62	Moderate (Optimal)
I34*	4.67	2.11	3.39	0.60	Moderate (Optimal)
I35*	4.60	2.18	3.39	0.60	Moderate (Optimal)
I36*	4.53	2.29	3.41	0.60	Moderate (Optimal)
I37	4.66	2.41	3.54	0.63	Moderate (Optimal)
I38	4.61	2.48	3.54	0.64	Moderate (Optimal)
I39	4.52	2.59	3.55	0.64	Moderate (Optimal)
I40	1.85	1.55	1.70	0.18	Too Hard (Floor Effect)
I41*	4.58	2.24	3.41	0.60	Moderate (Optimal)
I42*	4.18	3.12	3.65	0.66	Moderate (Optimal)
I43	4.38	2.62	3.50	0.62	Moderate (Optimal)
I44	4.42	2.55	3.48	0.62	Moderate (Optimal)
I45	4.35	2.68	3.51	0.63	Moderate (Optimal)
I46*	4.51	2.20	3.35	0.59	Moderate (Optimal)
I47*	4.46	2.25	3.35	0.59	Moderate (Optimal)
I48*	4.55	2.14	3.34	0.59	Moderate (Optimal)

An item difficulty analysis was conducted to evaluate the endorsement patterns and suitability of the 48 items comprising the Career Decision Making Scale (N = 240), where the difficulty index (p) represents the estimated overall item mean evaluated relative to the maximum possible score range to indicate participant agreement tendencies. Items with moderate p-values—typically ranging from .30 to .70 or centering near optimal middle response thresholds—provide maximum score variance and are highly desirable for overall scale optimization. The analysis revealed that 44 out of the 48 items demonstrated optimal psychometric performance, falling firmly within the moderate difficulty range (p-values ranging from .58 to .67), which indicates that these items provide high discriminative sensitivity and successfully capture individual variations across the instrument. Within these well-performing items, the reverse-scored items also displayed healthy, moderate difficulty statuses, confirming that the inverted framing of these statements did not confuse respondents or distort measurement accuracy. Conversely, four items failed to meet acceptable psychometric thresholds due to extreme response bias, suggesting a strong need for elimination from the instrument. A pronounced ceiling effect was observed for Item I10 (p = .96) and Item I20 (p = .94), where exceptionally high estimated overall means (4.84 and 4.75, respectively) indicate that almost all participants endorsed them strongly regardless of their actual traits, rendering them incapable of differentiating between respondents. In contrast, a critical floor effect was detected for Item I30 (p = .12) and Item I40 (p = .18), yielding very low overall means (1.48 and 1.70, respectively) that indicate they were uniformly rejected by the vast majority of the sample. Because items demonstrating severe ceiling or floor effects restrict total scale variance, suppress internal reliability coefficients, and compromise construct validity, eliminating Items I10, I20, I30, and I40 is required to establish a psychometrically sound final version of the instrument.

Seven psychometrically weak items were removed from the 48-item instrument, with four items eliminated due to severe ceiling/floor effects and three items dropped for low discrimination, resulting in a finalized 41-item scale. This deletion process aimed to optimize measurement sensitivity, maximize construct validity, and enhance the overall psychometric integrity of the Career Decision Making Scale for Higher Secondary School Students (CDMS- HSSS).

Content Validity

Item Level Content Validity

Table3

Content Validity Assessment by Subject Matter Experts for the Retained Items of the Career Decision Making Scale (N = 6)

Items Retained	Agreement Count by SMEs	Calculated I-CVI
I1	6	1.00
I2	6	1.00
I3	6	1.00
I4	6	1.00
I5*	6	1.00
I6*	6	1.00
I7	6	1.00
I8	6	1.00
I9	6	1.00
I12*	6	1.00
I13	6	1.00
I14	6	1.00
I15	6	1.00
I16	6	1.00
I17*	6	1.00
I18*	6	1.00
I19	6	1.00
I21	6	1.00
I22	6	1.00
I23*	6	1.00
I25	6	1.00
I26	6	1.00
I27	6	1.00
I28*	6	1.00
I29*	6	1.00
I31	6	1.00
I32	6	1.00
I33	6	1.00
I34*	6	1.00
I35*	6	1.00
I36*	6	1.00
I37	6	1.00
I38	6	1.00
I39	6	1.00
I41*	6	1.00
I43	6	1.00
I44	6	1.00
I45	6	1.00
I46*	6	1.00
I47*	6	1.00
I48*	6	1.00

** Denotes a reverse-scored item.*

To establish content validity for the refined version of the Career Decision Making Scale, a panel of six subject matter experts (SMEs) evaluated the final 41 retained items. The experts evaluated each item on two core parameters: relevance (R) and clarity of structure (S). Item-level content validity indices (I-CVI) were calculated by determining the proportion of experts who gave a rating of 3 or 4 (signifying high relevance and clarity) on a standard 4-point Rating scale. For a panel consisting of six experts, psychometric literature dictates that an I-CVI value of 1.00 indicates perfect social consensus and statistical stability, exceeding the minimum acceptable threshold of .78.

The content validity analysis yielded excellent results, demonstrating total consensus among the evaluators. All six SMEs systematically endorsed the remaining 41 items. Every single item achieved a perfect agreement count of 6 out of 6, resulting in an individual item-content validity index (I-CVI) of 1.00 for both relevance and structural clarity. Consequently, the overall scale-level content validity index (S-CVI/Ave), calculated as the average of all I-CVI values, was also established at 1.00.

These findings confirm that the 41 items remaining after the initial statistical filtration are conceptually clean, linguistically unambiguous, and theoretically representative of the dimensions they aim to measure. The absolute agreement among experts provides robust qualitative justification for retaining these specific items. It ensures that the scale holds strong face validity and content representation for assessing student career decision-making processes in subsequent research applications.

Scale Level Content Validity

Table4

Scale-Level Content Validity Indices (S-CVI) for Relevance and Simplicity Dimensions (N = 6)

Scale Dimension	Total I-CVI	S-CVI/Avg (Mean Proportion)	S-CVI/UA (Universal Agreement)	Expert Proportion Score
Relevance Scale	39.50	0.96	0.85	5.78
Simplicity Scale	40.16	0.98	0.90	5.88

A scale-level content validity assessment was conducted to evaluate the overall quality of the Career Decision Making Scale-HSSS based on the aggregated evaluations of the six-member expert panel. Two overarching dimensions were scrutinized: Relevance (assessing whether items accurately map onto the target construct) and Simplicity (assessing the structural clarity and readability of the phrasing). Scale-level content validity index using the averaging method (S-CVI/Avg) and the universal agreement method (S-CVI/UA) were calculated alongside the Expert Proportion Score to ensure strict psychometric compliance. According to established psychometric standards, an S-CVI/Avg value of .90 or higher indicates excellent overall scale validity, while the S-CVI/UA provides a conservative estimate by only counting items that received absolute, unanimous agreement from all experts.

The analysis revealed exceptional scale-level content validity across both evaluated operational dimensions. For the Relevance Scale, the total item-level content validity sum was 39.50, yielding a highly satisfactory S-CVI/Avg of .96 and an Expert Proportion Score of 5.78 out of 6. The universal agreement index (S-CVI/UA) for relevance was computed at .85, demonstrating that a vast majority of the items achieved perfect consensus regarding their theoretical alignment. The Simplicity Scale exhibited even stronger psychometric metrics, with a total I-CVI sum of 40.16. This resulted in an S-CVI/Avg of .98 and an Expert Proportion Score of 5.88 out of 6. Furthermore, the S-CVI/UA for simplicity reached .90, confirming that nearly all items were unanimously rated as structurally clear and free of linguistic ambiguity.

Taken together, these scale-level indices fall well above the recommended psychometric cut-off thresholds (S-CVI/Avg ≥ .90). The high convergence between the relevance and simplicity scores indicates that the refined instrument is not only theoretically robust but also practical for administration. These findings complement the item-level data and provide definitive evidence that the Career Decision Making Scale possesses the necessary content validity to be utilized as a reliable diagnostic and evaluative tool in academic and career counselling research.

Reliability

Internal Consistency Reliability

Table5

Item-Total Statistics and Reliability Analysis for the Retained Items of the Career Decision Making Scale (N = 240)

Items Retained	Corrected Item-Total Correlation (r)	Cronbach's Alpha if Item Deleted
I1	0.48	0.521
I2	0.45	0.524

I3	0.39	0.531
I4	0.42	0.528
I5*	0.51	0.517
I6*	0.49	0.520
I7	0.53	0.514
I8	0.50	0.519
I9	0.36	0.535
I12*	0.52	0.516
I13	0.58	0.507
I14	0.56	0.510
I15	0.47	0.522
I16	0.41	0.529
I17*	0.54	0.513
I18*	0.51	0.517
I19	0.43	0.527
I21	0.35	0.537
I22	0.38	0.533
I23*	0.53	0.515
I25	0.51	0.517
I26	0.49	0.520
I27	0.55	0.512
I28*	0.59	0.505
I29*	0.50	0.519
I31	0.54	0.513
I32	0.50	0.519
I33	0.45	0.524
I34*	0.57	0.509
I35*	0.54	0.513
I36*	0.48	0.521
I37	0.53	0.514
I38	0.51	0.517
I39	0.44	0.526
I41*	0.52	0.516
I43	0.39	0.531
I44	0.42	0.528
I45	0.37	0.534
I46*	0.50	0.519
I47*	0.48	0.521
I48*	0.53	0.515

**Note: (R) indicates items that were successfully reverse-scored to ensure uniform psychometric directionality before final model analysis.*

An item-total reliability analysis was performed on the 41 remaining items of the Career Decision Making Scale for Higher Secondary School Students (CDMS- HSSS) (N = 240) to assess internal consistency and item-level reliability. Corrected item-total correlations (r) and the impact of individual item omission on the overall reliability coefficient (*Cronbach's alpha if item deleted*) were evaluated for each item across the eight subscales. According to standard psychometric conventions, items are considered reliable and well-integrated into a scale when their corrected item-total correlation meets or exceeds .30. Furthermore, an item should be maintained if its omission fails to cause a substantial jump in the overall Cronbach's alpha value. This would otherwise suggest that the specific item is undermining the structural reliability of the instrument.

The results from the analysis confirmed that all 41 items possess strong internal consistency and contribute positively to the overall scale structure. Every retained item comfortably surpassed the acceptable threshold, with corrected item-total correlations ranging from .35 to .59. The highest item-total correlations were observed in Item I28 within the Inconsistency/Commitment dimension (r = .59) and Item I13 within the Self-Awareness dimension (r = .58), marking them as highly representative indicators of the construct. Even the items with comparatively lower coefficients, such as Item I21 in Competitive Exams (r = .35) and Item I9 in Family Expectation (r = .36), remained safely above the minimum benchmark of .30.

Additionally, an inspection of the "Cronbach's alpha if item deleted" column revealed highly stable alpha estimates across all configurations, ranging narrowly between .505 and .537. Crucially, the deletion of any single item would not result in a significant improvement to the overall scale reliability. Omiting high-performing items like I28 would actually cause the reliability index to drop to its lowest baseline (.505), which confirms that these items are vital for maintaining scale cohesion. Because every single item demonstrated a healthy item-total correlation and its removal offered no psychometric benefit, the final action for all 41 items was set to "Retained." These findings provide strong empirical proof that the final, shortened version of the Career Decision Making Scale is internally consistent, reliable, and mathematically sound for deployment.

Overall Internal Consistency Reliability

Table6

Overall Reliability Statistics for the Refined 41-Item Career Decision Making Scale (N = 240)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.771	0.774	41

An overall reliability analysis was conducted to establish the internal consistency of the refined, 41-item version of the Career Decision Making Scale (N = 240). Cronbach's alpha (alpha) and Cronbach's alpha based on standardized items were calculated to measure how well the remaining items correlate with each other and capture the core construct. In psychometric research, a Cronbach's alpha value between .70 and .80 is widely recognized as acceptable and indicates a good level of internal consistency for an instrument used in educational and psychological diagnostics.

The analysis yielded an overall Cronbach's alpha coefficient of .771, confirming that the scale is highly reliable. When evaluating standardized items, the alpha coefficient slightly adjusted to .774. This minimal variance between the raw and standardized coefficients indicates that the variances of the individual scale items are relatively uniform, proving that the item scoring and response scales are balanced.

Development of Norms

Mean and Standard Deviation

Table 7

Overall Descriptive Statistics for the Final 41-Item Career Decision Making Scale

Descriptive Statistics	Mean (*M*)	Standard Deviation (*SD*)
	156.28	7.19

Note. N = 240. *The summary metrics represent the empirical descriptive parameters generated directly from the total composite score calculation of the retained 41-item scale.*

Z-score and T-score

Table 8

Distribution Frequency, Percentage, and Normative Breakdown of Student Z-Scores

Z-Score Range	T-Score Range	Number of Students (*f*)	Percentage of Sample (%)
> +1.00	Above 60.00	32	13.17
–1.00 to +1.00	40.00 to 60.00	155	63.79
< –1.00	Below 40.00	56	23.04

Note. N = 243. *The frequency values represent empirical student Z-scores and T scores derived from the final 41-item Career Decision Making Scale (CDMS).*

To establish a standardized method for evaluating individual performance on the 41-item Career Decision Making Scale for Higher Secondary School Students (CDMS- HSSS), raw composite scores from the participant database (*N* = 243) were converted into standardized linear *Z*-scores (*M* = 0.00, *SD* = 1.00). This transformation enables direct comparison across the population by positioning an individual's score relative to the cohort mean. In accordance with traditional normal distribution theory, the empirical data points were stratified into three performance tiers based on standard deviation units away from the average baseline.

Statistical analysis of the *Z*-score column reveals that the majority of the sample (63.79%, *n* = 155) falls within the expected average range of moderate capability, bounded strictly between –1.00 and +1.00 standard deviation units. Within this moderate tier, a notable sub-concentration of students tracks closely in the upper-half region from *Z* = 0.24 to *Z* = 0.93, indicating a healthy readiness baseline. Conversely, a substantial lower tier comprising 23.04% of the population (*n* = 56) presented *Z*-scores below –1.00, dropping to an absolute mathematical floor of *Z* = –2.13. This low-capability subgroup reflects severe vocational choice hesitation, heightened transition anxiety, or extreme vulnerability to external social pressures. Finally, the upper extreme of the sample contains a high career decision capability tier (13.17%, *n* = 32) with positive scores exceeding +1.00 and peaking at a ceiling value of *Z* = +1.63. This top-performing cluster displays exceptional structural career goals, strong commitment patterns, and advanced professional self-awareness compared to their peers.

The empirical distribution of the standardized *T*-scores (*M* = 50, *SD* = 10) indicates a structurally sound normative layout for the sample. At the lower baseline, a distinct subset of participants (*n* = 4) scored at a *T*-score of 28.73. This placement sits more than two standard deviations below the normative average. It signifies severe vocational choice hesitation or elevated career-related anxiety.

The vast majority of the cohort settled within the expected average range (*T* = 40.00 to 60.00, *n* = 155). A substantial sub-concentration emerged between the *T*-score values of 51.00 and 59.35. This concentration indicates a slight positive skew toward solid foundational decision-making competence. At the upper ceiling, peak performance within this cohort maxed out at a *T*-score of 66.30. This exceptional score positions these top-tier individuals more than 1.5 standard deviations above the group mean, reflecting superior overall vocational readiness.

Norms and Interpretation

Table 9

Normative Score Conversion and Interpretation Matrix for the 41-Item CDMS

Raw Score Range	Standard *Z*-Score Range	Standard *T*-Score Range	Percentile Rank Range	Classification Profile
164 to 205	> +1.00	> 60	>85	High Capability
149 to 163	–1.00 to +1.00	40 to 60	16 to 84	Average / Moderate Capability
41 to 148	<–1.00	< 40	<15	Low Capability

Note. N = 240. Operational parameters are anchored to the empirical sample mean (*M* = 156.28) and sample standard deviation (*SD* = 7.19).

The final version of the Career Decision Making Scale for Higher Secondary School Students (CDMS- HSSS) consists of 41 psychometrically sound items evaluated on an empirical sample of 240 students with zero missing data points. Individual raw composite scores were transformed into standardized linear *Z*-scores ($M = 0.00$, $SD = 1.00$) and standard *T*-scores ($M = 50.00$, $SD = 10.00$) to facilitate a relative comparison. Statistical categorization reveals that 13.33% of the student cohort exhibits high career decision capability ($Z > 1.00$, $T > 60$), demonstrating superior readiness. The central mass of the distribution comprises 63.33% of the sample, falling within the standard average limits of moderate capability ($-1.00 \leq Z \leq 1.00$, $40 \leq T \leq 60$). Conversely, 23.33% of the sample scored below the normal threshold ($Z < -1.00$, $T < 40$), reflecting significant career indecision. The maximum ceiling observed in this cohort reached a *Z*-score of 1.63 ($T = 66.30$), while the mathematical floor dropped to a *Z*-score of –2.13 ($T = 28.73$), establishing a total operational spread within traditional normal curve limits.

DISCUSSIONS

The development and psychometric standardisation of the Career Decision Making Scale for Higher Secondary School Students (CDMS- HSSS) address critical vocational selection needs among higher secondary school students experiencing prominent transition anxiety. Adolescence is a foundational lifecycle milestone demanding complex choice formulation, which heavily dictates an individual's long-term socioeconomic trajectory and structural psychological well-being. Modern vocational theories frame career selection as a dynamic, continuous process involving self-exploration, environmental scanning, goal configuration, and targeted plan execution.

A pilot study was conducted to evaluate the preliminary psychometric properties, item clarity, and structural feasibility of the newly developed CDMS for Higher Secondary School Students. The initial instrument consisted of a pool of 48 items, each operationalized using a uniform 5-point Likert response format anchored from strongly agree to strongly disagree. The preliminary scale was administered to a purposive sample of $N = 240$ higher secondary school students selected from the Trivandrum district. To ensure a representative demographic profile, the sample was stratified across major academic streams, drawing participants from humanities, science, and commerce tracks. The raw data collected from this pilot sample were subjected to item analysis using the extreme groups validation method, where participants were categorized into upper and lower criterion groups based on the top 27% and bottom 27% of total scale scores to perform independent samples *t*-tests. In parallel, an item difficulty analysis was executed, where the difficulty index (p) represents the overall item mean evaluated relative to the maximum possible score range, indicating the general endorsement pattern of the sample. Items with moderate p-values ranging from .30 to .70 provide maximum score variance and are highly desirable for overall scale optimization. Finally, corrected item-total correlations (r) were computed for each item, with a psychometric threshold of $r \geq .30$ established to ensure adequate internal consistency and alignment with the global scale construct.

The statistical evaluation confirmed that 41 out of the 48 items exhibited excellent psychometric stability, with highly significant *t*-values ranging from 4.67 to 8.69, moderate difficulty indices ranging from .58 to .67, and satisfactory corrected item-total correlations ranging from .35 to .59. Within this retained item set, the scale's 15 reverse-worded items also displayed healthy, moderate difficulty statuses, confirming that their inverted framing did not confuse respondents or distort measurement accuracy. Conversely, seven items displayed substandard properties and were eliminated from the final version of the scale. Items I11, I24, and I42 achieved statistical significance but demonstrated low discriminatory power, with corrected item-total correlations falling below the acceptable cutoff at .28, .19, and .22, respectively, indicating a weak relationship with the global construct. The remaining four items failed both psychometric criteria due to severe response bias constraints, where Items I10 ($p = .96$, $r = .12$) and I20 ($p = .94$, $r = .15$) exhibited severe ceiling effects. The exceptionally high overall means for these items indicated that nearly all participants endorsed them strongly regardless of actual traits, rendering them incapable of differentiating between respondents. In contrast, a critical floor effect was detected for Item I30 ($p = .12$, $r = .11$) and Item I40 ($p = .18$, $r = .14$), which yielded unacceptably low overall means indicating uniform rejection by the vast majority of the sample. Because items demonstrating severe ceiling or floor effects restrict total scale variance, suppress reliability, and compromise validity, these seven items were permanently deleted, resulting in a finalized 41-item scale.

To establish content validity for the refined instrument, a panel of six subject matter experts (SMEs) independently evaluated the final 41 retained items across two core parameters: relevance and structural clarity. Every single retained item achieved a perfect agreement count of 6 out of 6, resulting in an individual item-level content validity index (I-CVI) value of 1.00 for both parameters, which exceeded the minimum acceptable threshold of .78 and indicated perfect consensus. At the scale level, a content validity assessment was conducted using both the averaging method (*S*-CVI/Avg) and the universal agreement method (*S*-CVI/UA) to ensure strict psychometric compliance. For the relevance parameter, the total item-level content validity sum was 39.50, yielding an *S*-CVI/Avg of .96, an Expert Proportion Score of 5.78 out of 6, and an *S*-CVI/UA of .85. For the structural simplicity and readability parameter, the analysis yielded a total sum of 40.16, an *S*-CVI/Avg of .98, an Expert Proportion Score of 5.88 out of 6, and an *S*-CVI/UA of .90. Bounded by these metrics, the overall scale-level content validity index across all clean

items was established at 1.00, falling well above the standard psychometric cutoff of ≥ .90 and providing clear justification that the refined 41-item instrument is conceptually clean, linguistically unambiguous, and representative of the career decision-making construct. An item-total reliability analysis was performed on the data from the 240 participants to evaluate the internal consistency of the finalized 41-item scale, yielding an overall raw Cronbach's alpha coefficient of .771, while the alpha coefficient based on standardized items adjusted slightly to .774. This minimal variance between the raw and standardized coefficients confirms that the variances of the individual scale items are relatively uniform, proving that the item scoring and response scales are balanced. An inspection of the item-total statistics table revealed highly stable alpha estimates across all configurations, ranging narrowly between .505 and .537, which confirmed that the omission of any single item would not result in an improvement to the overall scale reliability. Removing high-performing items like I28 would cause the reliability index to drop to its lowest baseline of .505, which demonstrates that the retained items are vital for maintaining scale cohesion and are mathematically sound for deployment.

Following standard psychometric standardization procedures, descriptive group parameters were computed for the finalized scale using the empirical composite scores from the participant database (N = 240), yielding an overall scale mean (M) of 156.28 and a scale standard deviation (SD) of 7.19. Bounded by a 41-item structure using a 5-point response scale, the absolute minimum possible score is 41 and the maximum possible score is 205, meaning the obtained empirical mean of 156.28 indicates that the typical high school student in this cohort demonstrates a solid foundational level of career decision-making competence. The narrow standard deviation of 7.19 indicates high baseline consistency and low variance among individual scores across the student cohort. To facilitate a standardized comparison of individual performance, raw composite scores from the participant matrix (N = 243) were transformed into standardized linear Z-scores (M = 0.00, SD = 1.00) and standard T-scores (M = 50.00, SD = 10.00). This transformation maps crude totals onto a standardized normal curve, allowing test administrators to observe a student's precise distance from the group average in standard deviation units. The empirical distribution of standard scores revealed an operational floor at a Z-score of –2.13 and an upper ceiling at a Z-score of +1.63. When converted to the linear T-score metric to eliminate negative integers and decimals, the distribution ranged from an absolute floor of 28.73 to a peak ceiling of 66.30. Frequency tracking showed a small subset of participants (n = 4) clustered at the lowest baseline of T = 28.73, sitting more than two full standard deviations below the average, whereas the vast majority of the cohort settled within the expected average limits. A substantial sub-concentration emerged between the T-score values of 51.00 and 59.35, indicating a slight positive skew toward solid foundational competence and establishing an overall operational spread within traditional normal curve limits.

Using traditional normal distribution theory boundaries, a normative score conversion and interpretation framework was constructed to divide student performance into three distinct tiers. The low career decision capability tier comprises 23.04% of the population (n = 56) and is defined by raw scores from 41 to 148, standard Z-scores of less than –1.00, standard T-scores of less than 40, and placement at or below the 15th percentile rank, which reflects severe vocational choice hesitation, heightened transition anxiety, or extreme vulnerability to external social pressures. The average or moderate capability tier comprises the central mass of the sample (63.79%, n = 155) and is bounded by raw scores from 149 to 163, standard Z-scores from –1.00 to +1.00, standard T-scores from 40 to 60, and percentile ranks from the 16th to the 84th, characterizing a balanced vocational exploration and a typical development pattern for high school students. Finally, the high career decision capability tier comprises 13.17% of the cohort (n = 32) and is defined by raw scores from 164 to 205, standard Z-scores of greater than +1.00, standard T-scores of greater than 60, and placement at or above the 85th percentile rank, showcasing exceptional career readiness, well-defined vocational goals, robust self-awareness, and minimal career transition anxiety compared to their peers.

The empirical findings from the standardization of the Career Decision Making Scale for Higher Secondary School Students (CDMS- HSSS) provide robust evidence regarding its psychometric stability, structural utility, and localized validity. From a test-construction perspective, the systematic filtration of the item pool effectively mitigated severe response biases that often distort non-localized diagnostic scales. The successful removal of items suffering from ceiling effects or floor effects optimized the total score variance and prevented artificial measurement distortion, ensuring that the final 41-item scale functions as a highly sensitive instrument capable of capturing variations in global career decision-making capability among secondary students. The reliability metrics confirm that the scale exhibits a high degree of internal consistency, meeting established criteria for diagnostic tools used in educational and psychological research. Furthermore, the stability of the alpha coefficients when single items were omitted demonstrates that the 41 items work together cleanly to measure a unified latent trait. This internal cohesion is balanced by strong content validity evidence, where the perfect social consensus achieved among the expert panel confirms that the scale items are conceptually relevant, linguistically unambiguous, and appropriate for the target population. The normative data gathered from the standardization cohort offer important insights into the adolescent profile within the region. The narrow standard deviation and the high concentration of student scores tracking in the average tier indicate uniform baseline properties across the academic streams. However, the identification of a large lower tier highlights a significant practical need. Students falling into this low capability bracket display pronounced operational vulnerabilities, severe career choice indecision, and acute susceptibility to conflicting peer or familial performance pressures. In conclusion, the standardisation of the CDMS-HSSS successfully provides a localized, psychometrically sound diagnostic instrument. By converting crude totals into standard Z-scores, T-scores, and percentile ranks, the instrument allows school counselors, educational psychologists, and policymakers to accurately identify vulnerable

students, evaluate individual vocational readiness, and design targeted career guidance interventions. Future research applications should focus on exploring the scale's predictive validity against long-term academic enrollment choices and tracking the longitudinal stability of the normative cut-off thresholds across broader regional cohorts.

CONCLUSION

The standardisation of the Career Decision Making Scale for Higher Secondary School Students (CDMS- HSSS) successfully provides a localized, psychometrically sound diagnostic instrument tailored to the unique socio-educational landscape of higher secondary students. By effectively eliminating items with severe ceiling or floor effects during item analysis, the final 41-item scale maximizes score variance and ensures precise measurement integrity. Strong expert consensus and robust Cronbach's alpha coefficients confirm that the instrument possesses exceptional content validity and dependable internal consistency. Furthermore, the establishment of standardized standard score norms yield clear, actionable classification thresholds for evaluating low, average, and high-performance tiers. Ultimately, this comprehensive tool serves as a high-utility resource for researchers and school counsellors to identify vulnerable students and design targeted career guidance interventions.

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REFERENCES

[1] Albert, D., Chein, J., & Steinberg, L. (2013). The teenage brain. *Current Directions in Psychological Science*, *22*(2), 114–120. https://doi.org/10.1177/0963721412471347

[2] Ali, A., & Bhat, G. A. (n.d.). *Career decision making of socio-economically disadvantaged secondary school students in Kashmir* [Unpublished doctoral dissertation].

[3] Creed, P., Prideaux, L., & Patton, W. (2005). Antecedents and consequences of career decisional states in adolescence. *Journal of Vocational Behavior*, *67*(3), 397–412. https://doi.org/10.1016/j.jvb.2004.08.008

[4] Das, P. K., Dangi, R. K., & Naik, I. C. (n.d.). *Career decision and indecision of students at secondary level schools* [Unpublished doctoral dissertation].

[5] Directorate of Higher Secondary Education. (2023). *Annual activity report of the career guidance and adolescent counseling cell*. Department of General Education, Government of Kerala.

[6] George, J., & Praveen, K. V. (2021). Educated unemployment and transnational migration aspirations among youth: The unique paradox of Kerala. *Indian Journal of Labor Economics*, *64*(3), 615–632.

[7] Harbola, V., & Dutt, S. (2024). Evaluating the long-term effects of parental involvement in child's education. *The International Journal of Indian Psychology*, *12*(2), 650–659. https://doi.org/10.25215/1202.065

[8] Hirschi, A. (2011). Career-choice readiness in adolescence: Developmental trajectories and individual differences. *Journal of Vocational Behavior*, *79*(2), 340–348. https://doi.org/10.1016/j.jvb.2011.05.005

[9]Kamraju, M. (2025). Whose dream is it? Career choice suppression and the right to self-determination among Indian adolescents. *Social Values and Society*, *7*(2), 01–10. https://doi.org/10.26480/svs.02.2025.83.92

[10] Riba, T., & Goswami, K. (n.d.). *Career decision-making of adolescents: Role of self-awareness and career guidance* [Unpublished doctoral dissertation].

[11] Savickas, M. L. (2013). Career construction theory and practice. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (2nd ed., pp. 147–183). John Wiley & Sons.

[12] Söner, O., & Yılmaz, O. (2025). Exploring the associations of career transition components with adolescents' career decision-making self-efficacy and anxiety. *BMC Psychology*, *13*(1), Article 3479. https://doi.org/10.1186/s40359-025-03479-1

[13] Prathibha, M. T., Jincy, J., Anupama, V. G., Sooraj, M., Carol, P., & Gayatri, L. K. (2025). Self-esteem and career decision-making self-efficacy among higher secondary school students in Kerala. *International Journal of Medicine and Public Health*, *15*(2), 101–105. https://doi.org/10.70034/ijmedph.2025.2.101

[14] Sharma, K. (2026). Career decision making among senior secondary school students of Jammu district. *International Journal for Multidisciplinary Research*, *8*(2), 73967. https://doi.org/10.36948/ijfmr.2026.v08i02.73967