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Financial Literacy and Planning Attitudes of Physically Handicapped Students in Higher Education Institutions

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Abstract

Financial literacy is now seen as a vital life skill that helps individuals make sound financial choices, handle resources effectively, and prepare for long-term safety. Physically disabled students in higher learning institutions are most often left out of conventional financial literacy programs primarily due to social, structural, and mental factors. The exclusion not only prevents them from accessing financial education but also invades their confidence and ability to apply financial knowledge to daily decision-making. This study seeks to explore the level of financial planning behavior and literacy among physically disabled university students using a mixed-methods approach that combines the quantitative and qualitative elements. Quantitative measures levels of planning practice, literacy, and financial preparedness, while qualitative examines attitudes, issues, and motivational drivers affecting financial decision-making. Determinants like disability type, socioeconomic status, institutional support, and access to money are studied in an attempt to find differences and patterns in the behavior of money.

The research will reveal the correlation between money awareness and planning confidence in this under-represented population, gaining a comprehensive understanding of the effect of disability on financial empowerment. Findings are likely to identify major gaps in access to financial education and suggest means of developing inclusive, adaptive, and accessible financial literacy models specifically designed for physically disabled students. By filling empirical and experiential gaps in financial literacy, this study hopes to contribute to education policy, institutional practice, and financial inclusion thinking. In the end, it highlights the need for fair financial education as a way of empowering all students and promoting socio-economic independence among physically disabled pupils.

Keywords: *Financial Literacy, Physically Handicapped Students, Financial Planning Attitudes, Higher Education, Mixed-Methods Research, Financial Empowerment, Inclusive Education, Socioeconomic Factors, Institutional Support, Accessibility.*

1. Introduction

Financial literacy is the 21st-century building block of professional and personal achievement that gives one the tools to make educated decisions regarding budgeting, saving, investing, and future financial planning. Within the college classroom, financial literacy is the focal point of educating students in budgeting scarce resources, managing the price of education, and financially planning for the future. But physically disabled students are most likely the omitted group of students in financial literacy classes, plagued by issues aside from mental barriers to encompass social, psychological, and infrastructural barriers. Evidence shows that disability crosscuts financial vulnerability because physically disabled people have poor labour market access, low financial capability, and reliance on family or institutional support. In spite of the increased international focus on inclusive education, curriculum-instruction based financial education courses ignore the particular needs of physically disabled students and therefore continue to perpetuate variations in financial knowledge, capability, and planning behaviour. There is some existing literature based mainly on the general student population, thereby creating a massive knowledge gap regarding the influence of disability type, socio-economic status, and institutional support measures on financial decision-making and preparation. There is no general framework also utilizing both quantitative financial literacy scales

and qualitative analysis of perceptions and attitude towards money among this group.

With a view to bridging this gap, the current study utilizes a mixed-methods study research design in the measurement of financial literacy levels, the study of planning dispositions, and assessment of physically handicapped students in the needs of higher education. The outcomes of the current research are anticipated to inform the development of inclusive, adaptive, and accessible financial literacy systems so as to enhance equitable financial empowerment and empower physically challenged students with increased autonomy and economic resilience in an increasingly competitive marketplace.

2. Research Objectives and Hypotheses

2.1 Research Aims

In total, the purpose of this study is to investigate physically disabled university students' attitude towards and planning for financial literacy using a mixed-methods approach consisting of both qualitative and quantitative analysis.

For this purpose objective, the study has the following well-defined aims:

• To identify the level of financial literacy amongst physically disabled tertiary students.

• To determine the savings, budgeting, and investment choices of physically handicapped students in terms of financial planning attitudes and behaviors.

• To determine the level of money management as influenced by demographic and situational factors like education level, gender, socioeconomic status, and disability type.

• To determine the perceptions, challenges, and motivational drivers that affect financial attitudes and decision-confidence among physically handicapped students.

• To establish and contrast handicapped and non-handicapped students' financial literacy to identify whether and where gaps or disparities in knowledge occur.

• To provide policy and institutional guidelines on how to structure inclusive and accessible financial literacy classes for physically handicapped students.

2.2 Hypotheses

Consistent with the research purpose, the study formulates the following hypotheses:

• **H1:** A significant difference exists in levels of financial literacy between handicapped and non-handicapped students at higher education institutions.

• **H2:** Socioeconomic status and type of disability each have unique effects on the financial literacy and planning orientations of physically handicapped students.

• **H3:** Financial education material availability and institutional facilitation are positively related to financial confidence and planning behavior among physically handicapped students.

• **H4:** Financial literacy significantly correlates with financial planning dispositions among physically handicapped students.

• **H5:** Motivational factors and perceived difficulties mediate the relationship between financial decision-making self-confidence and financial literacy.

2.3 Research Approach

This study employs a convergent mixed-methods design under which the quantitative data (financial literacy ratings based on surveys and behavioral measures) and qualitative data (focus group interviews and discussions and interviews) are all collected at the same time. This helps in triangulating findings from the two streams to ensure there is full understanding of quantifiable as well as felt elements of financial behavior among physically disabled students.

3. Methodology & Technical Section

3.1 Research Design

This research employs a mixed-methods research design to ensure a comprehensive and multidimensional understanding of the financial literacy and planning attitudes of physically handicapped students in higher education institutions. The integration of quantitative and qualitative methodologies allows the study to capture both measurable data and subjective experiences, bridging the gap between statistical evidence and human perception. The quantitative component of the study focuses on collecting

structured data through well-designed surveys and standardized financial literacy assessments. These instruments are aimed at quantifying students' financial knowledge, behavioral tendencies, and decision-making competence. Parameters such as budgeting ability, investment awareness, savings behavior, and financial confidence are measured to produce a Clear numerical representation of literacy levels across various disability groups.

Complementing this, the qualitative component employs semi-structured interviews and focus group discussions to provide contextual insights into students' personal experiences, motivational barriers, and attitudinal patterns. This dual-layered approach ensures that both empirical validity and experiential depth are achieved. The study follows a convergent parallel research design, wherein both quantitative and qualitative data are collected concurrently, analyzed independently, and later integrated to achieve triangulation enhancing reliability, validity, and interpretative accuracy. This methodological structure enables the identification of convergence or divergence between numerical outcomes and lived experiences, offering a holistic picture of financial empowerment among physically handicapped students.

To strengthen the analytical process, a technological dashboard is developed using SPSS, Python (Pandas, Matplotlib, NumPy), and Microsoft Power BI. These tools facilitate advanced data visualization, including bar charts for financial literacy comparisons, scatter plots for correlation analysis, and heatmaps for inter-variable relationships such as gender, type of disability, and institutional support. This technologically driven design not only enhances analytical precision but also adds a dynamic, data-centric dimension to the research presentation.

3.2 Sample Selection

The process of selecting the sample in this study has been carefully designed to guarantee representativeness, inclusivity, and validity when investigating the financial planning attitudes and literacy of physically disabled students in Indian higher learning institutions. The plan is to create an equitable and complete dataset that genuinely depicts different disability kinds, institutional settings, gender compositions, and socio-economic statuses.

For this purpose, a stratified random sampling method has been used, breaking the population into separate strata according to disability type visual impairment, auditory impairment, orthopedic disability, and locomotor disability. Every stratum has an equal representation of all disabilities, thus eliminating sampling bias and ensuring each group's individual financial outlook is reflected. Within every stratum, subjects are randomly picked from the target population, with the feature of both randomness and structure preserved in the overall sampling design.

Population and Sample Composition

The target population are the students pursuing undergraduate and postgraduate studies in recognized higher institutions across India. The sample consists of public universities, private universities, and community colleges from urban, semi-urban, and rural areas. This encompasses socio-economic and institution diversity affecting financial literacy outcomes.

As seen from Table 1, sample size is 250 members with 150 physically handicapped students (about 35–40 from each category of disabilities) and 100 non-handicapped students for a control group. The gender representation is also balanced, with 140 males and 110 females, to guarantee gender-sensitive evaluation of the behavior and literacy of financial planning.

Table 1: Sample Distribution by Disability Type and Gender

Disability Type	Male	Female	Total	% of Total Sample
Visual Impairment	20	15	35	14%
Auditory Impairment	18	17	35	14%
Orthopedic Disability	22	18	40	16%
Locomotor Disability	25	15	40	16%
Non-Handicapped (Control)	55	45	100	40%
Total	140	110	250	100%

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This structured composition ensures each category of disability is proportionally represented, supporting valid statistical comparisons between groups.

Institutional and Regional Representation

The inclusion of multiple institutional categories enhances data richness. As reflected in Table 2, public universities (44%), private universities (36%), and community colleges (20%) were selected from different geographical zones of India, including North, South, East, and West regions. This diversity allows the research to account for infrastructural and cultural differences that may affect financial literacy and access to financial resources.

Table 2: Institutional Representation

Institution Type	No. of Participants	% Representation	Region Coverage
Public Universities	110	44%	North, East, South
Private Universities	90	36%	North, West, South
Community Colleges	50	20%	Urban, Semi-Urban
Total	250	100%	Pan-India

This table demonstrates the national scope of the sample, ensuring that findings reflect a pan-Indian perspective on financial literacy among students with disabilities.

Data Collection and Measurement Parameters

Data collection is conducted in two distinct phases:

1. **Quantitative Phase:** A structured survey and standardized Financial Literacy Assessment Test are administered to all participants to measure parameters such as budgeting ability, investment awareness, savings behavior, financial confidence, and digital financial usage.
2. **Qualitative Phase:** Semi-structured interviews and focus group discussions are conducted with a smaller, purposively selected subset of participants from each category to explore their lived experiences, motivations, challenges, and institutional support mechanisms.

The quantitative analysis parameters are summarized in Table 3, which outlines the mean scores, standard deviations, and interpretative results for each financial competency area.

Table 3: Financial Literacy Assessment Indicators

Parameter	Mean Score (out of 10)	Standard Deviation	Interpretation
Budgeting Ability	6.8	1.4	Moderate proficiency
Investment Awareness	5.6	1.9	Limited knowledge
Savings Behavior	7.2	1.3	Good saving habits
Financial Confidence	6.0	1.7	Moderate confidence
Digital Financial Usage	5.8	1.5	Growing digital literacy

The data suggests that while handicapped students exhibit moderate to good performance in budgeting and savings, they face challenges in investment awareness and digital finance usage.

Regional and Disability Correlation

To illustrate individual-level variations, Table 4 provides a subset of the sample, correlating disability type, region, and institutional context with literacy scores. This data is crucial for identifying region-specific or disability-specific patterns that may influence financial behavior.

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Table 4: Regional and Disability Correlation Snapshot (Example Subset)

Parti-cipant ID	Region	Disability Type	Institution Type	Gender	Budge-ting (10)	Invest-ment (10)	Savings (10)	Confidence (10)	Overall Literacy (Avg/10)
P001	North	Visual Impairment	Public Univ.	Male	7	6	8	6	6.75
P002	South	Auditory Impairment	Private Univ.	Female	6	5	7	5	5.75
P003	East	Orthopedic Disability	Community Coll.	Male	8	7	8	7	7.5
P004	West	Locomotor Disability	Public Univ.	Female	7	6	7	6	6.5
P005	North	Non-Handicapped	Private Univ.	Male	8	7	8	8	7.75

The correlation snapshot reveals that overall financial literacy levels are higher among non-handicapped students, while differently-abled students display moderate proficiency influenced by institutional accessibility and financial education exposure.

Ethical Considerations and Accessibility

Ethical integrity is maintained throughout the sampling and data collection process. Informed consent is obtained from all participants, ensuring voluntary participation and confidentiality of personal data. Accessibility measures such as Braille questionnaires, sign-language interpretation, and digital tools compatible with screen readers are provided to participants with visual or auditory impairments.

Analytical Application

The final dataset is integrated into analytical platforms such as SPSS, Python (Pandas, Matplotlib, NumPy), and Microsoft Power BI to perform:

- Cross-tabulation between disability type and financial literacy indicators.
- Statistical testing using ANOVA, correlation, and regression analyses to identify significant relationships.
- Visualization through bar charts, scatter plots, and heatmaps that highlight inter-variable relationships such as gender, type of disability, and institutional influence.

This comprehensive, data-driven, and ethically sound sampling framework ensures that the study captures both quantitative depth and qualitative richness. By triangulating structured data with experiential insights, the research delivers a holistic understanding of financial literacy and planning attitudes among physically handicapped students, positioning the findings as both academically robust and socially meaningful.

3.3 Data Collection Tools

In the interest of comprehensive and accurate data gathering, the current research adopts a blend of quantitative and qualitative data gathering instruments in consonance with the mixed-methods strategy. The quantitative aspect utilizes a predesigned questionnaire and a standard Financial Literacy Assessment Test adapted to gauge significant parameters like budgeting skill, investment knowledge, saving habit, financial confidence, and internet application of finance. The instrument includes both multiple-choice and Likert-scale items, allowing quantifiable measurement of students' financial knowledge, attitudes, and behavior.

For the qualitative aspect, semi-structured interview schedules and discussion guide schedules are prepared to explore participants' individual experience, concerns, and orientations with respect to money management and institutional services. These instruments are intended to collect more nuanced data on the psychological and socio-cultural determinants underpinning money-making decisions by students of varying abilities.

All the instruments are pilot tested for clarity, reliability, and accessibility. Braille questionnaires, large-print questionnaires, and sign-language interpretation are also offered as special formats in order to reach those participants who have visual or hearing impairments. Combined, the instruments

offer a balanced system that measures quantifiable skills and qualitative stories, making sure the research findings are sound and representative.

3.4 Statistical Techniques

3.4.1 Descriptive Statistics

Descriptive statistics form the foundation of quantitative analysis by transforming raw data into meaningful summaries that reveal overall trends and patterns. In this research, descriptive tools such as mean, median, standard deviation, and frequency distribution are used to interpret financial literacy scores obtained from participants. These measures help in understanding the central tendency and dispersion of data across various parameters, including budgeting ability, investment awareness, savings behavior, and financial confidence.

The mean score indicates the average level of financial proficiency among groups, while standard deviation measures the extent of variation or consistency within each group's responses. For example, a higher deviation in "investment awareness" scores among visually impaired students might indicate uneven access to financial education or digital platforms. Frequency distributions further help in determining how many students fall within specific score ranges, highlighting the concentration of literacy levels across groups.

These descriptive findings act as preliminary indicators of trends before applying inferential analysis. Visual tools such as histograms, bar charts, and box plots generated through SPSS and Python (Matplotlib, Seaborn) are used to represent these measures graphically, making it easier to identify clusters, outliers, and symmetry in data.

Overall, descriptive statistics not only summarize numerical patterns but also provide a foundational understanding for further inferential testing. By quantifying variations between disability groups, genders, and institutional types, this stage establishes the baseline for exploring deeper relationships and testing hypotheses in the subsequent analytical phases.

3.4.2 Inferential Statistics

Inferential statistics go beyond description as they enable researchers to make inferences and predictions about the larger population from sample data. Inferential techniques such as Analysis of Variance (ANOVA) and t-tests are employed in this study to ascertain statistically significant differences in financial literacy among groups stratified by type of disability, gender, and institutional category.

One-Way ANOVA test analyzes whether mean scores of financial literacy are significantly different in four groups of physically handicapped students—visual, auditory, orthopedic, and locomotor—and the non-handicapped control group. Any significant p-value (< 0.05) in ANOVA indicates significant differences, i.e., a level of financial literacy of at least one group is disparate due to accessibility or educational exposure.

Similarly, Independent Sample t-tests are used for a comparison of mean scores of literacy among handicapped and non-handicapped students. The test determines whether differences in budgeting abilities or investment awareness are significant as compared to occurring randomly.

Inferential analysis provides the statistical foundation for verifying hypotheses. For instance, an already tested hypothesis may state: "There is no significant difference between handicapped and non-handicapped students when it comes to financial literacy." If the t-test proves it false, then it demonstrates systemic failures policymakers need to manage.

Results of inferential tests are reported in terms of statistical values (mean difference, t, F, p), as being clear and replicable. Visual representation of results is obtained using error bar plots and box plots in Power BI and Python to display group-level distinctions in a clear manner.

Inferential statistics thus transform results from the sample into conclusions that are generalizable, making the research more trustworthy and allowing policy-level implications for inclusive financial education to be identified.

3.4.3 Correlation and Regression Analysis

To assess the correlations between variables of financial literacy and predict dependent variables, the study employs correlation and multiple regression tests.

Pearson's Correlation Coefficient (r) quantifies the extent and direction of linear associations among variables such as financial confidence, savings

behavior, and awareness of investment. A positive correlation ($r > 0$) is expected to forecast that more financially confident students save more, whereas a negative correlation forecast reverse relationships, for instance, higher investment awareness due to less savings dependency. Python-computed correlation matrices and heatmaps may graphically depict such associations, which aid in easier interpretation of variable dependency.

Following correlation, Multiple Linear Regression Analysis is employed to predict total financial literacy (dependent variable) in relation to independent variables such as gender, disability type, institution category, and regional background. The model selects the most important predictors and estimates their influence through standardized beta coefficients and R^2 values. For instance, an R^2 value of 0.65 would indicate that 65% of the variance in financial literacy can be explained by the chosen independent factors.

Regression diagnostics like multicollinearity tests and residual plots verify model reliability. ANOVA tables in regression results also verify model significance (F-test).

By correlation and regression combined, the study not only detects associations but even predictive knowledge about what socio-demographic factors have the greatest impacts on financial literacy. This guides the construction of focused interventions—e.g., more institutional support or tailored financial training courses for specific disability groups.

Thus, correlational and regression analyses combined drive the research from descriptive observation to explanatory and predictive modeling, with further insight into structural patterns that underlie financial literacy disparity.

3.4.4 Visualization and Analytical Tools

Analytical software and visualization tools are imperative in converting complicate numerical results into understandable visualizations. Visualization tools like SPSS, Python (Pandas, Matplotlib, NumPy, Seaborn), and Microsoft Power BI have been utilized in this research to conduct both statistical calculation and data visual storytelling.

SPSS is utilized for running descriptive and inferential statistical analyses such as ANOVA and t-tests, producing transparent tabular results with levels of significance. Data preprocessing, cleaning, and transformation are done by Python's Pandas and NumPy libraries, and histograms, scatter plots, and regression lines that identify differences between student groups are produced by Matplotlib and Seaborn.

Power BI, a business intelligence tool, provides an interactive dashboard-based view of data. It graphically combines results like gender-wise distribution of financial literacy, comparisons of disabilities, and institutional performance. Dynamic graphs, heatmaps, and trend lines render the patterns easily comprehensible to researchers as well as policymakers.

Visualization serves two purposes it confirms statistical findings and increases interpretability. A heatmap of high correlations between savings and financial confidence, for example, can easily be understood even by technical stakeholders. Regression plots and box plots further emphasize differences between disability groups.

Multi-tool analytics ensure methodological solidity. Python offers computational flexibility, SPSS guarantees statistical correctness, and Power BI provides easy-to-understand visual narratives.

In combination, these visualization and analytical tools turn statistical findings into actionable knowledge, closing the gap between quantitative evidence and actual policy suggestions to enhance financial literacy inclusivity among physically handicapped students.

4. Results and Data Analysis

The analysis phase combines quantitative and qualitative results to formulate a general picture in regards to physically disabled students' attitudes towards financial literacy and planning in institutions of higher learning. Statistical analysis methods such as descriptive, inferential, correlational, and regression analysis were utilized through the use of SPSS, Python (Pandas, Matplotlib, NumPy), and Power BI for analytical depth, accuracy, and graph readability.

The descriptive analysis indicated that the mean financial literacy level in physically handicapped students was 6.3 on a 10-point scale, indicating average competence. Of the parameters being measured, savings behavior (mean = 7.2, SD = 1.3)

and budgeting ability (mean = 6.8, SD = 1.4) were seen to be performing better, with exemplary financial discipline. Yet investment awareness (mean = 5.6, SD = 1.9) and use of electronic money (mean = 5.8, SD = 1.5) were lower on the mean, indicating low financial market and electronic payment systems familiarity.

Inferential analysis with One-Way ANOVA proved statistically significant difference ($p < 0.05$) between disability groups for literacy levels in finance. Orthopedic and locomotor disability students enjoyed relatively higher literacy levels due to higher use of institutional facilities and computer-based study materials. Independent sample t-test also indicated significant difference ($p < 0.01$) between handicapped and non-handicapped, which confirmed that physical disability is even today a challenge to inclusiveness in financial education.

Pearson's coefficient correlation test revealed a high correlation between financial confidence and savings habit ($r = 0.71$), which suggests that students with higher confidence save better. There was moderation between e-finance usage and investment literacy ($r = 0.55$), reflective of increasing reliance on online financial platforms for investment learning. The multiple regression found an adjusted R^2 of 0.68, which shows that 68% of variance in total financial literacy could be explained by factors like gender, type of disability, institution type support, and accessibility to areas. Institutional type and accessibility support were the best predictors of financial capability. Qualitative data from the interviews and focus group meetings supported the statistical findings, validating that motivational limitations, absence of financial inclusion regulations, and technological inaccessibility of resources limit the development of financial literacy among the disabled students.

Last but not least, in conclusion, the overall analysis reports substantial differences in the extent of financial literacy by disability types but nevertheless bears witness to high behavioral competence in savings and budgeting. The results reflect strongly on the necessity of inclusive models of financial education, accessible technology applications, and special programs for awareness to fill the gap and ensure economic empowerment of differently-abled students.

5. Conclusion

The study concludes that while physically handicapped students in higher education institutions demonstrate moderate levels of financial literacy, notable gaps still exist, particularly in investment awareness and digital finance usage. The findings indicate that students exhibit strong budgeting and saving habits but face challenges due to limited accessibility to financial education resources and digital tools. Differences in literacy levels across disability types and institutional categories highlight the importance of inclusive financial programs and policy support.

Overall, the research emphasizes the need for targeted interventions such as accessible financial education modules, adaptive learning technologies, and awareness workshops to enhance financial confidence and independence among differently-abled students. By integrating both quantitative and qualitative insights, the study provides a holistic understanding of financial empowerment and underscores the role of inclusive education in fostering equality and long-term economic resilience for students with disabilities.

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