1 **An Exploration of Data Collection Challenges in Behavioural**

2 **Research: With Special Emphasis on Teacher Education**

3

4 **Abstract**

5   This study examines the main challenges faced during data collection in

6 behavioural research focusing on teacher education. Behavioural research aims to

7 understand how people act and interact but data collection often faces issues related to

8 time, communication, culture and ethics. The study used a descriptive survey method

9 and included 554 scholars from various academic programmes in rural, semi-urban

10 and urban areas of West Bengal. A self-developed questionnaire measured challenges

11 in five key areas i.e., sampling, tool logistics, data quality, analysis and ethical

12 concerns. Data were analysed using descriptive statistics. Results showed that most

13 participants faced moderate challenges with many responses marked as 'Neutral'.

14 While building rapport and controlling external variables were strengths, difficulties

15 remained in time management, mailing tools, language issues and institutional

16 support. Ethical problems like fear of judgment and social desirability bias affected

17 the openness of responses. The study concludes that behavioural research in teacher

18 education is moderately affected by logistical, cultural and ethical factors. To improve

19 data quality, researchers should plan early use flexible and ethical methods and adopt

20 culturally appropriate tools. These steps can enhance the reliability and validity of

21 behavioural research in educational settings.

22 *Keywords: Data collection, challenges, behavioural research, teacher education*

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24 **1.0.Introduction**

25   Behavioural research is the scientific study of how people act, react and interact

26 with others. It aims to understand the psychological, social, emotional, cognitive and

27 environmental factors that influence behaviour. Behavioural research focuses on why

28 people make decisions and how their experiences and surroundings shape their

29 actions (Xu, 2008). Learning theories like classical and operant conditioning show

30 that behaviour is influenced by experience (Mali & Patankar, 2023; Gudivada et al.,

31 2017). This understanding is useful in areas like mental health, child development,

32 public health, workplace culture and marketing. Researchers use both quantitative and

33 qualitative methods. Quantitative tools like surveys and experiments help find

patterns through numbers (Holden et al., 2015). Qualitative methods, such as interviews and observations, explore deeper meanings and contexts of behaviour (Mwita, 2022). Experiments help identify cause-and-effect relationships by changing one factor and observing the result (Heinrich & Klein, 2021; Rind, 2020). Observational studies capture real-life behaviour in natural or controlled settings. Some researchers also study brain activity to understand how it relates to behaviour (Menziwa et al., 2024). Indirect tests are sometimes used to uncover unconscious motives that people may not share openly (Whang & Lee, 2020). For instance, consumer behaviour studies explore how packaging or store layout influences what people buy (Spacey et al., 2021). Behavioural research has improved the lives of people with mental health and behavioural challenges. It has also helped in areas like education, child development, workplace practices and healthcare (Dickson et al., 2007; Haahr et al., 2014). However, this research faces challenges like ethical issues, methodological limits and the complexity of human behaviour. Social and environmental factors also make it hard to collect and interpret data accurately (Taherdoost, 2021). To overcome these issues, researchers must plan carefully and follow ethical practices to ensure valid and reliable results (Irfan et al., 2023; Cassidy et al., 2011). Behavioural scientists aim to understand why people behave in positive or harmful ways. By using different methods and knowledge from many fields, behavioural research helps advance education, health and society. The data collection in behavioural research is influenced by many interconnected factors (Knott et al., 2022). Addressing these challenges requires ethical practices, clear communication, institutional support and culturally sensitive approaches. Therefore, understanding and overcoming data collection challenges in teacher education is essential for reliable behavioural research and effective educational improvements.

2.0.Objectives of the Study

1. To explore the key challenges faced by researchers during the process of data collection in behavioural studies related to teacher education.

2. To examine the contextual factors that creates challenges in collecting data during teacher education research.

3. To assess the impact of data collection challenges on behavioural research with special reference to teacher education programme.

3.0. Methodology

3.1. Research Method

The present study employs a descriptive survey type study. This is deemed appropriate because the study sought to collect information through surveys in order to gain a more comprehensive picture. Based on the demand of this study, the researcher collected data through the researcher made questionnaire and analyse quantitatively in order to make more robust and accurate inferences.

3.2. Research Design

It was assumed that data collection challenges might be related to factors like academic programme, project status, gender, study area, and level of education. Based on this assumption, the sample was divided into different categories and subcategories. This led to the use of a descriptive research design. The research considered three levels of academic programmes: Ph.D., M.Phil. and Others. It included both ongoing and completed project work among male and female participants. The study area was also classified into three types: rural, semi-urban and urban.

3.3. Population and Sample of the Study

The term population refers to the entire group from which a sample is drawn, encompassing all Ph.D. scholars and other researchers engaged in or having completed academic programs (e.g., M.A., M.Ed., M.P.Ed.) or research publications under various universities in West Bengal. In this study, 554 scholars were selected using a purposive random sampling technique for the present study.

3.4. Tools of the Study

- **Challenges of Data Collection:** The researcher developed a tool to measure the challenges of data collection in behavioural research as no suitable tool was available for the study. Using Likert scale to assess whether a set of questions measures a single underlying concept, the tool was designed specifically for researchers. The key areas of focus in the research process include sampling and respondent accessibility, tool construction and data collection logistics, data quality assurance and authenticity, data processing and analysis and ethical, cultural and institutional considerations. This structure ensured comprehensive coverage of the data collection process.

3.5. Process of Data Analysis

The collected data were stored in an Excel sheet based on study variables and analyzed using IBM SPSS version 20. Descriptive statistics such as frequencies, mean, SEM and standard deviations were computed. The results were systematically presented through tabular form. Statistical techniques greatly enhanced the collection, organization, analysis and interpretation of numerical data.

4.0. Results of the Study

Table-1. Summary of the variables with no. of sample

Sl. No.	Variable	Criterion	Ph. D.	M. Phil	Others	Total
1.	Gender	Male	88	24	120	232
		Female	93	24	205	322
2.	Age Group	≥30yrs	27	05	62	94
		31–35years	77	28	144	249
		35–50yrs	57	09	92	158
		≤50 yrs	20	06	27	53
3.	Status of the Research/ Project	Ongoing	114	20	164	298
		Completed	67	28	161	256
4.	Study Area of the Researcher	Rural	64	15	108	187
		Semi-urban	59	18	106	183
		Urban	58	15	111	184
5.	Area of the Research	School Education	82	16	196	294
		Higher Education	46	26	70	142
		Others	53	06	59	118
6.	Behavioural Research Programme undertaken by the respondent		181	48	325	554

From the summary, it can be concluded that a majority of the respondents undertaking behavioural research were Ph.D. scholars with more female participants than male. Most of the researchers belonged to the 31–35 age group and were engaged in ongoing projects. The study areas were fairly distributed across rural, semi-urban and urban regions indicating a balanced geographical representation. School education emerged as the most common area of research, highlighting its importance in behavioural research. Overall, the data reflects a diverse and active research community with a strong focus on behavioural aspects within the field of education.

Table-2. Respondents' response on Sampling and Accessibility Challenges in Behavioural Research on Teacher Education

Statement	Mean	SEM	SD

Statement	Mean	SEM	SD
I didn't face any problem in selecting a non-chaotic environment during the survey.	3.24	0.089	1.196
Making proper arrangement of specific conditions for the respondent was not a hard task for me.	3.35	0.091	1.219
Interference of surroundings had not diverted the concentration of my respondents during survey	2.76	0.089	1.196
I haven't faced any problem in controlling the extraneous variables of my study	3.40	0.080	1.079
Manipulating the independent variables during the study wasn't a hard task for me	3.09	0.076	1.026
It was not a hard task for me to maintain the desired level of discipline among the respondents during data collection.	3.05	0.086	1.161

[1.00-1.79=Strongly Disagree, 1.80-2.59=Disagree, 2.60-3.39=Neutral, 3.40-4.19=Agree, 4.20-5.00=Strongly Agree]

Most of the responses fall in the 'Neutral' range, showing that participants were generally unsure or had mixed experiences with sampling and accessibility during the survey. Only one statement, about controlling extraneous variables, received a mean score of 3.40, which falls under the 'Agree' category, indicating some positive experience in that area. None of the responses fell into the 'Strongly Agree', 'Disagree' or 'Strongly Disagree' categories, which means the respondents did not face extreme difficulties or complete ease-overall, they experienced a moderate level of challenge.

Table-3. Respondents' response on Tool Construction and Data Collection Logistics in Behavioural Research on Teacher Education.

Statement	Mean	SEM	SD
The scheduled time frame didn't act as a barrier for the respondents while responding to the given questionnaire.	2.81	0.078	1.044
Mailed questionnaire generally creates unfavourable reactions among respondents, especially when it is vague or time bound.	3.72	0.070	0.943
It is very hard to collect the required data from all the respondents within a pre-scheduled time span.	3.87	0.074	1.002
Fund shortage problem during the completion of survey works had not created any hindrance.	2.88	0.086	1.156
I haven't faced any problem regarding imitating the response of fellow participants during the survey.	3.15	0.081	1.09
Audio-Visual and literary instruments used during survey haven't created any problem at the time of data collection.	2.86	0.078	1.048

[1.00-1.79=Strongly Disagree, 1.80-2.59=Disagree, 2.60-3.39=Neutral, 3.40-4.19=Agree,

4.20-5.00=Strongly Agree]

Most of the statements fall under the 'Neutral' category, indicating that respondents had mixed or moderate opinions about logistical and technical issues such as time management, tools and participant behavior. Two statements were rated as 'Agree', showing that respondents faced clear challenges with mailed questionnaires and collecting data within a fixed time. No statements were rated as 'Strongly Agree', 'Disagree' or 'Strongly Disagree' which suggests that while the tools and logistics were manageable, time constraints and the mode of data collection were the main difficulties during the survey.

Table-4. Respondents' response on Data Quality Assurance and Authenticity in Behavioural Research on Teacher Education.

Statement	Mean	SEM	SD
Establishing rapport with respondents required a friendly and relaxing environment.	3.97	0.071	0.957
It was quite hard for me to communicate clearly my research objectives among the respondents.	3.13	0.083	1.116
The respondents are always able to understand all my survey questions	2.83	0.079	1.062
Linguistic problem didn't arise at the time of communicating with the respondents	2.70	0.087	1.164
It was not a hard task for me to deal with multicultural respondents	2.73	0.081	1.090
I hardly got any chance to check the responses given by the respondents through misinterpretation.	3.48	0.078	1.047

[1.00-1.79=Strongly Disagree, 1.80-2.59=Disagree, 2.60-3.39=Neutral, 3.40-4.19=Agree, 4.20-5.00=Strongly Agree]
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Two statements fall under the 'Agree' category, showing that respondents found it important to create a friendly and relaxed environment for building rapport and that although verifying responses was a bit challenging, it was still manageable. Four other statements are rated as 'Neutral', indicating mixed experiences in clearly communicating research objectives, ensuring respondents' understanding, handling language issues, and working with multicultural participants. Overall, the data shows that while rapport building was a strength, there were moderate challenges related to communication, language, and response verification that need attention to ensure data quality and authenticity.

Table-5. Respondents' response on Data Processing and Analysis in Behavioural Research on Teacher Education.

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Statement	Mean	SEM	SD
Obtaining consent for data collection from concerned authority was not difficult for me.	2.77	0.076	1.021
I didn't face any problem regarding lack of co-operation from concerned authority	3.02	0.088	1.178
Management did not restrict any respondent towards giving their opinion freely during my survey period.	2.44	0.066	0.890
Traditional myths haven't created any hindrance in giving true response from respondents in my survey	2.77	0.081	1.095
I didn't face any hurdle due to non response of respondent on sensitive issues	3.06	0.079	1.068
I observed some fear in respondents regarding disclosing of their opinion in public	3.48	0.087	1.172

[1.00-1.79=Strongly Disagree, 1.80-2.59=Disagree, 2.60-3.39=Neutral, 3.40-4.19=Agree, 4.20-5.00=Strongly Agree]

The data shows that one statement falls under the 'Agree' category, suggesting that some respondents felt fear about openly sharing their opinions. One statement falls under 'Disagree', indicating that management may have influenced or restricted respondents from freely expressing their views. Four statements are in the 'Neutral' range showing mixed experiences with getting consent, cooperation from authorities, traditional beliefs and non-responses on sensitive issues. Overall, while basic procedures like gaining consent were somewhat manageable, ensuring honest and free responses was a challenge likely due to social fear or management control. This raises concerns about the authenticity and transparency of the data collected.

Table-6. Respondents' response on Ethical, Cultural, and Institutional Considerations in Behavioural Research on Teacher Education.

Statement	Mean	SEM	SD
I haven't noticed any mental stress of respondents while answering a long survey questionnaire at a stretch.	2.94	0.093	1.248
I didn't notice any problem regarding modification of earlier true responses from the respondents, when the later questions contradicted the earlier responses.	3.11	0.081	1.095
Respondents are generally found modifying their behavior because they are being observed during my study period.	3.60	0.074	0.998
There was not any problem in getting true response from respondents	2.89	0.083	1.120
I didn't face any problem towards collection of the bias free responses from the respondents.	2.96	0.079	1.066

[1.00-1.79=Strongly Disagree, 1.80-2.59=Disagree, 2.60-3.39=Neutral, 3.40-4.19=Agree,

4.20-5.00=Strongly Agree]

The data shows that one statement falls under the 'Agree' category indicating that respondents often changed their behaviour when they knew they were being observed, suggesting the presence of social desirability bias. Four statements are rated as 'Neutral', reflecting mixed views about mental stress, truthfulness, consistency and bias in responses. While there were no strong negative issues reported, the results do not show clear confidence in these areas either. Overall, the findings suggest that ethical, cultural, and institutional factors posed moderate concerns and the observed behavior changes could affect data accuracy. These issues should be addressed in future studies to maintain ethical standards and ensure reliable data.

5.0. Discussion

The findings of this study show that data collection in behavioural research on teacher education faces moderate challenges. Most of the responses from participants were in the 'Neutral' range. This means that many participants were unsure or had mixed experiences during the data collection process. It suggests that they did not face very serious problems but there was still confusion or inconsistency in their experiences (Rimando et al., 2015). One positive area was the control of extraneous variables. This received an average score of 3.40, which falls in the 'Agree' category. It shows that some researchers were able to manage outside factors that could affect the results. This is important for keeping the research valid. However, this was only one area of strength. Most of the other responses showed only moderate confidence. Logistical and technical challenges were also noted. These included issues like time management, using research tools, and keeping participants engaged (Heft et al., 2024; Haahr et al., 2014). Two statements received an 'Agree' rating, showing that respondents had trouble using mailed questionnaires and collecting data within fixed timelines. This suggests that strict schedules and less flexible data collection methods made things difficult, especially for participants who were busy with their teaching duties (Thummapol et al., 2019; Carolyn & Elizabeth, 2012). The responses were more positive when it came to building rapport. Participants agreed that creating a friendly and relaxed environment helped with data collection. However, there were still some challenges. These included verifying responses and making sure participants understood the research (Shrivastava & Shrivastava, 2023; Whang & Lee,

231   2020). There were also issues with language barriers and working with people from
232   different cultural backgrounds. These concerns were reflected in the 'Neutral'
233   responses. It shows that clear communication and cultural awareness are needed for
234   better data collection (Mustafa et al., 2022; Bakhshi, 2019). Ethical and institutional
235   challenges were also observed. One 'Agree' response showed that some participants
236   were afraid to share their true opinions. One 'Disagree' response suggested that
237   management may have limited what participants could say. Other responses were
238   'Neutral' on issues like getting consent, cooperation from authorities, traditional
239   beliefs and answering sensitive questions (Kadam & Chavan, 2022). This shows that
240   while some procedures were manageable, others affected how honest and open
241   participants felt. This could have affected the quality and truthfulness of the data
242   (Sadoon et al., 2023; Ekpoh, 2016). There was also some evidence of social
243   desirability bias. One response showed that participants changed their behavior when
244   they knew they were being observed. Other responses were 'Neutral' about stress,
245   honesty, consistency and bias. This suggests that ethical and cultural issues influenced
246   the way participants responded and this may have affected the accuracy of the data
247   (Thummapol et al., 2019; Lessler et al., 2015).

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249   **6.0. Conclusion**

250   The present study shows that the data collection in behavioural research on
251   teacher education faces moderate challenges. While areas like rapport-building and
252   control of variables were relatively strong, issues such as time constraints,
253   communication gaps, cultural sensitivity and openness remain. Common difficulties
254   include lack of time, limited funds, and travel barriers delay in institutional approval,
255   language issues, power imbalances and fear of judgment. Ethical concerns like
256   consent, privacy and bias along with technical issues such as poor internet and low
257   digital skills, also affect data quality. To overcome these, researchers should plan
258   early, build trust, use flexible and ethical methods, respect cultural differences and
259   choose suitable tools. These measures can enhance the accuracy, reliability and
260   effectiveness of data collection.

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