IRIC Task One Guidelines

Guidelines

1. Research Introduction

Topic: Clearly state the topic of your research. When you choose a topic for your research/invention, please make sure it's innovative (no one has done it before).

Significance: State the importance of the topic and its relevance to the sustainability theme.

Research Question/Objective: Clearly state the main research question or objective that the study aims to address. This sets the direction for the entire research endeavor.

Hypotheses/Research Propositions: If applicable, articulate the hypotheses or research propositions that the study seeks to test or explore. These should be based on existing theories or prior research.

2. Research Design

Research Approach/Methodology: Describe the overall approach or methodology that will be used to conduct the study. This could be qualitative, quantitative, or mixed methods. Provide a rationale for the chosen approach.

Sampling Strategy: Detail how participants or data sources will be selected for the study. Specify the population of interest, sampling frame, sampling method (e.g., random sampling, purposive sampling), and sample size considerations.

Data Collection Methods: Outline the specific methods and instruments that will be used to collect data. This may include surveys, interviews, observations, experiments, archival research, or a combination of methods.

Variables and Measures: Identify the key variables of interest and how they will be operationalized or measured. Include details about the reliability and validity of measurement instruments if applicable.

Data Analysis Plan: Describe the analytical techniques that will be used to analyze the collected data. This may involve descriptive statistics, inferential statistics, content analysis, thematic analysis, or other analytical approaches.

Ethical Considerations: Address ethical issues related to the research, including informed consent procedures, protection of participant confidentiality, potential risks to participants, and procedures for handling data responsibly.

Limitations: Acknowledge any potential limitations or constraints of the study, such as sample size limitations, resource constraints, or potential biases.

Validity and Reliability: Discuss how the research design will ensure the validity and reliability of the study findings. This may involve strategies such as triangulation, member checking, or inter-rater reliability checks.

Scope and Generalizability: Clarify the scope of the study and the extent to which findings can be generalized to other populations or contexts.

Budget and Resources: Estimate the resources (e.g., funding, personnel, equipment) required to conduct the research and justify any budgetary allocations.

References: Provide citations for relevant literature and theoretical frameworks that inform the research design.

Example

(Research Outline: Understanding Sickle Cell Disease)

1. Research Introduction

Topic: Exploring the Impact of Social Media Engagement on Mental Health: A Mixed-Methods Investigation among Young Adults

Significance: Sickle cell disease is a significant global health issue affecting millions of people worldwide. Understanding sickle cell disease is crucial for improving diagnosis, treatment, and patient outcomes. Research in this area holds the potential to alleviate suffering and reduce the burden of disease on affected individuals and healthcare systems.

Research Question/Objective: What are the latest advancements in sickle cell disease research, and how do they impact diagnosis, treatment, and patient care?

Hypotheses/Research Propositions: Recent advancements in sickle cell disease research have significantly improved diagnostic accuracy, enhanced treatment options, and led to more comprehensive patient care protocols, ultimately resulting in better management of the disease and improved quality of life for patients.

2. Research Design

Research Approach/Methodology:

This study will utilize a mixed-methods approach, incorporating both quantitative and qualitative methods to comprehensively explore the impact of social media engagement on mental health among young adults with sickle cell disease. The quantitative aspect will involve statistical analysis of survey data, while the qualitative aspect will involve in-depth interviews or focus groups to gather rich insights and personal experiences.

Sampling Strategy:

The target population will consist of young adults (18-35 years old) diagnosed with sickle cell disease. A purposive sampling technique will be employed to ensure representation of diverse demographic characteristics such as age, gender, socioeconomic status, and disease severity. Sample size will be determined based on saturation in qualitative data and power analysis for quantitative data.

Data Collection Methods:

Quantitative data will be collected through structured surveys administered online or in-person, focusing on social media usage patterns, mental health symptoms, and perceptions of sickle cell disease management. Qualitative data will be collected through semi-structured interviews or focus groups, allowing participants to share their experiences, perspectives, and feelings related to social media engagement and mental health.

Variables and Measures:

Variables of interest include social media engagement (frequency, duration, content), mental health indicators (anxiety, depression, stress), and perceptions of sickle cell disease management (access to care, treatment effectiveness, support systems). Measures will include validated scales for mental health assessment and open-ended questions for qualitative exploration.

Data Analysis Plan:

Quantitative data will be analyzed using descriptive and inferential statistics to identify patterns and correlations. Qualitative data will undergo thematic analysis to identify recurring themes and patterns within participants' narratives. Integration of quantitative and qualitative findings will provide a comprehensive understanding of the research question.

Ethical Considerations:

Ethical approval will be obtained from the relevant institutional review board. Informed consent will be obtained from all participants, ensuring confidentiality, voluntary

participation, and the right to withdraw at any time. Steps will be taken to minimize potential harm and ensure a respectful representation of participants' experiences.

Limitations:

Limitations may include potential bias in self-reported data, generalizability constraints due to the specific population studied, and limitations inherent in the mixed-methods approach such as the complexity of data integration.

Validity and Reliability:

Validity will be ensured through the use of validated measurement instruments, triangulation of data sources, and member checking in qualitative analysis. Reliability will be enhanced through standardized data collection procedures and inter-rater reliability checks for qualitative analysis.

Scope and Generalizability:

The study will focus on young adults with sickle cell disease, limiting the generalizability of findings to this specific population. However, insights gained may have implications for similar populations and contribute to the broader understanding of social media's impact on mental health in chronic illness contexts.

Budget and Resources:

Resources required for the study include funding for participant recruitment, data collection tools, personnel (researchers, interviewers), and data analysis software. A detailed budget will be developed to allocate resources effectively.

References:

The research design will be informed by relevant literature on sickle cell disease, social media usage patterns, mental health outcomes, and mixed-methods research methodologies.

Rubric

1. Research Introduction (10 points):

Topic: 1 point for clearly stating an innovative and unique research topic within the sustainability theme.

Significance: 2 points for articulating the importance of the topic and its relevance to sustainability.

Research Question/Objective: 2 points for clearly stating the main research question or objective.

Hypotheses/Research Propositions: 5 points for articulating clear hypotheses or research propositions based on existing theories or prior research.

2. Research Design (40 points):

Research Approach/Methodology: 5 points for a comprehensive description of the chosen approach or methodology, with a clear rationale.

Sampling Strategy: 5 points for detailing the sampling strategy including population, frame, method, and sample size considerations.

Data Collection Methods: 5 points for outlining specific methods and instruments for data collection, covering a variety of possible approaches.

Variables and Measures: 5 points for clearly identifying key variables of interest and describing how they will be operationalized or measured, including reliability and validity considerations.

Data Analysis Plan: 5 points for describing analytical techniques comprehensively, including both quantitative and qualitative approaches if applicable.

Ethical Considerations: 3 points for addressing ethical issues related to research, including informed consent, confidentiality, risks to participants, and data handling procedures.

Limitations: 3 points for acknowledging potential limitations or constraints of the study, demonstrating awareness of possible biases or constraints.

Validity and Reliability: 3 points for discussing strategies to ensure validity and reliability, such as triangulation or member checking.

Scope and Generalizability: 3 points for clarifying the scope of the study and discussing the extent to which findings can be generalized to other populations or contexts.

Budget and Resources: 3 points for estimating required resources and justifying budget allocations effectively.

References: 3 points for providing citations for relevant literature and theoretical frameworks informing the research design, demonstrating a solid foundation in existing scholarship.