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Lab Reports Analysis

Lab reports are a crucial part of science or engineering coursework, as they document experiments, analyze data and communicate findings in a structured manner. They are essential for comprehending scientific problems and applying solutions in real life scenarios. The two lab reports analyzed in this research report are Lab Report 1 “*Trauma-informed healthcare systems: an evaluation of trauma-informed care training for hospital-based healthcare professionals in the aftermath of the 2023 earthquakes in Türkiye*” and Lab report 2 “*A scoping review of post-earthquake healthcare for vulnerable groups of the 2023 Turkey-Syria earthquakes*”. Both reports focus on the psychological effects of the 2023 Turkey-Syria earthquake, a devastating disaster that struck on February 6, 2023. The decision to compare these reports stems from their shared focus on post-earthquake trauma and the necessity of understanding how such events shape both immediate and long-term psychological well-being. I selected these because I wanted to explore how researchers approach disaster-related topics in different ways. I expected both reports to offer valuable insights into how individuals are supported in the aftermath of a natural disaster. I also hoped they would help me better understand the structure of lab reports.

Element 1: Title

An effective title should clearly convey the report’s focus, allowing readers to determine its relevance. When writing a title, it is important to use terminology that is widely recognized and commonly used within the field. Since specific titles provide more clarity, they often tend to be longer (Markel, 2018). Both reports have descriptive titles that clearly indicate their focus on the aftermath of the earthquake. While Report 1 is much longer and takes a more comprehensive approach by incorporating trauma-informed treatment into healthcare systems, Report 2 focuses on healthcare interventions for vulnerable groups. However, I found both titles to be appropriately labeled, each highlighting a different perspective on the aftermath of the earthquake.

Element 2: Abstract

According to Markel, readers of abstracts are primarily interested in the questions that inspired the study (introduction), the answers uncovered (results), and the significance of those findings

(conclusions). A well-crafted abstract allows readers to be informed about the research easily without investing much time. Each abstract provides a concise summary of the study's objectives, methods, and key findings. Report 1 evaluates a specific healthcare approach post earthquake. Moreover, it focuses on trauma-informed care training for healthcare professionals and evaluates its impact through a mixed-methods approach. Report 2 provides a comprehensive overview of healthcare service delivery at the time of the disaster. The report categorizes healthcare interventions into seven areas, highlighting humanitarian aid, medical care, and mental health support as top priorities. However, it is not structured around a single hypothesis but still organizes its goals around identifying gaps and prioritizing responses. At the end, both abstracts effectively summarize each section of their reports by including the research purpose, methodology, and findings.

Element 3: Introduction

The introduction is the section of the report where the importance of the work is established. In this section, the study should be contextualized within the field by clearly stating the research question or hypothesis being investigated and highlighting why it is important to explore. (Markel, 2018). Report 1 includes a key-messages part within the introduction, highlighting the significant details. The report evaluates a trauma-informed care training program for healthcare workers in Turkey, assessing its impact on knowledge, professional practice, and well-being. Report 2 talks about the healthcare interventions for vulnerable groups affected by the Turkey-Syria earthquake, identifying gaps and priorities in disaster healthcare services. And how it is important to address the needs of marginalized populations. Both reports provide clear insights into their focus areas. While they don't lay out formal hypotheses in a traditional format, their objectives are clearly defined. It is seen that Report 1 aims to assess a specific training's impact, while Report 2 seeks to map healthcare responses for vulnerable groups. They both situate their goals in the broader context of public health and disaster response.

Element 4: Methods

The materials and methods section aims to show readers that the chosen approach was appropriate for the research question. It also assures them that the research was conducted carefully and that the results are trustworthy (Markel, 2018). Report 1 aimed to evaluate the impact of a 1-day trauma informed care training for healthcare workers by using a mixed-methods approach. The experiment is divided into four different sessions: understanding disaster risk, the basic principles of trauma-informed care, approach to traumatic stress reactions, and the triangle model of psychological first aid and psychoeducation. Report 2 uses a scoping review framework, methodically examining post-earthquake healthcare service (PEHS) interventions into six categories. It takes a different approach by reviewing existing data rather than collecting new data, reflecting its rhetorical strategy. The scoping review method is meant to provide a broader perspective on available data by categorizing and comparing various health interventions. Both of these reports are detailed enough, ensuring a thorough analysis.

Element 5: Results

According to Markel, the results section provides an opportunity to present the evidence that will support the claims made in the discussion. The persuasiveness of this evidence relies on how effectively it is presented to the readers. Report 1 presents both quantitative data from a structured questionnaire and qualitative insights from participant interviews, showing how trauma-informed care has improved through the process. Results of the report include two different tables: the Trauma-Informed Care Assessment Form six months after training and summarizing the relationship between assessment results and MTI. Report 2 uses reported interventions to address healthcare needs for vulnerable groups after the Turkey-Syria earthquakes were grouped into seven categories, ranked by their scores: humanitarian health relief (25), medical care (17), mental health and psychosocial support (10), health promotion and education (9), etc. The visual data representation helps the reader to understand which interventions were prioritized across the review literature. For both of the lab reports, it is seen that evidence is used which provides a clear understanding of the findings.

Element 6: Discussion

It is important to support the argument with references to the work of other researchers, highlighting how the results align with or differ from previous studies (Markel, 2018). Both reports relate their findings to previous research. Report 1 looks at how trauma-informed care training connects with existing psychological trauma theories and behavior change models. The report suggests that wider implementation and longer term training could improve the outcomes of an earthquake. Report 2 compares the healthcare priorities with interventions used in past disasters, such as the 2015 Nepal earthquake. Mentioning gaps in healthcare response for marginalized communities, implying that more specific guidelines are needed. When both reports are compared, report 1 takes a more theoretical approach by connecting its findings to psychological frameworks. However, both conclude by highlighting future directions and areas for improvement.

Element 7: Conclusion

According to Markel 2018, the report should provide a summary of the key points in one or two concise paragraphs. It should start by outlining the purpose of the research or experiment and the hypothesis being tested. Report 1 highlights the positive impact of trauma-informed care training and calls for its wider implementation in disaster prone areas. Meanwhile, Report 2 concludes by emphasizing the need for establishing clear guidelines on prioritizing post-disaster healthcare interventions. The first report presents a more actionable proposal for training healthcare workers, whereas the second report provides general recommendations for improving healthcare response strategies. The conclusions in both reports were well-structured and follows the format outlined by Markel (2018).

References 8: References

Both reports include well-cited references, following APA citation style. The sources cited support their research which provides credibility. Report 1 draws from psychological trauma research to validate its approach to trauma-informed care training Report 2 references sources from organizations like the World Health Organization and the World Bank to support its data.

Conclusion:

While both reports examine the psychological effects of the 2023 Turkey-Syria earthquake, they take different approaches. Each report contributes valuable insights. This analysis has deepened my understanding of the impact of earthquakes on both physical infrastructure and the psychological well-being of people. As a future civil engineer, this analysis inspires me to prioritize designing and constructing buildings that can withstand forces. In my projects, I will prioritize creating safe spaces that offer strong protection and resilience, ensuring that structures remain secure and functional even in the face of disaster. Ultimately preventing anyone from having to experience something as traumatic as a disaster. Before this assignment, I didn't fully understand how much lab reports rely on rhetorical structure. Now, I see how every section contributes to clarity and persuasion, especially when trying to influence real-world policy.

References:

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