**Data Analytics Capstone Topic Approval Form**

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The purpose of this document is to help you clearly explain your capstone topic, project scope, and timeline. Identify each of the following areas so you will have a complete and realistic overview of your project. Your course instructor cannot approve your project topic without this information*.*

**Student Name:** Amanda Reinhart

**Student ID:** 011832998

**Capstone Project Name:** Click here to enter text.

**Project Topic:** Social Media Addiction in Students and how it impacts academic performance

**Research Question:** How do social media addiction levels vary across countries and academic levels, and how are higher addiction levels associated with students’ mental health, conflict frequency, and perceived academic impact?

**Hypothesis:** Students with higher social media addiction scores will report greater negative impacts on overall well-being, including lower mental health scores, more frequent social conflicts, and a higher likelihood of perceiving social media as detrimental to their academic performance. Additionally, higher addiction levels are expected to be more prevalent among students at lower academic levels.

**Context:** Social Media is an ever present and growing force in the lives of students around the world. While social media provides an outlet for connection, self-expression, and information sharing, it can also be a negative influence. Excessive social media use can lead to addiction and can negatively impact mental health, relationships, and academic performance. Students are especially vulnerable as they navigate personal and educational development as young adults. Understanding the extent and nature of social media addiction in students is crucial for all who aim to support student well-being and academic success. This analysis seeks to explore the relationship between students’ self-reported addiction scores and their actual addiction scores, and how their mental health, social relationships, and academic experiences are impacted. Specifically, it will examine how students’ perceptions of social media’s academic impact align with behavioral indicators such as sleep patterns, mental health scores, and reported conflicts related to social media use. This analysis will provide meaningful insight into both the perceived and actual impacts of social media addiction, which can serve as a foundation for future efforts aimed at improving the relationship between students and social media.

**Data:** Survey responses from students across a varied age range, from multiple countries, that collects their level of academic completion, location, perception on the impact of their social media usage on their educational performance, average daily use of social media, mental health score, relationship status, conflicts encountered over social media,, and their social media addiction score.

The necessary dataset will be derived from the complete dataset found [here](https://www.kaggle.com/datasets/adilshamim8/social-media-addiction-vs-relationships), from Kaggle. The title of the data is Students Social Media Addiction. The dataset consists of 1 file, with 13 columns and over 700 student responses.

The dataset on Kaggle is publicly available and can be used for research and analysis purposes. No special access, licensing, or permissions are required to use this dataset for academic purposes.

**Data Gathering** The data will be downloaded directly from Kaggle.com in CSV format. The CSV file will then be manually loaded into the analysis environment for cleaning, exploration, and modeling.

**Data Analytics Tools and Techniques:** I plan to utilize Jupyter notebooks to gather, clean, and analyze the dataset. Python will be the language utilized to complete the analysis, relying on libraries such as Pandas, Matplotlib, Numpy, and Seaborn to complete statistical and visual analysis. Statistical techniques will include correlation analysis to evaluate the relationships between addiction scores and well-being indicators, and linear regression to identify any predictive relationships between variables. Group comparisons and aggregations will also be performed to explore differences by academic level and country.

**Justification of Tools/Techniques:** Python, along with the mentioned libraries, is widely used for data analytics due to its flexibility, ease of use, and robust set of data-focused packages. Jupyter Notebooks provide an interactive and efficient environment for completing the analysis, documenting each step, and supporting the analysis with visual outputs. They are well-suited for combining code, visuals, and textual interpretation in a single, easily accessible location that supports a well-documented and transparent analytical workflow.

**Application Type, if applicable (select one):**

mobile

web

stand-alone

**Programming/Development Language(s), if applicable:** Python

**Operating System(s)/Platform(s), if applicable:** Windows 11

**Database Management System, if applicable:** N/A

**Project Outcomes:** The anticipated outcome of this project is a clearer understanding of how social media addiction levels are associated with students’ mental health, social relationships, and perceptions of academic performance. The analysis may reveal statistically significant relationships between higher addiction scores and lower mental health scores, more frequent social conflicts, and a greater likelihood of students reporting negative academic impacts. Additionally, the analysis may identify demographic trends, such as higher addiction levels among students at earlier academic levels or in certain countries.

**Projected Project End Date:** 6/30/2025

**Sources:** Shamim, A. (2023). *Students social media addiction vs relationships* [Dataset]. Kaggle. <https://www.kaggle.com/datasets/adilshamim8/social-media-addiction-vs-relationships>

**Human Subjects or Proprietary Information**

Does your project involve the potential use of human subjects? (Y/N): No

Does your project involve the potential use of proprietary company information? (Y/N): No

**STUDENT SIGNATURE**

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AI-generated content may be incorrect.**

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**By signing and submitting this form, you acknowledge** that any cost associated with the development and execution of your data analytics solution will be your (the student's) responsibility.

**TO BE COMPLETED BY AN INSTRUCTOR**

**The capstone topic is approved by an instructor.**

**INSTRUCTOR’S NAME AND SIGNATURE:**

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**INSTRUCTOR APPROVAL DATE:**

**Project Compliance with IRB (Y/N):**