<div align="center">**Biostatistics SDS 328M – Project Proposal**</div>

Answer questions in the boxes provided using complete sentences in single-spaced, 12-point font.

Name: Karla Castello
Lab day and time: Friday 4pm

Project Title and Research Questions

1. (1pt) What is the title of your proposed research project? This should be a short sentence or phrase that generally describes your project topic and/or variables.

   > Popularity of Songs on Spotify and Billboard Rank influence TikTok videos number

2. (2pts) State the two research questions that you are going to attempt to answer with your analysis. You should have one research question for each explanatory variable.

   > *RQ1* – Is the popularity of a song on Spotify increasing the number of videos made on TikTok?
   >
   > *RQ2* – Does a song having a spot on the Billboard chart influence the amount of TikTok videos made for that song?

Literature Review and Stakeholders

3. (4pt) Briefly describe your motivation for choosing this research topic. Will your study confirm, refute, replicate, or extend a previous study(ies)? Cite in APA format at least one source and briefly describe how your study will relate to it. Your source can be academic or non-academic (articles, news report, etc.).

   > I chose this research topic because music is a very big part of my life. Ever since Tik Tok became what it is now, most of the songs that you hear on the app are played by a lot of my friends and family and I wanted to see if this trend is influencing the whole world. This study will extend the study about TikTok influencing music and show that already popular music also factors in the rise of TikTok videos.
   > Thompson, D. (2020). *How TikTok became 2020's most important music platform*. InTheKnow. Retrieved October 2, 2020, from https://www.intheknow.com/2020/04/22/how-tiktok-became-2020s-most-important-music-platform/
   > My study relates to this article because it shows how TikTok is a big factor in making songs popular, but I would like to see if the popularity of the song already established explains the rising number of TikTok videos made.

4. (3pts) Who are the stakeholders for your study? Briefly describe them in 1-2 sentences.

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> The stakeholders for this study are music artists, music streaming services, and TikTok users. These people would be involved in my study because they are the ones influenced by TikTok to listen to certain music and help it become popular.

Sampling and Data Collection Plan

5. (2pts) What is your population of interest (the population will you be making an inference about)? **Be specific**. For human subjects, are you representing all ages, all locations, all demographics, etc., or do you have a specific group you would like your study to apply to?

> The population of interest for my study are most popular songs. Since I will be looking at how popularity of a song influences the number of videos for that song on TikTok, my sample would be taken from the most streamed songs on Spotify.

6. (2pts) Who or what will be the individual sampling units for your study? Describe what a specific row in your final dataset will represent. **Be specific.**

> The individual sampling units are songs. A row in my final data set will represent a song, the number of streams on Spotify for that song, and if it made the billboard charts during 2018 through 2020, which are explanatory variables. Then it would show the number of videos made on TikTok, which would show if the higher number of videos used would also have a higher number of streams.

7. (4pts) Describe the process you will use to collect your data. **Be specific.** If you will be collecting your own data, describe exactly where and how you will get your responses. If you are going to use an online tool, cite the specific tool or URL you will use.

> In order to get the 60 random songs off of Spotify, I will randomly pick out songs from the Top 100 Spotify tracks data list from 2018-2020. Then, on TikTok, I will look at the videos made for each song and also look up if they were on the Billboard charts from 2018 to 2020, the time span the app was put in the app store. Then, I will look at the song in Spotify and collect the number of streams for each song.
>
> Tiktok.com
> Spotify.com
> Billboard.com
> https://andrew.hedges.name/experiments/random/

8. (5pts) Will your dataset be able to be considered a random sample from your population of interest? If so, explain why your sample is representative of your population. If not, describe what limitation this may place on your results.

> My dataset might not be able to be considered a random sample from my population of interest because I am only using the top songs from Spotify. Even though Spotify is one of the most used music streaming service in the world, it is not representative of all the popular music from other streaming services, like Apple Music. This may place some limitations on my results because some songs may have more streams or more popular than other on different music streaming sites.

Proposed Measures

9. (3pts) What will be your response variable? Include a description of exactly how you will measure it, what units it will be in (if applicable), and the specific range of values you expect to get.

> My response variable is the number of videos that have been made using a specific song on TikTok. On TikTok, under each sound it has the number of videos that have been made using that sound. The range of values I expect to get are from the thousands to the hundred thousand.

10. (5pts) What will be your first explanatory variable? Include a description of exactly how you will measure it. If numeric, include units (if applicable) and the range of values you expect to get. If categorical, list all of the categories that will be possible.

How do you think it is related to your response variable? Describe the relationship you expect to find and why you think this relationship exists.

> My first explanatory variable is the number of streams a specific song gets on Spotify. I chose Spotify because it is the largest streaming service used and it can tell you how many streams a certain song has. The range of values I expect to have would be from the hundred thousand to the millions. I believe that this is related to my response variable because if there are a huge number of TikTok videos made with the sound, there would be more streams of that same song on Spotify. This is because the more videos there are, the more popular the song is and then people would want to listen to it more, therefore increasing the number of streams.

11. (5pts) What will be your second explanatory variable? Include a description of exactly how you will measure it. If numeric, include units (if applicable) and the range of values you expect to get. If categorical, list all of the categories that will be possible.
How do you think it is related to your response variable? Describe the relationship you expect to find and why you think this relationship exists.

> My second explanatory variable is whether or not the song was on the Billboard top 100. The only categories for this variable are a yes, if they were on the list and a no, if they were not. In order to measure this variable, I would have to search up if the song was on the Billboard chart any time in the last 2 years. This variable is related to my response variable because if there are a lot of videos being made on TikTok, the popularity of the song would increase and could end up on the top 100 chart. If there are a lot of videos being made which are becoming popular, the chance of getting on the charts would increase. Streaming activity also plays a big part.

Ethical Consequences

12. (4pt) What consequence might the results of your study have on your population of interest? How might your findings be used by the study's stakeholders? **Be specific.**

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The popular songs would most likely have a higher chance to become platinum or a higher rank on the Billboard chart if there were a lot of videos made from that specific song. My findings would be useful to the stakeholders because they would want to know about other social media platforms that are competing with their music streaming. There might also be an increase in TikTok users if more people become aware of the power that this app has in order to increase your popularity in the music world.