University Belonging and Immigrant Attitudes

EPPS 6356 Data Visualization/EPPS 6302 Data Methods
Project Paper
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Introduction

According to Williams (2020), racial disparities are continuing characteristics of the American education system. Minorities, specifically immigrants, are highly underrepresented in the percentage of those who succeed enough in high school to attend college. In addition, when immigrant students attend college, "institutions struggle with persistence and completion" (Murphy et al. 2020). If a sense of belonging does improve academic performance as research shows, it is important to make sure immigrants feel as though they belong in their university to assure academic success. The University of Texas at Dallas (UTD) advertises the university as a school with a great array of students with diverse backgrounds. However, having a diverse population at a university is not automatic cause for sense-of-belonging for students who are different ethnicities and who identify themselves as immigrants to this country. I wanted to test and see if the experiences of diverse students at UTD support the idea that UTD is a welcoming school for ethnically diverse students. I examined the following questions:

1. Do students who identify as immigrants feel as though they belong at UTD?
2. Are UTD students who identify as immigrants accepted/welcome by non-immigrant UTD students?

Operationalization of Variables

Belonging

The dependent variable was "belonging" (measured sense-of-belonging). I defined belonging as Slaten (2017) does in his article where the University Belonging Questionnaire (UBQ) was created. In the article, sense-of-belonging is a combination of school affiliation, university acceptance, and staff/faculty relations. The independent variable of "imm" (immigrant identifier)

was dependent on the respondents of the survey because I allowed them to decide whether they identified as an immigrant or not (including 2nd, 3rd, etc. immigrants).

Immigrant Attitudes

To measure the attitudes of non-immigrants towards immigrant students I used the multiple definitions in various previous research articles. Lyons (2010 & 2013) measured anti-immigrant sentiment as a combination of in-group identification and narcissism. Tartakovsky (2016) measured anti-immigrant sentiment by measuring the sense of threat and benefit immigrants were thought to bring to the community.

Methodology

Collection Method

To measure sense-of-belonging of immigrant students, and measure the attitudes towards immigrants by non-immigrant students I decided to create a survey using the questions from the previous academic journals listed above as well as from other articles including Gallego's (2014) questions measuring attitudes towards immigrants, Strabac's (2014) items for measuring attitudes towards immigrants, and Zahl-Thanem (2019) items for attitudes towards immigrants. I chose to collect my own data because I felt that was the best way to understand and get the scope of UTD students experiences as immigrants and perspectives of immigrants. I chose to use questions that were previously used because those questions had gone through validity checks that I was not going to be able to check for due to the time frame of the course. I also felt those questions were simple enough to measure belongingness and attitudes towards immigrants.

Institutional Review Board (IRB)

To distribute the surveys, I had to go through an expedited review by the university's IRB, which took approximately a week to be completed. Once I was approved, I sent out the survey.

Survey Design

This survey was completed through the Qualtrics Software. I used many tools within Qualtrics such as the skip logic, forced response, and blocks to make the survey flow. I had a sample size of N= 142 UTD students by the end of the study. The survey was broken down into five blocks of questions on Qualtrics. Block One included the demographic questions (i.e. age, gender, classification, school of study, distance from home, grade point average-GPA) that all participants would answer. Block Two included the questions regarding sense of belonging; all participants also answered these questions for comparison purposes. This block had questions that measured school affiliation, university acceptance, and staff/faculty relations. Each question was a four-point Likert scale with 0 being "Strongly Disagree" and 3 being "Strongly Agree". A neutral response was not given as an option to avoid unmeasurable/uninterpretable responses. Block Three had no question but served to thank the participants for taking the survey and to push them to complete the full survey.

Block Four included the questions regarding the immigrant perspectives that I would use to compare to the attitudes towards immigrants by student who did not identify as immigrants. This block had questions that asked some more demographic questions (i.e. international status, country of origin). I also asked questions regarding the experiences of these students (i.e. "Have you ever experienced fear/rude remarks/etc. while attending UTD due to your ethnic origin?"). These questions were given a value 0 being "No" and 1 being "Yes". Lastly, I asked about their feelings towards the treatment of immigrants in the United States (i.e. "To what degree do you feel happy/angry/anxious/etc. when thinking of the treatment immigrants receive in the U.S.?). These questions were given a value 0 being "Not happy at all" and 2 being "Extremely Happy". Some of the responses had to be reverse coded (i.e. if it was a negative emotion). Only students

who identified as immigrants would answer the questions in Block Four. If a student answered "No" to "Do you identify yourself as an immigrant?" they were directed to Block Five. Once participants finished Block Four, they had finished the survey.

Block 5 included the statements and questions regarding the attitudes towards immigrants. Only students who did not identify as immigrants would answer the questions in this Block. This block had statements that measured in-group identification and narcissism (i.e. "America is the best country in the world.") These statements were measured on a four-point Likert scale with 0 being "Strongly Agree" and 3 being "Strongly Disagree". I coded these statements in this manner so that answers that were in-group or narcissistic would be a low number denoting a negative association towards immigrants and high totals would be a positive association towards immigrants. I also measured statements that examined the level of threat of immigrants (i.e. "Immigrants take jobs from citizens."). These statements were measured on a four-point Likert scale with 0 being "Strongly Agree" and 3 being "Strongly Disagree". I coded these statements in this manner so that answers that were considered high level of threat were a low number showing a negative association towards immigrants and high totals would be a positive association towards immigrants. I also made statements to measure the belief of benefits of immigrants (i.e. "Immigrants help the U.S. economy.").These statements were measured on a four-point Likert scale with 0 being "Strongly Disagree" and 3 being "Strongly Agree". I coded these statements in this manner so that answers that were considered high belief of benefit were a high number, showing a positive association towards immigrants and low totals would be a negative association towards immigrants. Lastly, I asked about their feelings towards the thought of immigrants in the United States (i.e. "To what degree do you feel happy/angry/anxious/etc. when thinking of immigrants?). These questions were given a value 0 being "Extremely Angry"

and 2 being "Not angry at all". Some of the responses had to be reverse coded (i.e. if it was a positive emotion). I coded these statements in this manner so that negative emotions received low values, indicating a negative association towards immigrants and positive emotions would have high values indicating a positive association towards immigrants. I ordered Block Five the way I did to allow for participants to let their guard down and answer truthfully to the more personal questions. Asking questions that seem to show patriotism can help them feel more comfortable before being asked about their attitudes and feelings towards immigrants. I chose to break the survey into blocks to maximize my responses. I knew I would have demographics and belonging information from all participants since there were only a few questions for those two blocks, however, I was unsure about the response rate I would have for immigrant experiences (Block Four) or attitudes towards immigrants (Block Five). I ended up having N= 142 for demographics and belonging, N= ~55-80 for Block Four depending on the section, and N= 56 for Block 5.

Data Analysis

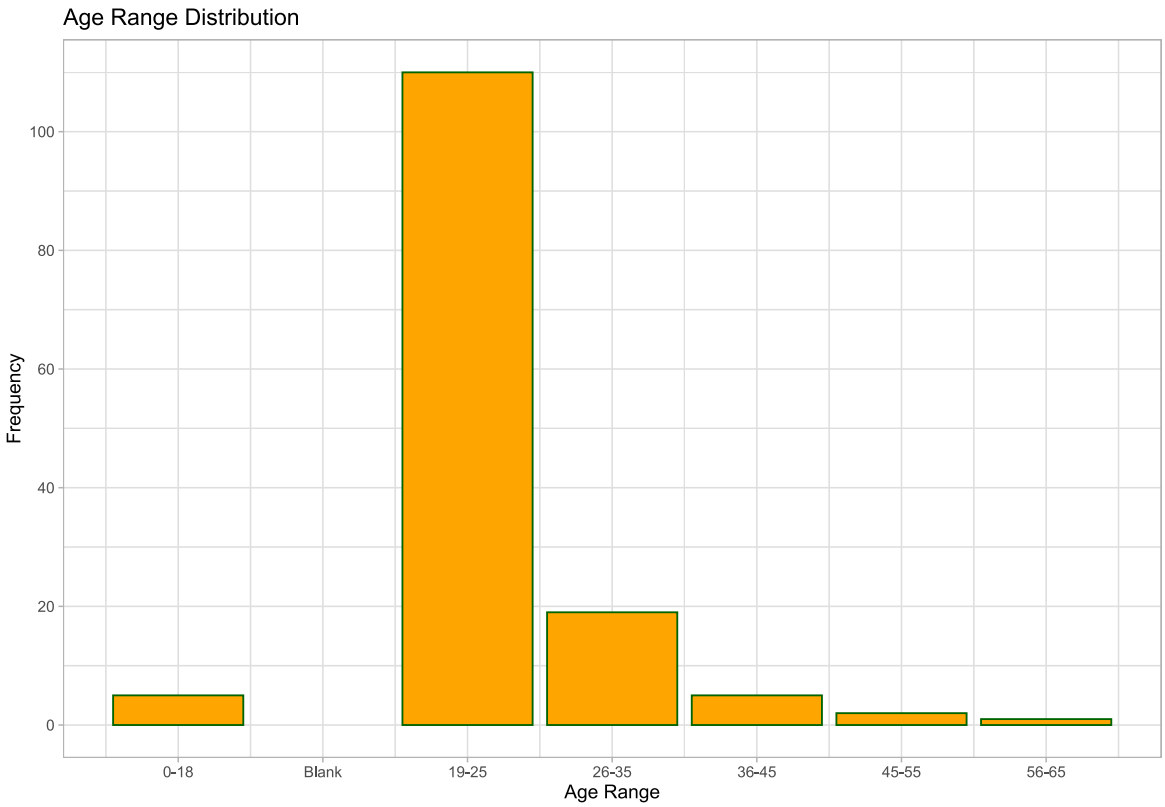
I only did basic data analysis on the data collected. The data collected was downloaded as an Excel file from the Qualtrics platform and cleaned and edited (creation of variables) in Excel. From Excel I saved the file as a CSV and imported it into RStudio where I analyzed the data. Before analyzing, I had to combine many variables to make their total another variable for analysis. I used various packages to analyze and create the tables (i.e. stargazer, GGally, Hmisc). The first thing I did was create a table with summary of all statistics (Table and code will be available on GitHub website). Then I created a regression table ("Belonging" as the dependent variable) to find the statistically significant variables "Age" and "International Status" were statistically significant predictors for belonging at UTD. I created a correlation table to test see

the strength and statistical significance of the relationships between "Belonging," "Age," and "International Status" (Tables and code will be available on GitHub website).

Data Visualization

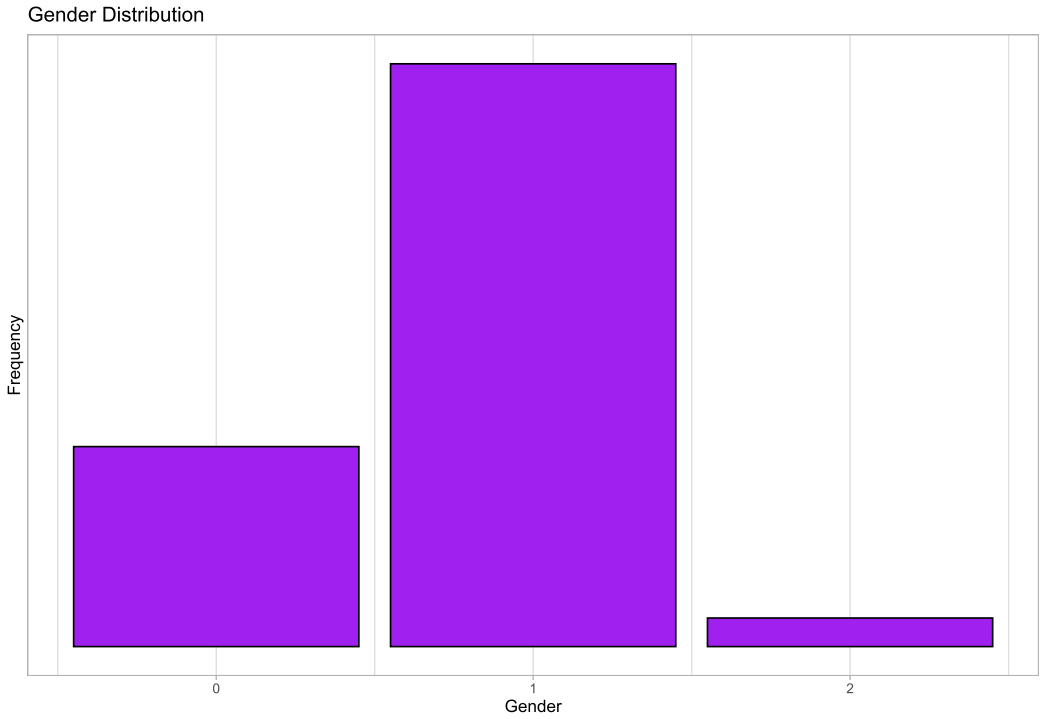
To visualize the graphs, I used RStudio by using various packages (i.e. ggplot2, dplyr, gsubfn, tidyverse, RColorBrewer). I did try to make a Shinny application but had issues with my data. I also made a mistake when creating the files to link the Shiny App to RStudio which I was not able to fix. Here are some of the graphs that I was able to make by messing around with the functions within using ggplot2 on RStudio. I wanted to show those that I had issues with, and those that explain the variables and research questions (additional graphs and code will be available on my GitHub website):

Demographics



CODE:

```
ggplot(data=mydata2, aes(age)) + geom_histogram(stat= "count", breaks=seq(0, 6, by=1), col=
"dark green",
                                fill= "orange", alpha= 1) +
 theme_light() +
 scale_y_continuous(breaks=seq(0,100,20)) +
 scale_x_continuous(breaks=seq(0,6,1),
           labels = c("0-18", "Blank", "19-25", "26-35", "36-45", "45-55", "56-65")) +
 labs(title = "Age Range Distribution") +
 labs(x="Age Range", y="Frequency")
```

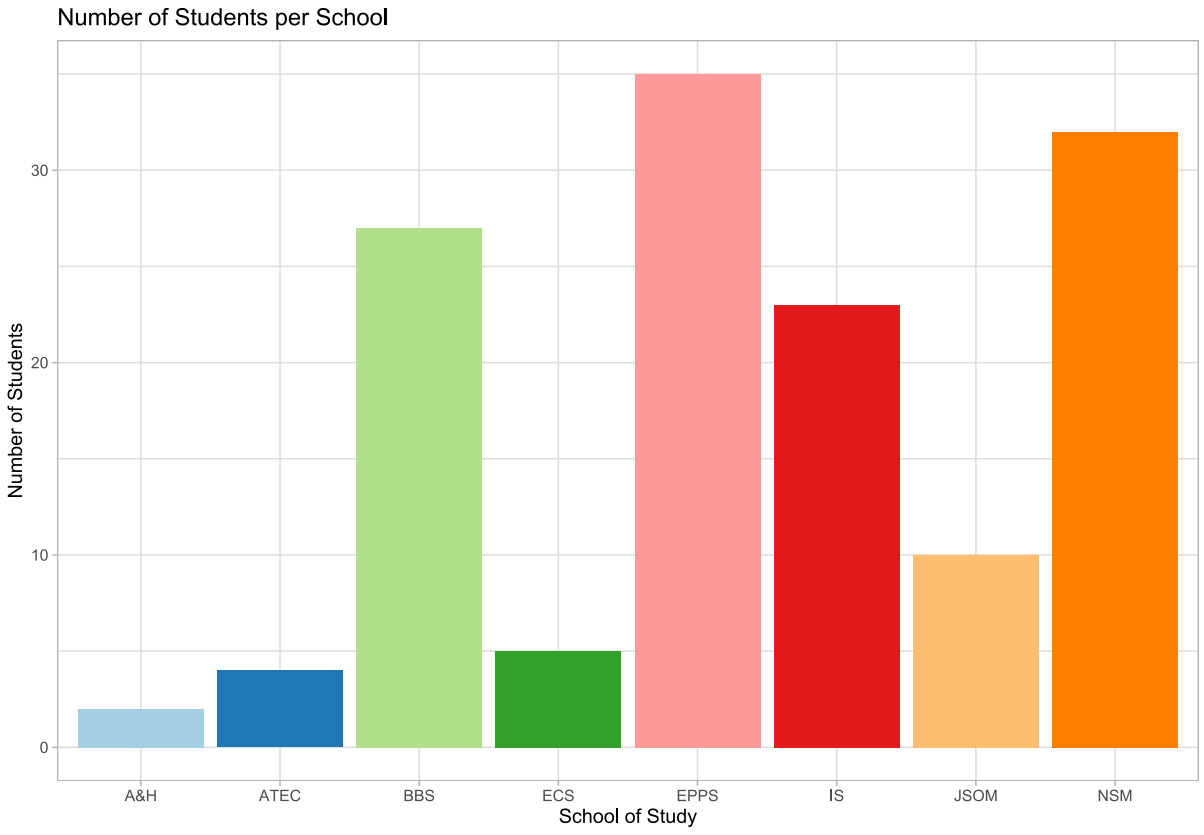


CODE:

```
ggplot(data=mydata2, aes(gen)) + geom_histogram(stat= "count", breaks=seq(0, 2, by=1), col=
"black",
                                fill= "purple", alpha= 1) +
 theme_light() +
 labs(title = "Gender Distribution") +
 labs(x="Gender", y="Frequency") +
 scale_y_continuous(breaks=seq(0,140,20) +
 scale_x_continuous(breaks=seq(0,2,1),
           labels = c("Male", "Female", "Other")))
```

The code to label the gender did not work. I was not able to figure out why. I tried recoding the variable to a factor and then using the code but that also did not work. For the graph on school of study distribution, I had to create a new variable and recode the variable of "school" because the functions that I tried to use to add the age range labels would not work. The code for that is as follows:

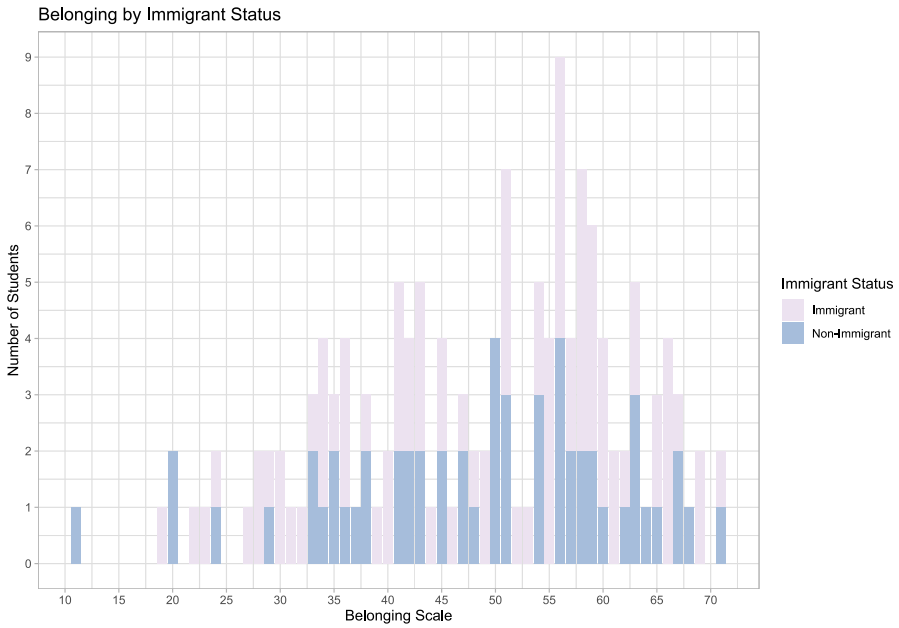
```
mydata2$schcode[mydata2$school==0] <- "JSOM"
mydata2$schcode[mydata2$school==1] <- "EPPS"
mydata2$schcode[mydata2$school==2] <- "A&H"
mydata2$schcode[mydata2$school==3] <- "ATEC"
mydata2$schcode[mydata2$school==4] <- "BBS"
mydata2$schcode[mydata2$school==5] <- "ECS"
mydata2$schcode[mydata2$school==6] <- "IS"
mydata2$schcode[mydata2$school==7] <- "NSM"
```



CODE:

```
bp3 <- ggplot(data= subset(mydata2, !is.na(mydata2$schcode))) + geom_bar(aes(schcode, fill=
schcode))
bp3 + labs(title = "Number of Students per School",
        x = "School of Study",
        y = "Number of Students") +
 theme_light() +
 scale_color_brewer(palette = "Paired") + scale_fill_brewer(palette = "Paired") +
 theme(axis.ticks.x = element_blank() +
      scale_y_continuous(breaks=seq(0,40,5)),
      legend.title = element_blank(),
      legend.position="none")
```

Belonging

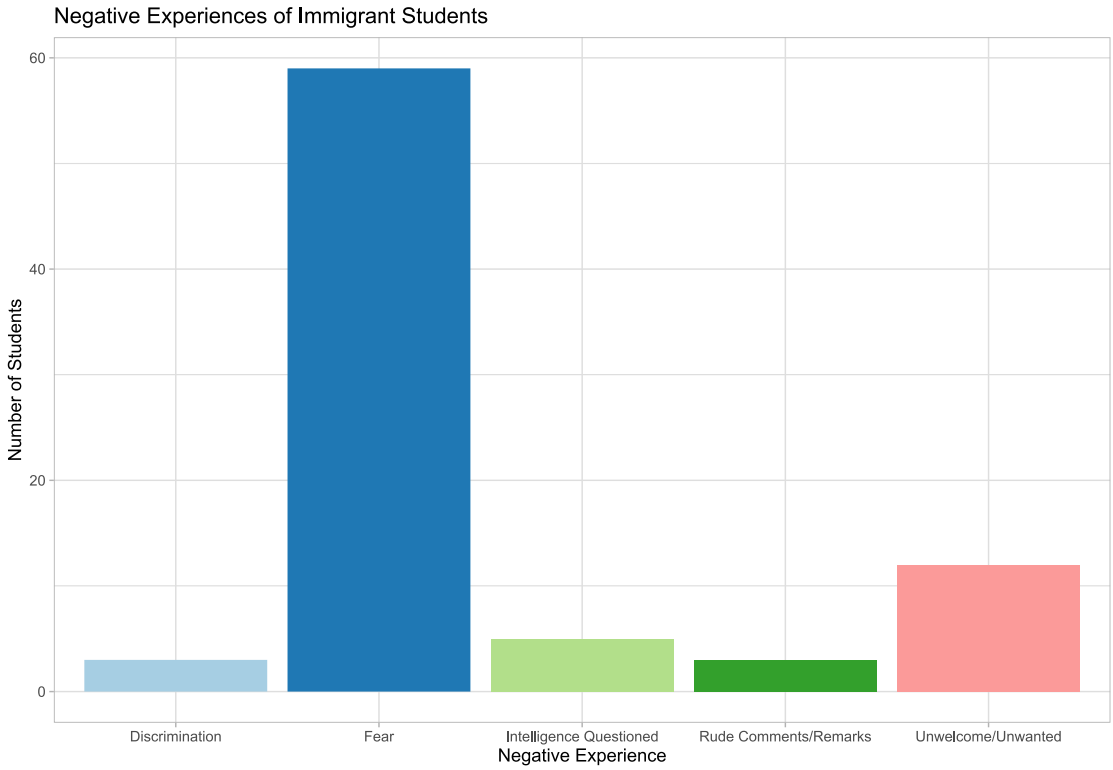


CODE:

```
bel <- ggplot(mydata2) + geom_bar(aes(belonging, fill= immcode, position= "dodge",
                          stat= "count", width= 1))
bel + labs(title = "Belonging by Immigrant Status",
         x = "Belonging Scale",
         y = "Number of Students") +
 scale_x_continuous(breaks=seq(0,70,5)) +
 scale_y_continuous(breaks=seq(0,10,1)) +
 theme_light() +
 scale_color_brewer(palette = "PuBuGn") + scale_fill_brewer(palette = "PuBuGn") +
 guides(fill=guide_legend(title="Immigrant Status"))
```

I was trying to have the bars be side-by-side instead of being stacked but for some reason the code did not work. It would still give be stacked columns with the code above. I decided to leave it as is and play around with the color palette to make the change in group more visible.

Negative Experience



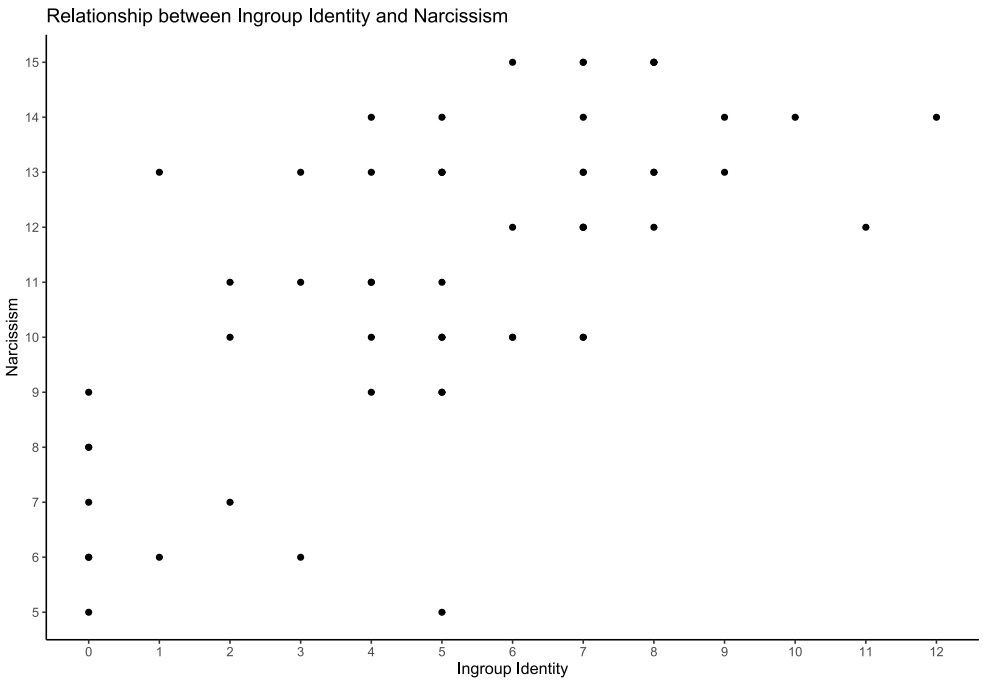
CODE:

```
bn <- ggplot(data= subset(mydata2, !is.na(mydata2$negexcode))) + geom_bar(aes(negexcode,
fill= negexcode))
bn + labs(title = "Negative Experiences of Immigrant Students ",
         x = "Negative Experience",
         y = "Number of Students") +
  theme_light() +
  scale_color_brewer(palette = "Paired") + scale_fill_brewer(palette = "Paired") +
  theme(axis.ticks.x = element_blank() +
       scale_y_continuous(breaks=seq(0,60,5)),
       legend.title = element_blank(),
       legend.position="none")
```

For this graph I also had to create a new variable and recode the numeric variable into a factor variable like was done for the school of study graph. Here is the code:

```
mydata2$negexcode[mydata2$negex==0] <- "Fear"
mydata2$negexcode[mydata2$negex==1] <- "Unwelcome/Unwanted"
mydata2$negexcode[mydata2$negex==2] <- "Intelligence Questioned"
mydata2$negexcode[mydata2$negex==3] <- "Rude Comments/Remarks"
mydata2$negexcode[mydata2$negex==4] <- "Discrimination"
```

Anti-Immigrant Sentiment



CODE:

```
ggplot()+ geom_point(aes(x= mydata2$ingroupid, y= mydata2$narcissim))+ labs(x= "Ingroup Identity", y= "Narcissism",
      title= "Relationship between Ingroup Identity and Narcissism")+ theme_classic() +
  scale_x_continuous(breaks=seq(0,12.5,1)) +
  scale_y_continuous(breaks=seq(0,15,1))
```

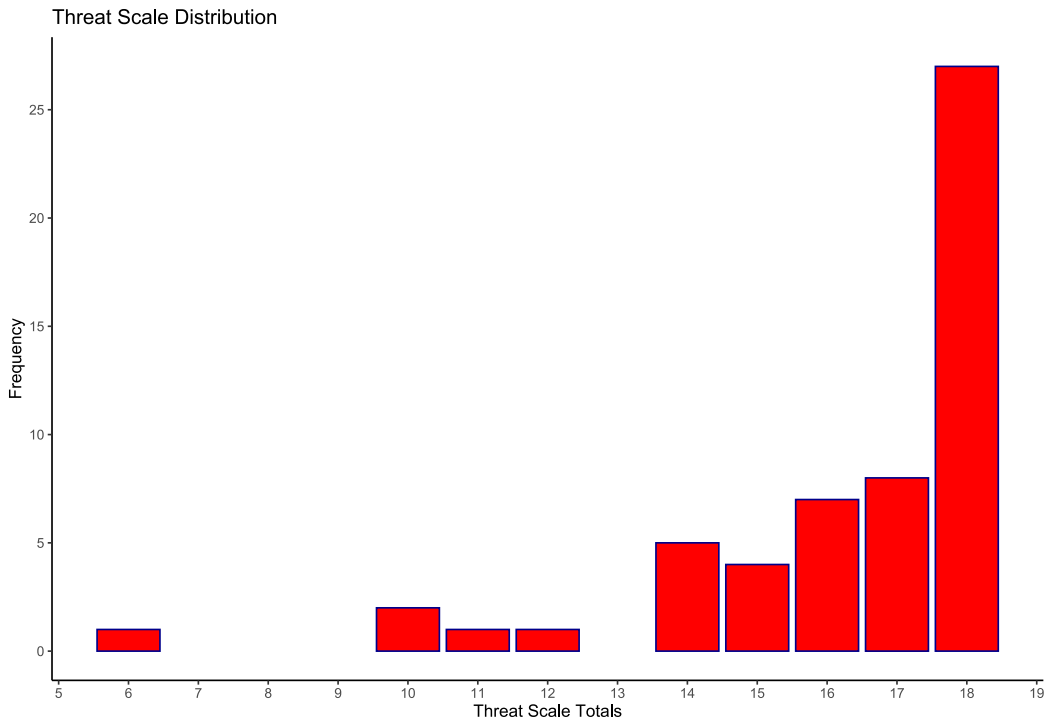
University Belonging and Immigrant Attitudes

For this scatterplot I struggled to get the linear regression on the graph, but I kept getting an error I was not able to find a solution for I just left it as is (true for the other scatterplots available on my GitHub website). Here is the original failed code for the graph above:

CODE:

```
ggplot(mydata2) + aes(x=ingroupid, y=narcissim) + geom_point() + geom_smooth(y~ x, method
= "lm", se = FALSE) +
  labs(x= "Ingroup Identity", y= "Narcissism",
       title= "Relationship between Ingroup Identity and Narcissism") + theme_classic() +
  scale_x_continuous(breaks=seq(0,12.5,1)) +
  scale_y_continuous(breaks=seq(0,15,1))
```

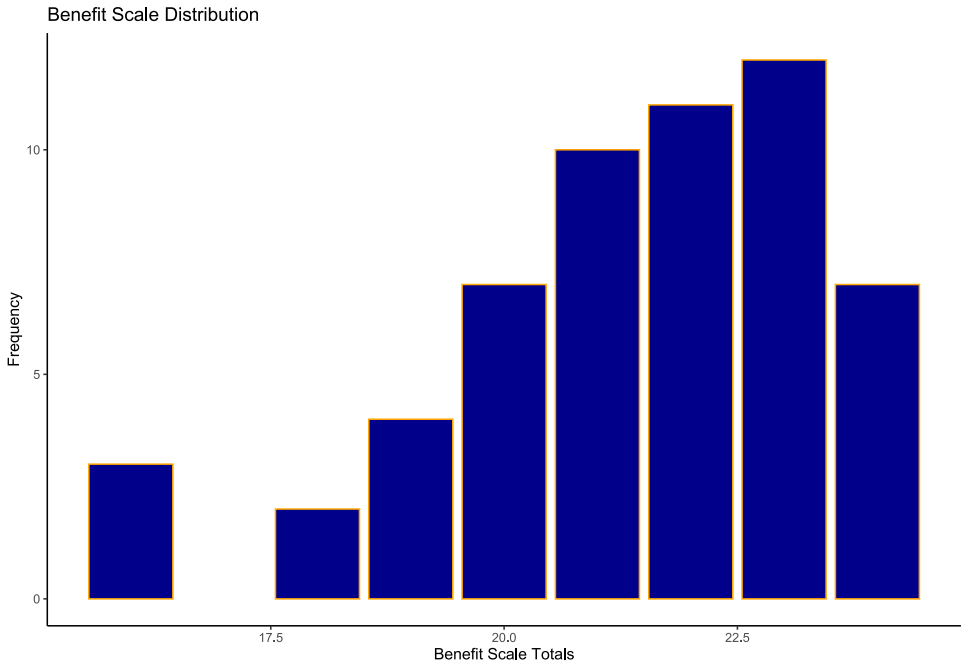
Threat of Immigrants Scale



CODE:

```
ggplot(data=mydata2, aes(threat)) + geom_histogram(stat= "count", breaks=seq(0,20, by=1),
col= "dark blue", fill= "red", alpha= 1) + theme_classic() +
scale_y_continuous(breaks=seq(0,30,5)) + scale_x_continuous(breaks=seq(0,20,1)) +
labs(title = "Threat Scale Distribution") + labs(x="Threat Scale Totals", y="Frequency")
```

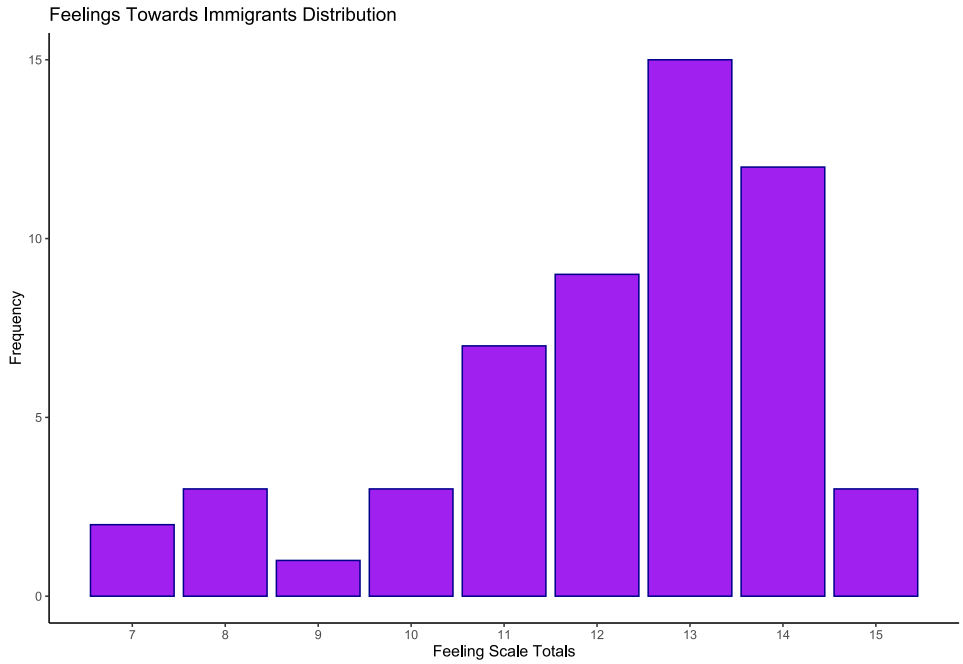
Benefit Belief Scale



CODE:

```
ggplot(data=mydata2, aes(benefit)) + geom_histogram(stat= "count", breaks=seq(0,25,5), col= "orange", fill= "dark blue", alpha= 1) + theme_classic() + labs(title = "Benefit Scale Distribution") + labs(x="Benefit Scale Totals", y="Frequency") + scale_y_continuous(breaks = c(0,5,10))
```

Feelings Towards Immigrants



CODE:

```
ggplot(data=mydata2, aes(twd)) +
  geom_histogram(stat= "count",
                 breaks=seq(0,20, by=1),
                 col= "dark blue",
                 fill= "purple",
                 alpha= 1) +
  theme_classic() +
  scale_y_continuous(breaks=seq(0,15,5)) +
  scale_x_continuous(breaks=seq(0,15,1)) +
  labs(title = "Feelings Towards Immigrants Distribution") +
  labs(x="Feeling Scale Totals", y="Frequency")
```

Results

I found that students who identify as immigrants show a high sense of belonging, however, they also have had many negative experiences on-campus as shown from the graphs above. I also found that students who did not identify as immigrants did not show a positive relationship between in-group identity and narcissism, which is an indication of anti-immigrant sentiment. When there is a positive relationship between in-group identity and narcissism scales, there is indication of anti-immigrant sentiment. The scatterplot showing the relationship between in-group identity and narcissism shows a positive relationship between in-group identity and narcissism; however due to how I coded the variables, this is not the case. Higher values of in-group identity and narcissism should be interpreted as having a positive association with immigrants.

Improvements for Future Research

Though I got a lot of information form the analysis and was able to visualize the data, I felt as though there is room for much improvement. I think I would clean and recode the data to make coding easier for visualization of the data. I think it is possible to analyze each question individually rather than as a combination of questions to get more in-depth information about

attitudes towards immigrants. I could also do more research to find singular surveys for attitudes of immigrants. A few changes I could have made to the survey itself would be to have made the question on country of origin more specific to me the country they identified with as an immigrant. Lastly, I would make the survey shorter to have a greater response rate.

Website

All the graphs (including those on the presentation and this paper) and code will be available on my GitHub website at the following link: https://valeriasalinaslopez.github.io/

References

Gallego, P. (2014). The Big Five Personality Traits and Attitudes towards Immigrants. Journal of Ethnic and Migration Studies, 40(1), 79–99. https://doi.org/10.1080/1369183X.2013.826131

Lyons, K. (2010). Ingroup Identification and Group-Level Narcissism as Predictors of U.S. Citizens' Attitudes and Behavior Toward Arab Immigrants. Personality & Social Psychology Bulletin, 36(9), 1267–1280. https://doi.org/10.1177/0146167210380604

Lyons, C. (2013). National Identity and Group Narcissism as Predictors of Intergroup Attitudes Toward Undocumented Latino Immigrants in the United States. Hispanic Journal of Behavioral Sciences, 35(3), 323–335. https://doi.org/10.1177/0739986313488090

Murphy, M., Gopalan, M., Carter, E., Emerson, K., Bottoms, B., & Walton, G. (2020). A customized belonging intervention improves retention of socially disadvantaged students at a broad-access university. Science Advances, 6(29), eaba4677–. https://doi.org/10.1126/sciadv.aba4677

Slaten, E. (2017). The Development and Validation of the University Belonging Questionnaire. The Journal of Experimental Education, 86(4), 633–651. https://doi.org/10.1080/00220973.2017.1339009

Strabac, A. (2014). Attitudes towards Muslim Immigrants: Evidence from Survey Experiments across Four Countries. Journal of Ethnic and Migration Studies, 40(1), 100–118. https://doi.org/10.1080/1369183X.2013.831542

Tartakovsky, W. (2016). Testing a New Theoretical Model for Attitudes Toward Immigrants: The Case of Social Workers' Attitudes Toward Asylum Seekers in Israel. Journal of Cross-Cultural Psychology, 47(1), 72–96. https://doi.org/10.1177/0022022115613860

Williams, C. L., Hirschi, Q., Sublett, K. V., Hulleman, C. S., & Wilson, T. D. (2020). A brief social belonging intervention improves academic outcomes for minoritized high school students. Motivation Science. https://doi.org/10.1037/mot0000175.supp (Supplemental)

Zahl-Thanem, H. (2019). Attitudes Toward Immigrants in Rural Norway. A Rural-Urban Comparison. Sociologia Ruralis, 59(4), 685–700. https://doi.org/10.1111/soru.12251