AK HEALTH AND SOCIAL SERVICES AND HER SAFETY NET

TOBACCCO NEED ASSESMENT REPORT

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Bates College Community Engaged Data Class

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And the following individuals

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Executive Summary

This project received funding through Maine Prevention Services which is an initiative through the Maine Center for Disease Control and Prevention working across the state to impact tobacco, substance use, and obesity.

AK Health and Social Services (AKHSS), in partnership with Bates College and *Her Safety Net*, conducted a needs assessment on tobacco use among immigrant communities in Lewiston and Auburn (LA), Maine. The survey aimed to explore the prevalence of tobacco use within this community and examine the effectiveness of various preventative measures. Between February and April of 2022, AKHSS conducted an anonymous survey (both in-person and over the phone) of 150 respondents to address these questions.

The assessment aimed to answer the following questions:

1. *How does acculturation affect patterns of tobacco use and exposure among immigrants in Maine?*
2. *How does gender and other factors (country of origin, religion, shared culture, and overall positionality etc.) impact tobacco use among members for certain immigrants?*
3. *What protective factors and risk factors promote the development of culturally appropriate interventions to prevent and control tobacco use? Sense of community-utilizing religious/faith leaders talking about this with the community -pictures with examples.*
4. *And to what extent are culturally specific tobacco control programs necessary to curb or prevent the initiation of tobacco use among racial/ethnic populations?*

The Process

The AK Health and Social Services leadership team talked to community leaders, field-related specialists, as well as Bates faculty and students with the goal of completing an assessment of community tobacco use within approximately an eight-month timeframe. The team met twice a month until the survey was completed; the timeline then changed to once a week. The collaborative talked about the Request for Proposal (RFP) as a group to understand short-term and long-term benchmarks and address the group's questions.

First, a reasonable timeline was determined, then a formation of a plan to enable the ability to get a survey together and vetted the questions in one month; to ensure a smooth and effective survey. It was agreed to survey people for two months, with a buffer of two and a half months. Interpreters were involved and relied on to accommodate those that were not fluent in English. A two-month timeline was given for data analysis in order to be flexible, giving the team a month and a half to complete the analysis. The goal was to aim to complete the final report within a month's time, to allow time for it to be written, reviewed, and finalized for the presentation.

Between February and April of 2022, AKHSS conducted the anonymous survey both in-person and over the phone, reaching a total of 150 respondents. There were 26 total questions. The first six questions collected demographic information including biological sex, race, country of origin, age, religious affiliation, and spoken language. The seventh question asked whether or not the respondent was a tobacco user. If a respondent answered "no," their survey would end, excluding the remaining 21 questions

Community Background.

AK Health and Social Services target audience for this tobacco needs assessment are immigrants, refugees, asylum seekers and BIPOC communities in Lewiston and Auburn Maine.

The Somali immigrants make the highest number of this population with estimated number of 6000 individuals making 16% of the Lewiston Population. The majority of this target population migrated from African countries including Somalia, Kenya, Ethiopia, Democratic Republic of Congo, Angola and Burundi seeking better live for themselves and their children with the first wave of migration coming in early 2000s. In 2019 hundreds of immigrants from African countries came to Portland Maine seeking asylum, they have since been resettled in cities across Maine and Lewiston and Auburn has seen significant increase in the number of Immigrants from African Countries. The community of Lewiston-Auburn values the multiple cultures that have come to central Maine and it is a community which is still adopting and integrating to their new cultures. With many of the various immigrant communities having limited English skills, the languages commonly spoken at home include Somali, Arabic, Swahili, French, Lingala, Portuguese, and Spanish.

History of AKHSS

AKHSS was founded by a former refugee and an immigrant to respond to the unique challenges/barriers immigrant communities face in getting access to critical services such as healthcare, education, employment, housing, social justice and may other day to day needs. Most employees and board members of AK Health and Social Services identify as immigrants, refugees, and BIPOC. Our advising committee is made up of Immigrants, refugees, asylum seekers and BIPOC communities and individuals that have experience working with these communities who are considered our allies.

Staffing

AKHSS has eleven active employees with three community health workers and experienced project coordinators that are qualified to undertake this assessment. The organization heavily relies on building partnerships and closely partners with Bates College, Her Safety Net, Masjid Salaam Mosque, Healthy Androscoggin and hosts a large number of Bates students as volunteers, work-study students and direct hires.

Partnerships

AK Health and Social Services has partnered with many important service providers in the community including B Street Health Center, the Medicine Shoppe, Maine CDC's public health nurses, Community Concepts, Bates College, City of Lewiston, Lewiston-Auburn Metropolitan Chambers of Commerce, Masjid Salaam Mosque, Her Safety Net, Lewiston Auburn Family Support Services and Safe Voices.

Methodology and Purpose

For this project, AKHSS sought to identify and answer for

1. What factors (e.g., biological sex, age, religion, culture) are related to tobacco usage or exposure?

2. How might a country of origin be related to tobacco usage and does tobacco usage change after immigrating to the United States
3. To what extent are interventions or culturally specific tobacco control programs necessary to implement to reduce and or eliminate tobacco usage in immigrant communities.

The team collected 150 survey question using survey monkey. Survey questionnaires were distributed through direct encounters and over the phone.

Key Findings

1. High rate of Tobacco usage among the immigrant population – Our assessment found that 38% of our respondents said they use/used tobacco products compared to 62% of respondents who said they did not use tobacco.
2. Male Respondents were using tobacco at a higher rate compared to female respondents.
3. Respondents from Somalia, Kenya and Canada tended more likely to respond yes to tobacco use compared to respondents from other countries.
4. Usage of tobacco increased after respondents immigrated and resettled in the United Sates.

Recommendations

AK Health and Social Services and Her Safety Net believes that the survey results indicate a high number of tobacco users. After consulting with community leaders, imams and other community members, the following initiative in reducing the rate of tobacco prevalence among the immigrants in Maine is recommended:

1. Include community and immigrant-based organizations in modeling state-wide policies aimed at reducing tobacco use. It is important that these organizations are included so that culturally based outreach can occur beyond the boundaries of established immigrant communities.
2. Invest resources in immigrant-lead community organizations to provide and implement culturally and linguistically appropriate tobacco prevention programs for the immigrant communities in Maine. These will not only reach targeted communities but can affect the remainder of the state's population.
3. Provide training and support to community and faith-based organizations in Lewiston and Auburn, Maine, to implement culturally and linguistically appropriate tobacco cessation programs. This would include support for a variety of language translations and inclusion of appropriate imagery.

Technical Report and Data Analysis

Introduction

AK Health and Social Services (AKHSS) and *Her Safety Net* collaborated with students from Bates College who were enrolled in Professor Laurie Baker's *Community-Engaged Data Science* course to perform data analysis on the data collected. Both organizations wanted to explore the

prevalence of tobacco use within this community and the most effective utilization of prevention resources. The students used the survey data to understand the following sub questions: How does acculturation affect patterns of tobacco use and exposure among immigrants in Maine? How does gender and other factors (country of origin, religion, shared culture, etc.) impact tobacco use among members for certain immigrants? What protective factors and risk factors promote the development of culturally appropriate interventions to prevent and control tobacco use? Sense of community- utilizing religion/faith leaders talking about this with the community - pictures with examples. And to what extent are culturally specific tobacco control programs necessary to curb or prevent the initiation of tobacco use among racial/ethnic populations? The Bates students team used RStudio to analyze immigrant tobacco use in Lewiston–Auburn and identify if any recorded demographic factors were correlated to tobacco usage.

Methodological Approach

The team of students from Bates college used the programming language R to conduct their analysis. Before data cleaning, it was established which information would best represent the survey results. All the answer columns, or "variables," held valuable information, but the time frame and project requests necessitated a smaller scope for r analysis. Thus, multiple subset tables of the most relevant information were created, which allowed them to establish connections and choose visualizations that would assist their contractors in providing more support for these families and community members.

After importing AKHSS's CSV data file into RStudio, an integrated development environment (IDE) for R, all the answer choices had to be standardized before the software could correctly read the data. This process in data analysis is known as "tidying" or "cleaning." Tidying data involves renaming columns, reformatting answers, and consolidating variables. Though a seemingly obvious process, cleaning and processing the data is perhaps one of the most critical parts of coding. It involves carefully considering how manipulating the variables could alter the implications of our portrayed results.

As discussed earlier, reformatting answers was essential to ensure proper data visualization and for the contribution to a good fraction of the project. For example, the question about country of origin was a free response, so some code had to be written to correct and group any misspellings. "Somalia," for instance, was often spelled "Somali" or with a lowercase "S." Since R does not recognize these as the same country, there was replacement of any incorrect spellings with the appropriate name. This standardization process was replicated for other countries and variables as well.

Additionally, there were several instances where there was debate whether changing "Sometimes" to either "Yes" or "No" would have other implications on the data analysis. The seventh question regarding tobacco use had the options of "Yes," "Sometimes," "No," or "Not Applicable." After discussing with our community partners, the decision was made to change "Sometimes" to "Yes" since our research wanted to explore possible trends in identities of immigrants who are currently using tobacco. Some respondents also opted not to answer, which complicated the analysis because R had trouble handling missing values. Ultimately, those missing values were recorded as "No Answer" (N/A) to remove any confusion for the software. Similarly, this same process was utilized for the questions asking respondents if their tobacco

usage had an impact on their relationship with religion or if they had started using tobacco before or after immigrating. These adjustments are also documented in Section 7 of the Appendix.

Since both AKHSS and *Her Safety Net* are working to limit immigrant tobacco use and promote healthier communities, close attention has to be paid to confidentiality while striving for reflective analysis of the population. The Challenges and Limitations section will provide further detail regarding the intricacies and decisions of the cleaning process.

Data Analysis and Results

To support the individual visualizations produced below in Appendix D, multiple regression analysis were run to see which sex, age groups, countries of origin, and religions were associated with a greater probability of using tobacco. The model considers all these factors to get the most statistically accurate results. Our model takes a base case, a female-identifying respondent from Angola who is 18-25 and did not answer the question about her religion and compares the effect of changing any of these demographics on tobacco usage. After running our regression—see Appendix C—we found that only a handful of factors correlate with increased tobacco usage with statistical significance. A result is statistically significant if the confidence level is greater than 90%. The model explains X % of the variance in the data which demonstrates that:

- Respondents ages 33-45 are 86.18% more likely than the base case to use tobacco.
- Respondents from Ethiopia are 98.06% more likely to use tobacco than the base case.
- Respondents from Kenya are 93.51% more likely to use tobacco than the base case.
  Respondents from Somalia are 93.64% more likely than the base case.

All the factors that have not been mentioned did not have a statistically significant effect on the probability of tobacco usage. Most notably, no significant difference in tobacco usage between the biological sexes was found.

Challenges and Limitations

One of the challenges discussed during community partner meetings was its limited range. AHKSS shared with the Bates team that they were aware of their access to respondents with a Somali background. With this knowledge, AKHSS notified the Bates team of their goal to widen the lens of immigration in L-A beyond Somalia. Increasing the survey's reach would potentially include a wider variety of cultural backgrounds and provide a more accurate reflection of tobacco usage in this population. Of course, the ongoing COVID-19 pandemic and its restrictions are relevant, but hopefully, AKHSS can strive for this goal in future surveys. Collecting more data would allow for greater strength in the validity of the analysis and its conclusions. It is suggested to position survey collectors in more locations and to diversify

the survey collection through phone interviews. For this survey, in-person interviews occurred at group meetings, testing centers, and places of religious worship such as the Mosque.

Lastly, since *Community-Engaged Data Science* is only a four-week course; what was prioritized was the analyses as they were crucial to the final report. Specifically, much of the Bates team's research covered how respondent identities might have influenced tobacco usage. With more time, a more thorough examination was able to be provided. Moreover, our team also saw potential in exploring how indicators of socio-economic status might be a factor in what tobacco products survey respondents use and their monthly expenses. Although, it would also be of interest to explore what motivations and media contribute to the choice of using tobacco.more influential factor than it may be.

Conclusion

Through meetings with community partners and conducting AKHSS's research, the team discovered the implications of cultural and religious beliefs in tobacco users and non-users. Before conducting research, information garnered was that tobacco usage was taboo in many immigrant communities, with a "dirty" or "unclean" stereotype. Women are especially subject to scrutiny if found smoking or using tobacco due to gendered expectations. This background information helped guide our research by allowing our team to consider what questions would be most helpful to explore for our community partners. Our team was meticulous about not intentionally producing results that would support pre-existing hypotheses regarding tobacco usage in the L-A community.

Suppose AKHSS and Her Safety Net hope to mitigate tobacco use post-immigration. In that case, both organizations should look towards creating programs to inform residents about the social and physical consequences of using tobacco. Given that new and old forms of media are especially prevalent in the U.S., these programs should target both types of media to reach all corners of the population. Media is a huge source of influence and reflects much of American culture. Seeing ads or information about tobacco use soon after immigrating to the States could potentially impact whether or not community members decide to try tobacco. While tobacco use is seen as taboo and looked down upon, guilting community members into thinking their actions or choices are shameful does not seem like an effective method. Instead, community partners should look to build stronger connections in understanding how and why immigrants start using tobacco in the first place. Therefore, emphasizing media presence in educating and informing members on the dangers and addictiveness of tobacco products could be a crucial step in building healthier communities.

To conclude, given the small scope and short time frame, the final product provides a glimpse into respondent identities and how those might have factored into their use or non-use of tobacco since coming to the States. Future studies could provide more depth for tobacco users or consider what social factors encourage their motivation to use certain tobacco products. Nevertheless, the team is confident that with a much larger scope and a more specific subset of questions, community partners will successfully be able to create programs targeted toward eliminating and preventing tobacco usage in immigrant communities in the L-A community and beyond.

Appendix and Codebook

APPENDIX A – Glossary of Key Terms

Acculturation	The process of assimilating into a typically more dominant culture. Due to the circumstances of many immigrants being immersed in American culture soon after moving to the States. One of the driving research questions of our community partners was to see if immersion into a new culture played a role in immigrants trying tobacco.
Biological Sex	Originally titled as the variable "Gender." Biological sex is a more accurate term given the options were "Male" or "Female." These markers are generally associated with individuals at birth but have since become a rather archaic and static scientific term that holds limited value.
Gender	Gender is a socially constructed term that cannot be simply captured by characterizations often assigned at birth. This expansive term allows individuals to explore categories and forms of expression including but not limited to characteristics they were assigned at birth. Though a much

	more complicated term as opposed to "sex," it is more widely used in everyday vernacular and is more inclusive of a greater variety of identities.
Immigrant	For the scope of this project, MaineHealth Center for Tobacco Independence (CTI) has defined the population of study as "inclusive of individuals, families, and communities that are or identify as immigrants, refugees, asylum seekers, undocumented people, and their children/family members from diverse countries, all of whom are living throughout Maine." Typically, the term is used in a much more narrow definition but this study chooses to view these identities in a much broader context to identify patterns in tobacco usage.
Regression	Statistical method that allows for the analysis between two or more variables of interest. Running this calculation allows analysts to determine what factors hold more significance. Our research looks at individual facets of identity against one another while the regression aims to make those comparisons simultaneously.
Tidying	Also known as "cleaning" or "wrangling." A crucial step completed prior to the production of any visualizations. Tidying our survey data for this particular dataset involved renaming variables and answers, consolidating variables, and considering the interpretation of certain variables. This process allows for complex data to be easily accessible and displayed. Moreover, tidying data allows the data to be reproducible so others can reuse and possibly replicate research. Clarification of changed variable names are specified in Appendix B below.

APPENDIX B – Altered Variable Names & Data Elements

Original	**Altered**	**Type**	**Codes**
What is your gender?	Biological Sex	Categorical	M/F/NA
How old are you?	Age	Categorical	Below 18/18-25/ 26-32/33-45/46-64/ 65+
What country were you born in?	Country of Origin	Free Text	—
Do you use tobacco?	Tobacco User	Categorical	Y/S/N/P/I
Do you identify with any of the following religions? (Please select all that apply.)	Religion	Categorical	Check all apply
Did/Does your tobacco usage affect your relationship with your religion?	Relationship with Religion	Categorical	Y/S/N/I
Did you use tobacco before you came to the U.S.?	Prior to Immigration	Categorical	Y/S/N

Did you start using tobacco when you settled in the U.S.?	Settlement in the U.S.	Categorical	Y/S/N/Other

APPENDIX C – Regression Table

```
##
## Call:
## glm(formula = `Tobacco User` ~ `Biological Sex` + Age + `Country of
Origin` +
##     Religion, family = "binomial", data = Tobacco_Response)
##
## Deviance Residuals:
##     Min       1Q   Median       3Q      Max
## -1.8003  -0.8070  -0.5458   0.9562   2.8738
##
## Coefficients: (2 not defined because of singularities)
##                                  Estimate Std. Error z value Pr(>|z|)
## (Intercept)                      13.04550 3956.18067   0.003   0.9974
## `Biological Sex`Male             -0.23960    0.42639  -0.562   0.5742
## Age26-32                          0.85117    0.84092   1.012   0.3114
## Age33 - 45                        1.83053    0.95088   1.925   0.0542 .
## Age46 - 64                        0.45046    1.07895   0.417   0.6763
## Age65 +                          -0.13113    1.38493  -0.095   0.9246
## `Country of Origin`Burundi      -16.14126 2262.84123  -0.007   0.9943
## `Country of Origin`Canada         1.56199    1.21275   1.288   0.1978
## `Country of Origin`China        -13.35129 3956.18077  -0.003   0.9973
## `Country of Origin`DRC           -0.07884    1.14384  -0.069   0.9450
## `Country of Origin`El Salvador  -15.68748 3956.18051  -0.004   0.9968
## `Country of Origin`Ethiopia       3.92408    1.83252   2.141   0.0322 *
## `Country of Origin`Jamaica      -13.37617 3956.18104  -0.003   0.9973
## `Country of Origin`Kenya          2.66718    1.21467   2.196   0.0281 *
## `Country of Origin`Korea          3.90899 5594.88411   0.001   0.9994
## `Country of Origin`Mexico         0.96867    1.58243   0.612   0.5404
## `Country of Origin`Puerto Rico    2.73365    1.69732   1.611   0.1073
## `Country of Origin`Somalia        2.69003    1.57049   1.713   0.0867 .
## `Country of Origin`Tanzania     -16.16508 2747.61959  -0.006   0.9953
## `Country of Origin`United Kingdom -16.29906 3956.18042  -0.004   0.9967
## `Country of Origin`United States   0.62226    1.69247   0.368   0.7131
## ReligionBuddhism                       NA         NA      NA
## ReligionChristianity            -14.92409 3956.18057  -0.004   0.9970
## ReligionHome religion           -30.61157 5594.88412  -0.005   0.9956
## ReligionIslam                   -17.54140 3956.18038  -0.004   0.9965
## ReligionMuslim                  -34.86969 5594.88398  -0.006   0.9950
## ReligionNo religion             -32.38021 4410.47248  -0.007   0.9941
## ReligionProtestantism                  NA         NA      NA
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
```

```
##
##     Null deviance: 177.46  on 136  degrees of freedom
## Residual deviance: 140.51  on 111  degrees of freedom
##   (9 observations deleted due to missingness)
## AIC: 192.51
##
## Number of Fisher Scoring iterations: 16
```

APPENDIX D – Figures

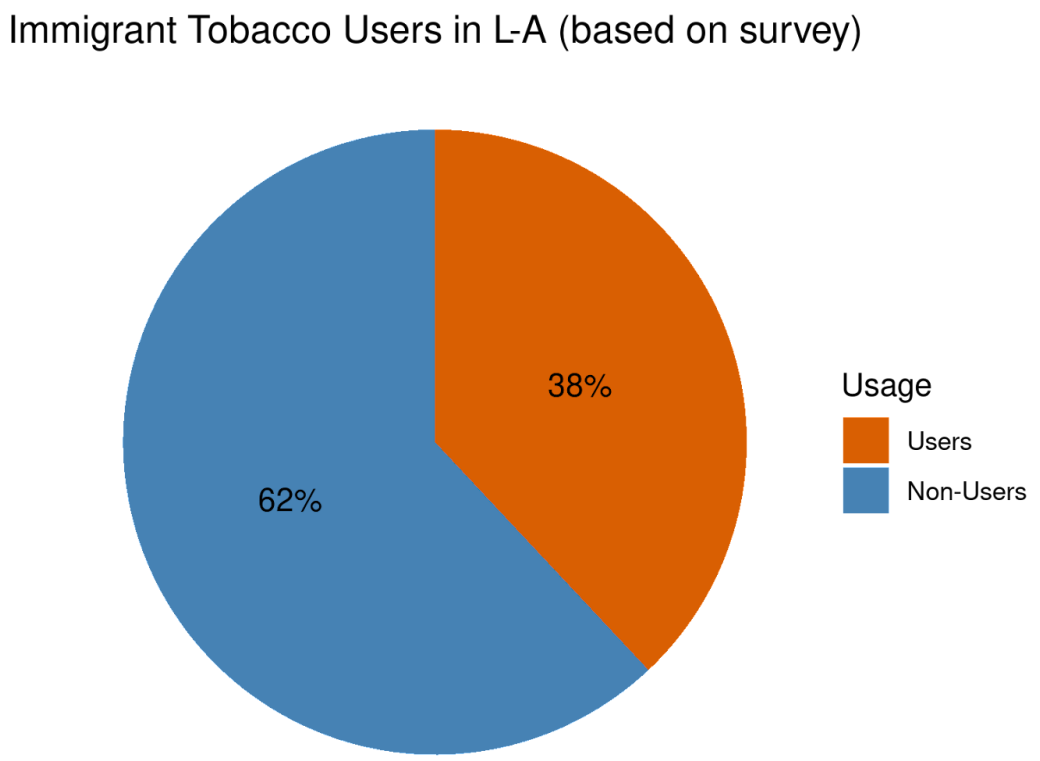


Figure 1

Pie chart showing the distribution of respondents and whether or not they use tobacco. Percentages based off of the 150 respondents who answered question 7 of the survey. At the time the survey was conducted, 62% of respondents indicate they are not using tobacco and 38% indicate they are currently using.

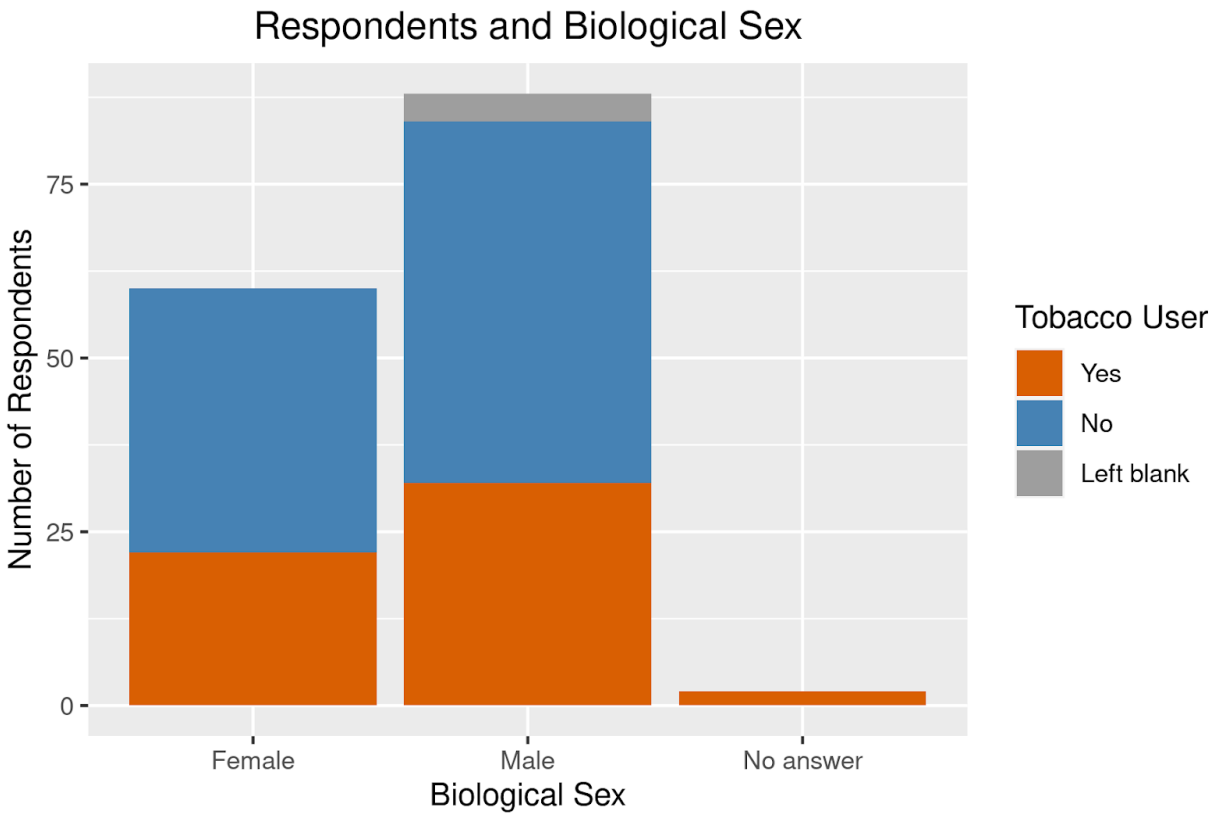


Figure 2

This bar graph is based on question 1 asking respondents their sex assigned at birth. As one of the first seven questions at the beginning of the survey, all respondents answered this demographic question regardless of their status as a tobacco user. Initially, our team learned from AKHSS that women were not as likely as men to smoke as a result of community expectations that reinforce gender norms. However, given the data it appears that there is not a significant difference in the number of men that use tobacco compared to women.

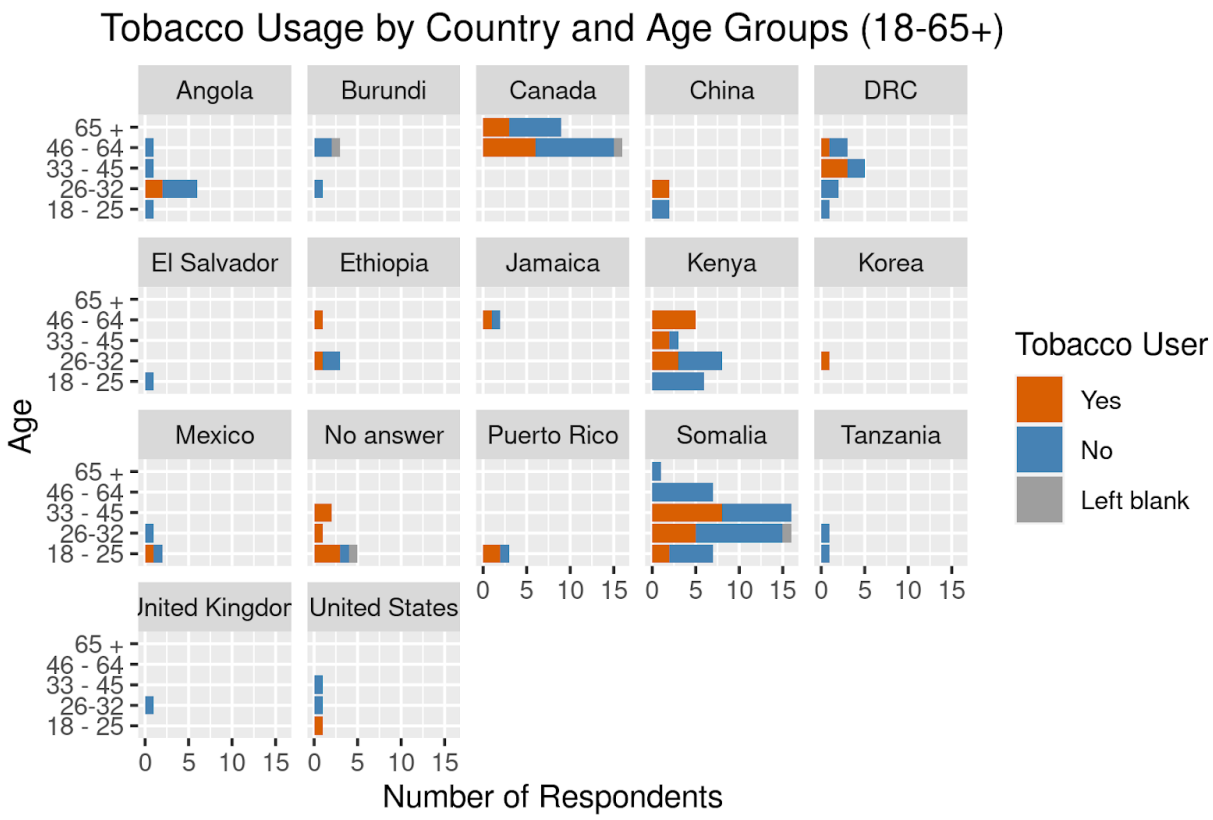
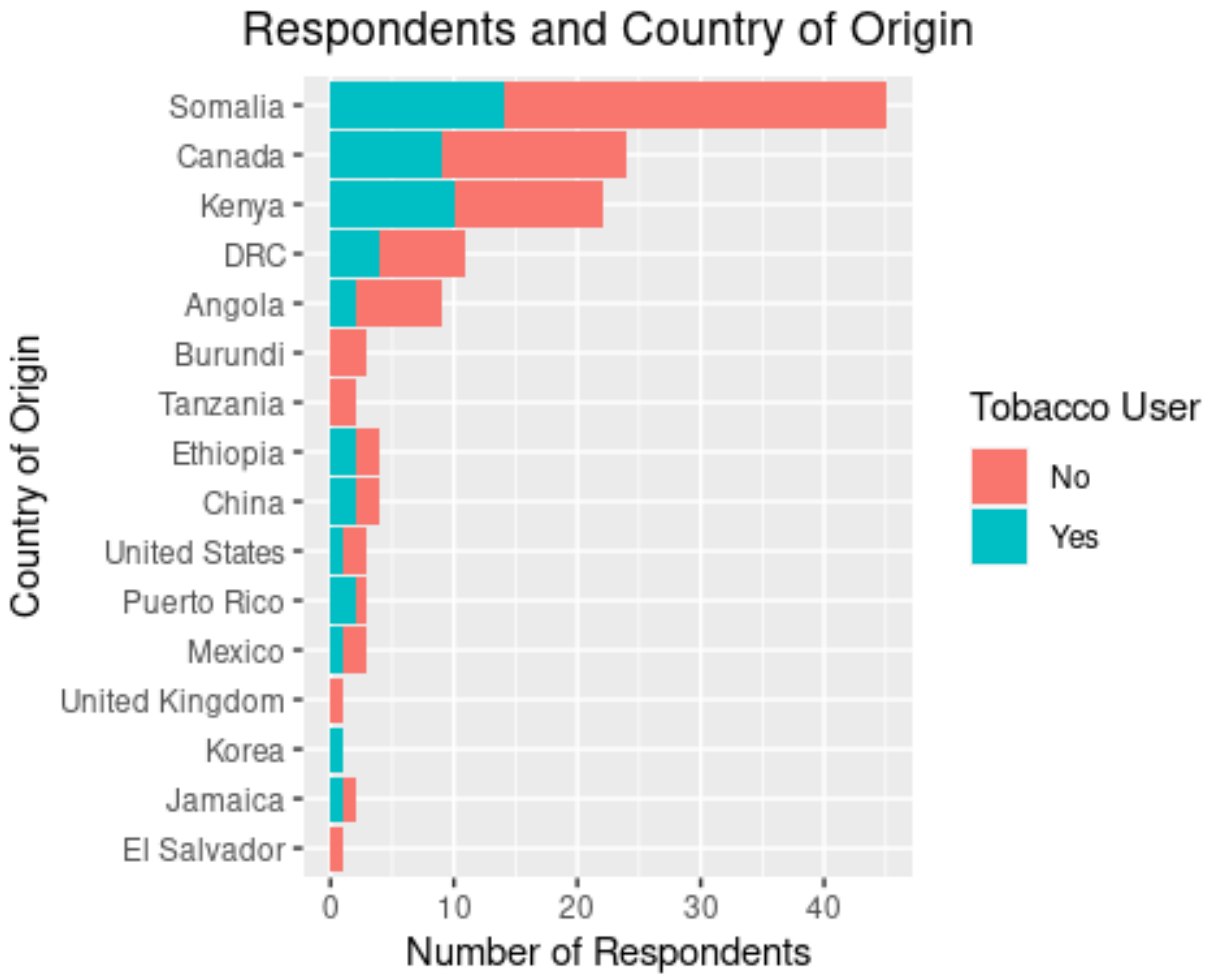


Figure 3

Canadian survey respondents to the survey tended to be older (46+). Survey respondents from El Salvador, Korea, Medico, Puerto Rico, United Kingdom, Tanzania, and China tended to be younger (<32 years). The United Kingdom, Tanzania, and El Salvador overall had fewer, younger respondents, who did not use tobacco. Somalian and Congolese respondents were more spread across the different age ranges. These trends make it more challenging in the model to distinguish between the effect of country of origin vs. age group in estimating the probability of tobacco-use for different demographics.


Respondents and Country of Origin
Somalia
Canada
Kenya
DRC
Angola
Burundi
Tanzania
Ethiopia
China
United States
Puerto Rico
Mexico
United Kingdom
Korea
Jamaica
El Salvador
Country of Origin
0
10
20
30
40
Number of Respondents
Tobacco User
No
Yes

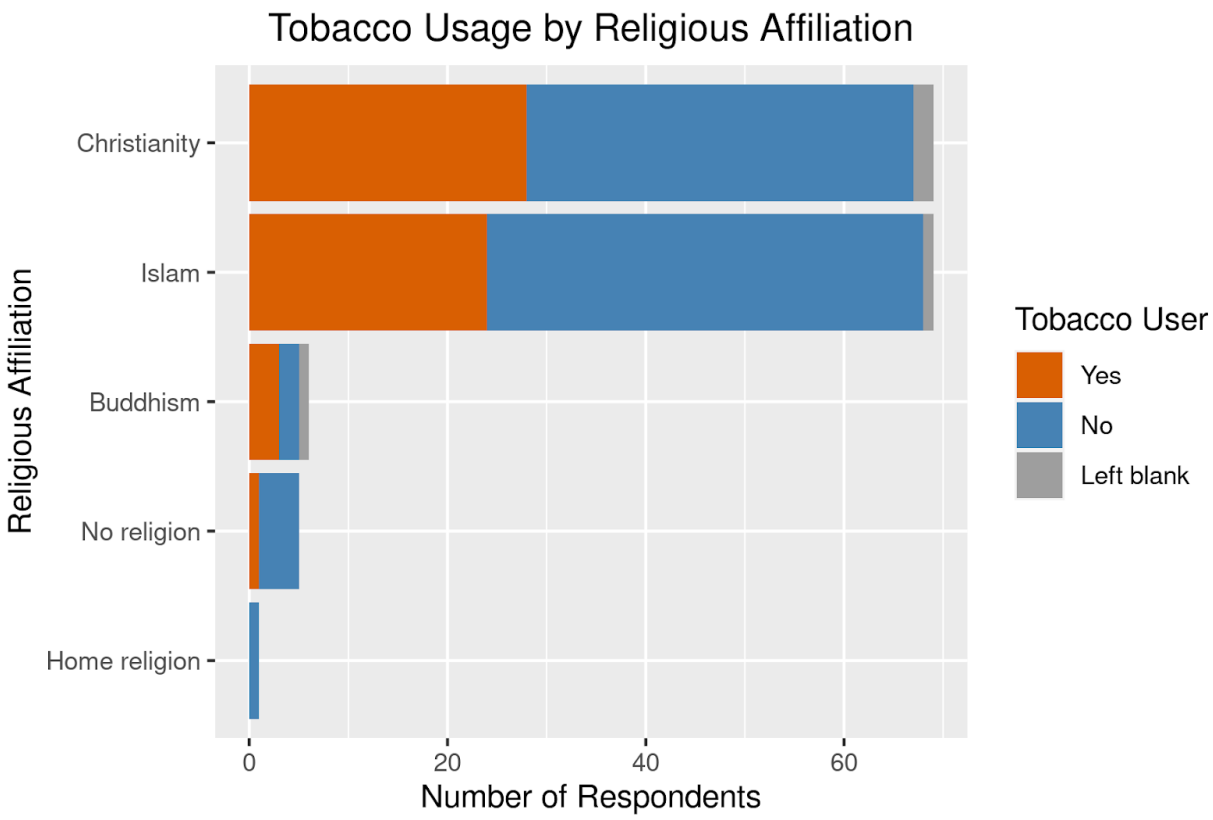


Figure 5

Bar graph showing the distribution of respondents and their practiced religion. Originally eight designated answer choices: Islam, Christianity, Catholicism, No religion, Buddhism, Muslim, Protestantism, and Home religion. Respondents that answered either "Protestantism" or "Catholicism" were recoded to "Christianity" as their answer. Likewise, respondents who answered "Muslim" were recorded as "Islam." According to the results, it seems as if Christianity, followed by Islam and Buddhism were the only religions tobacco users practiced.

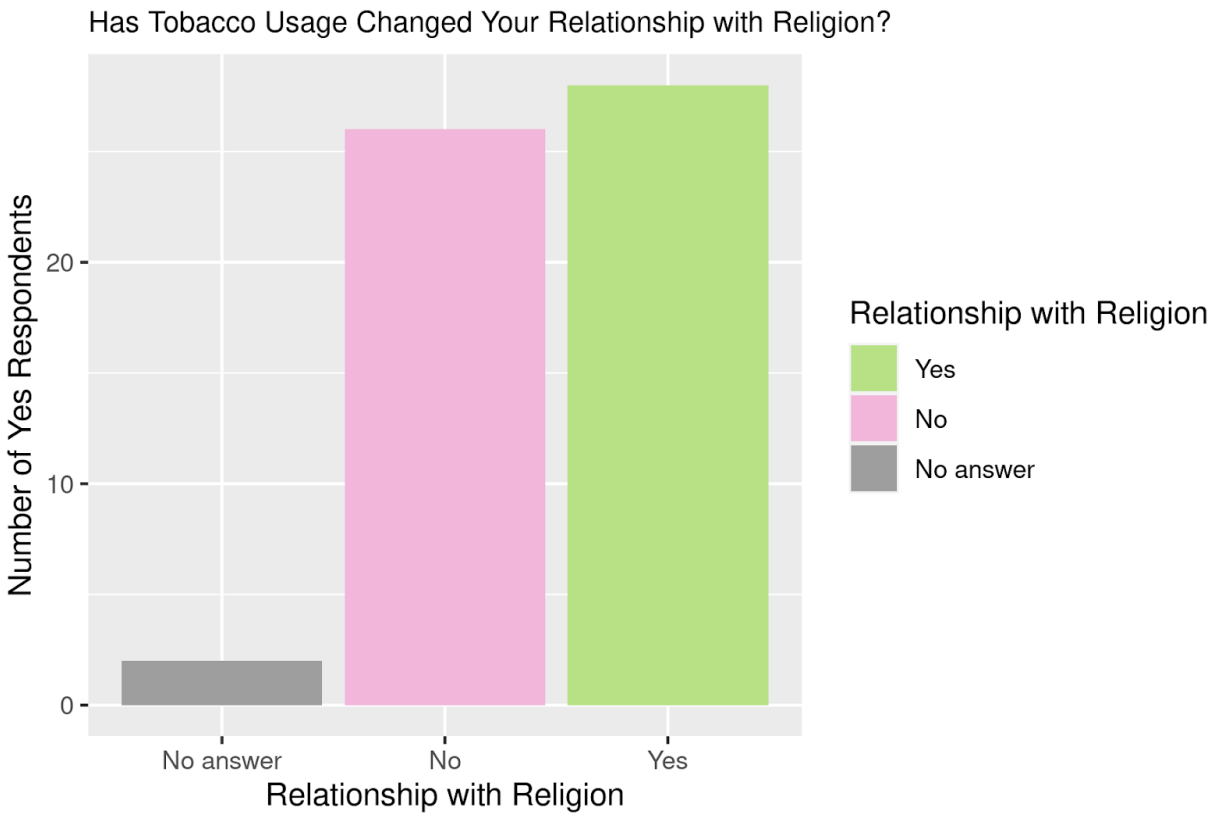
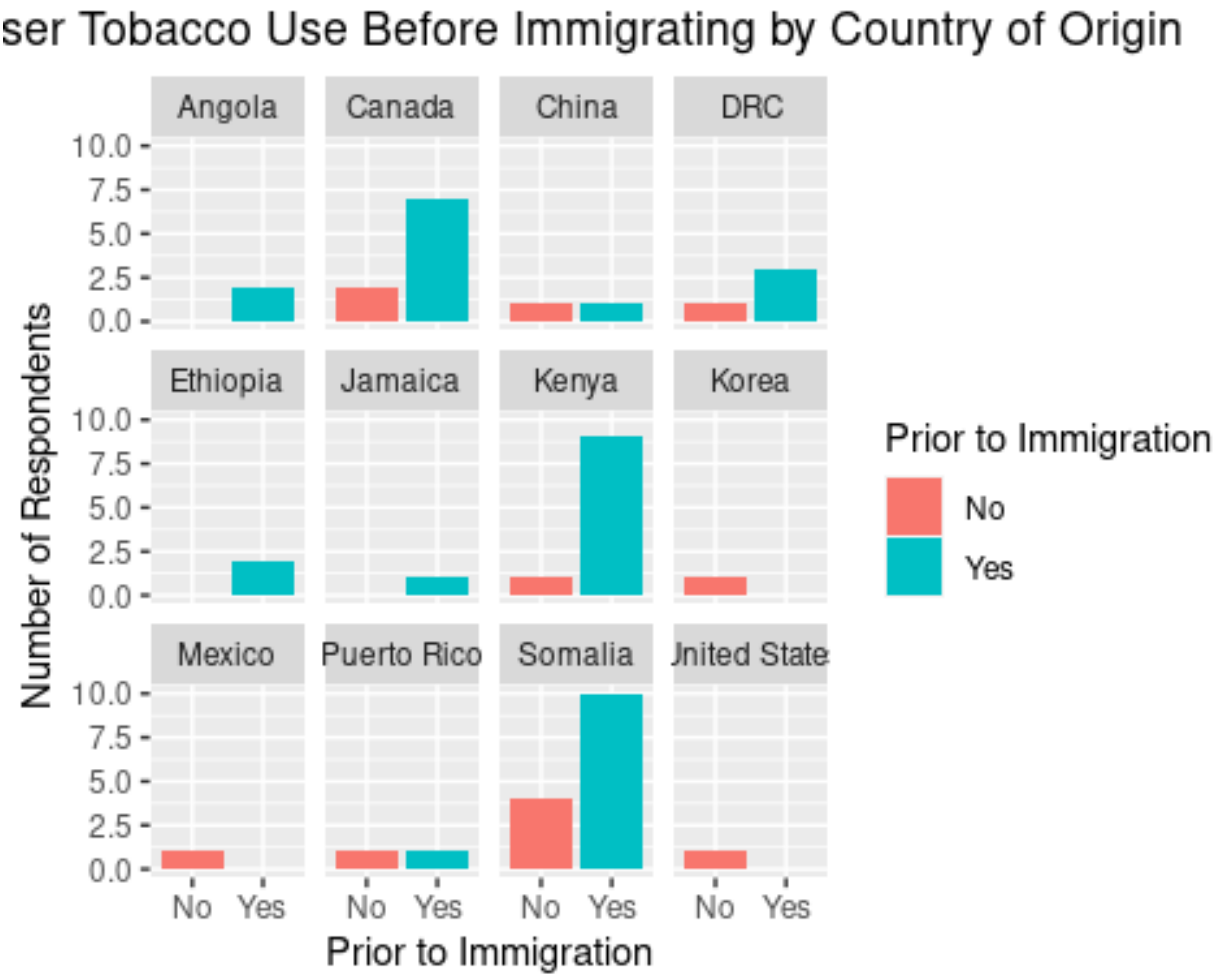
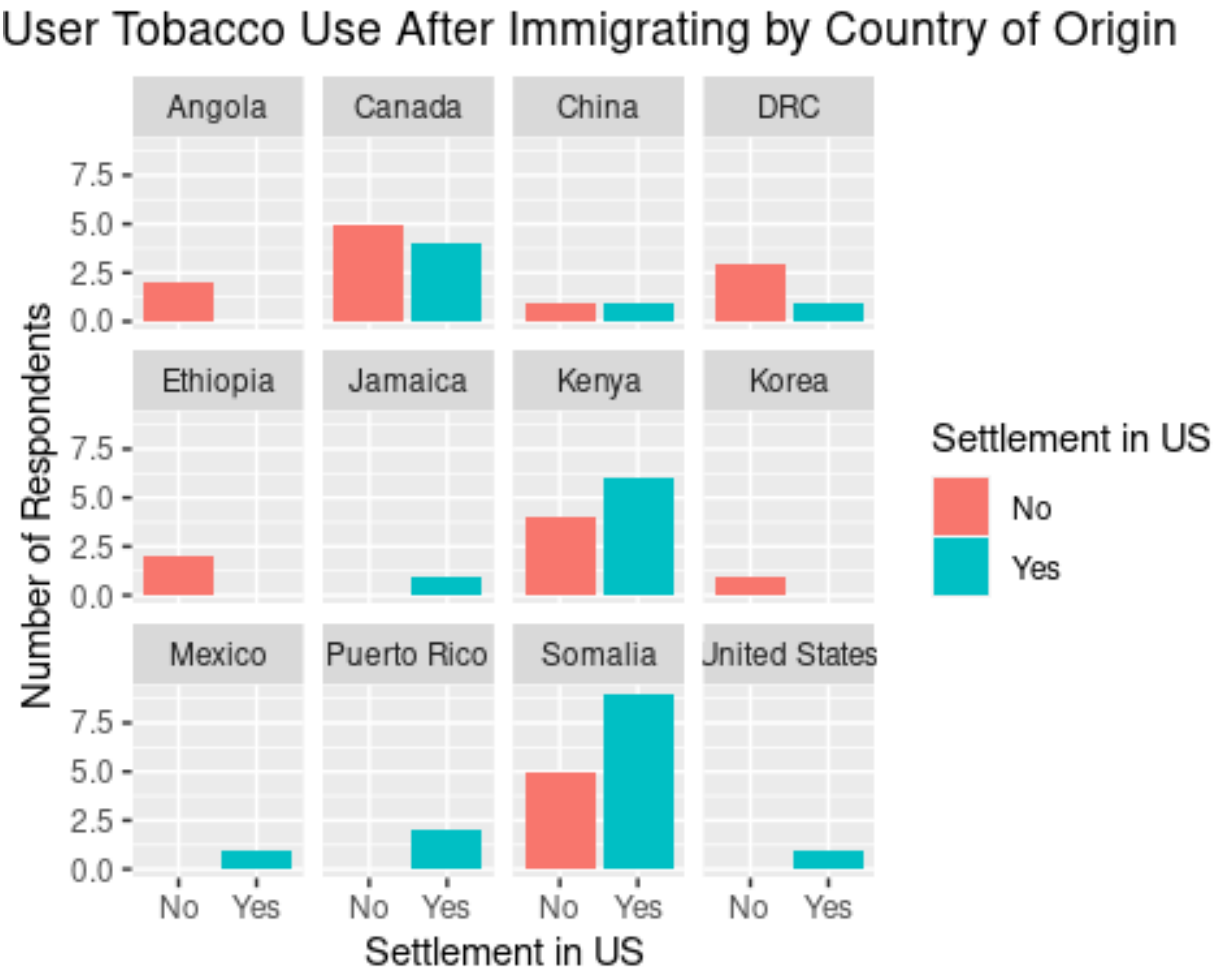


Figure 6

Respondents who answered "Yes" to using tobacco had the option of answering this question which asked whether or not their use of tobacco affected their relationship to religion. Results seem to indicate that there is a relatively even split of respondents who felt that tobacco usage either did or did not influence their relationship with religion. There were also a handful of respondents that did not indicate whether tobacco usage had an impact on their relationship with religion by responding with "No answer."





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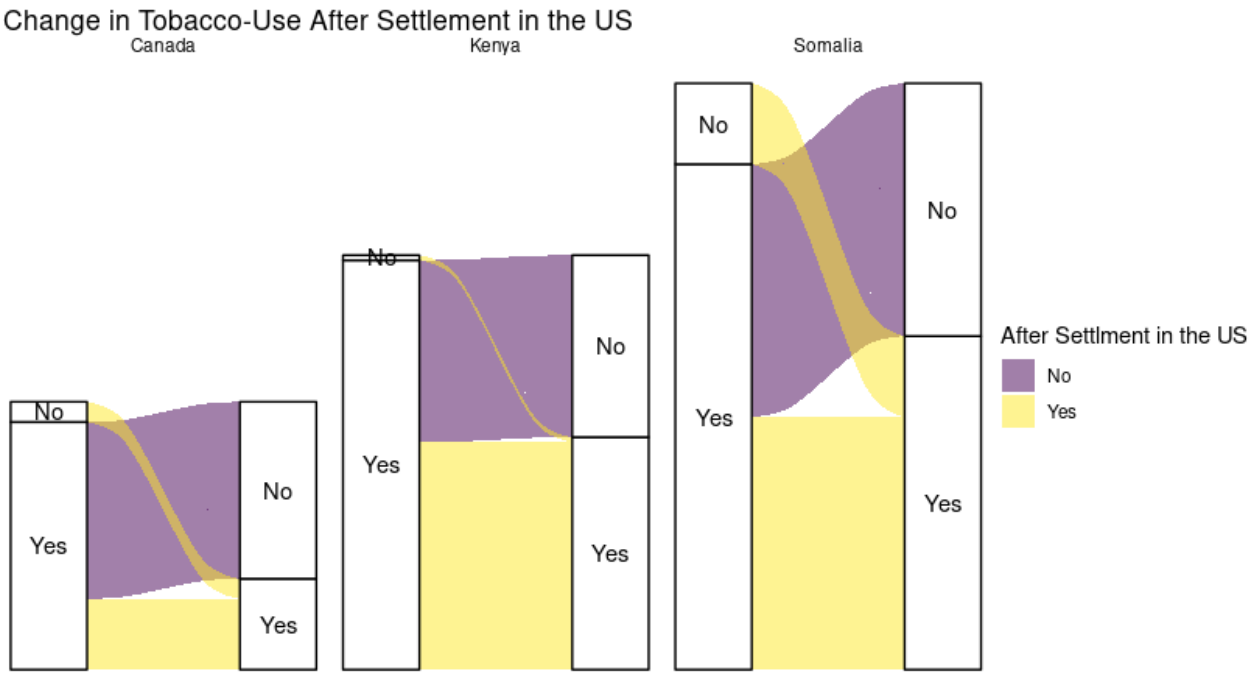
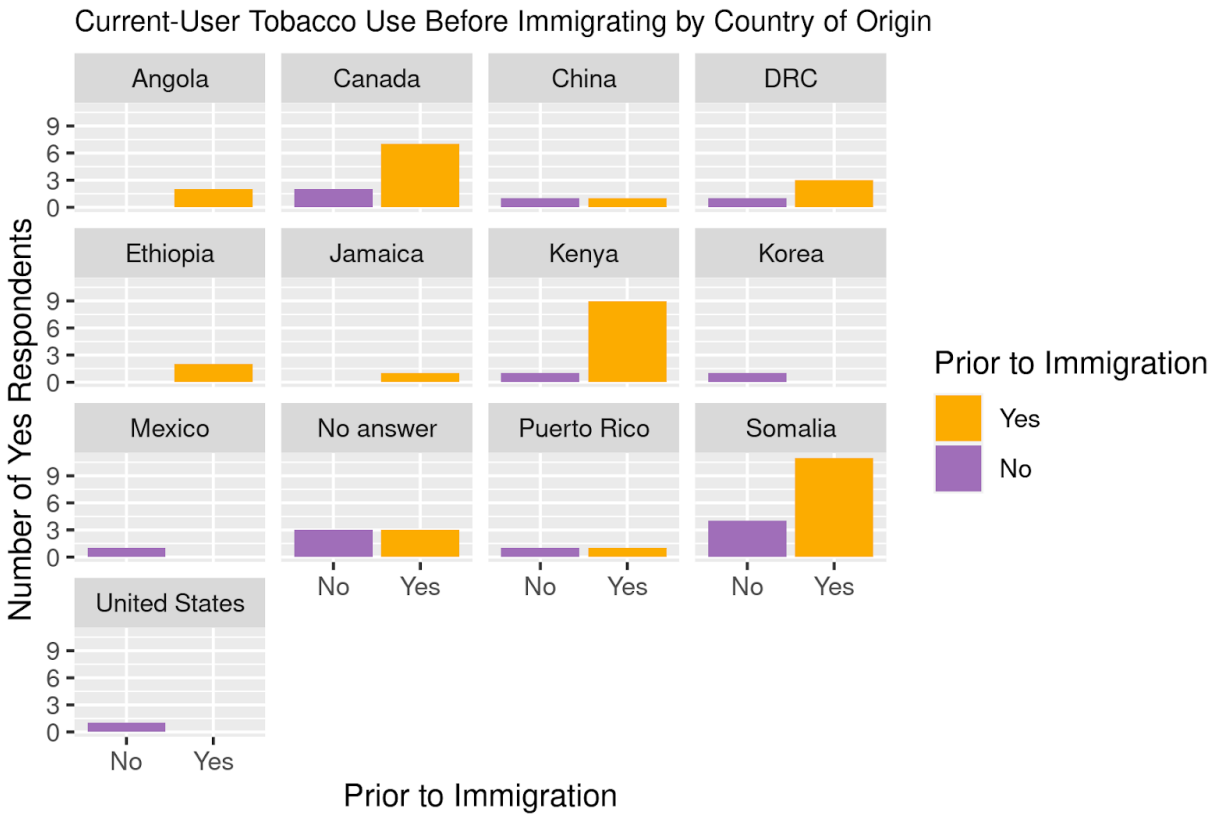
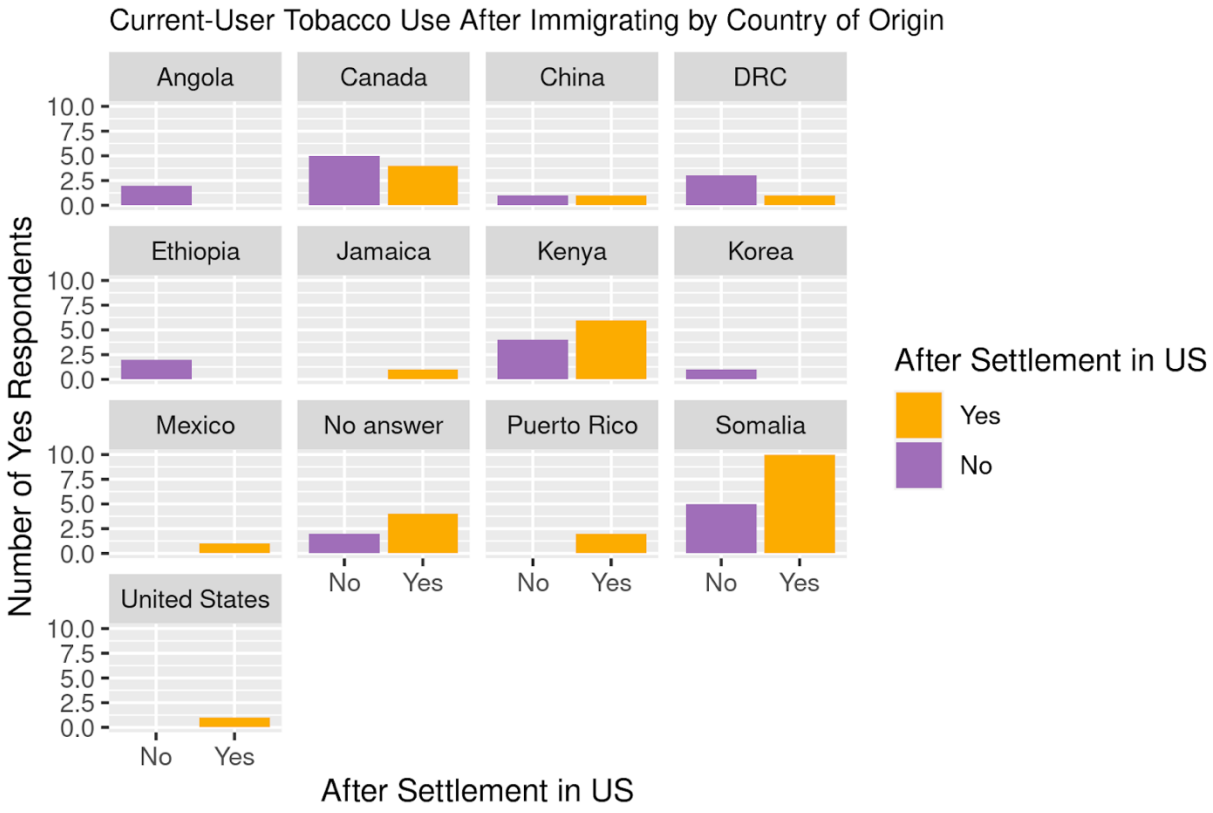
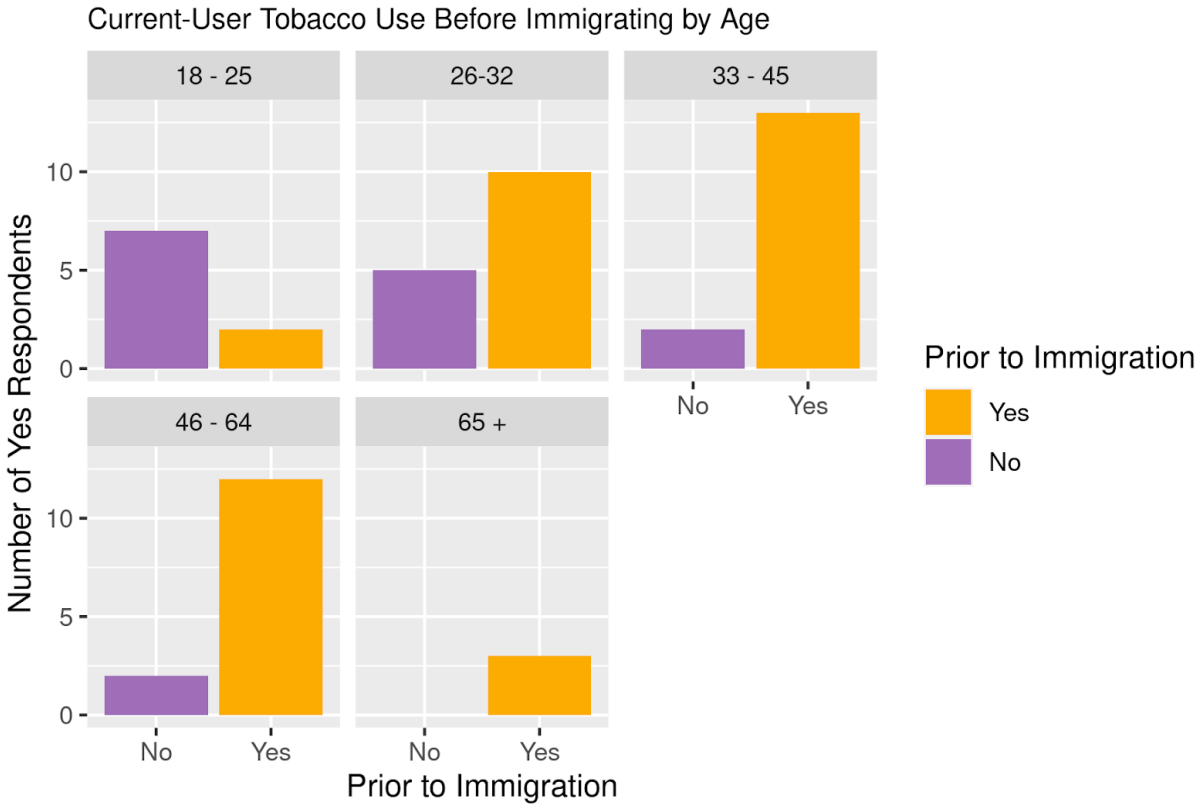


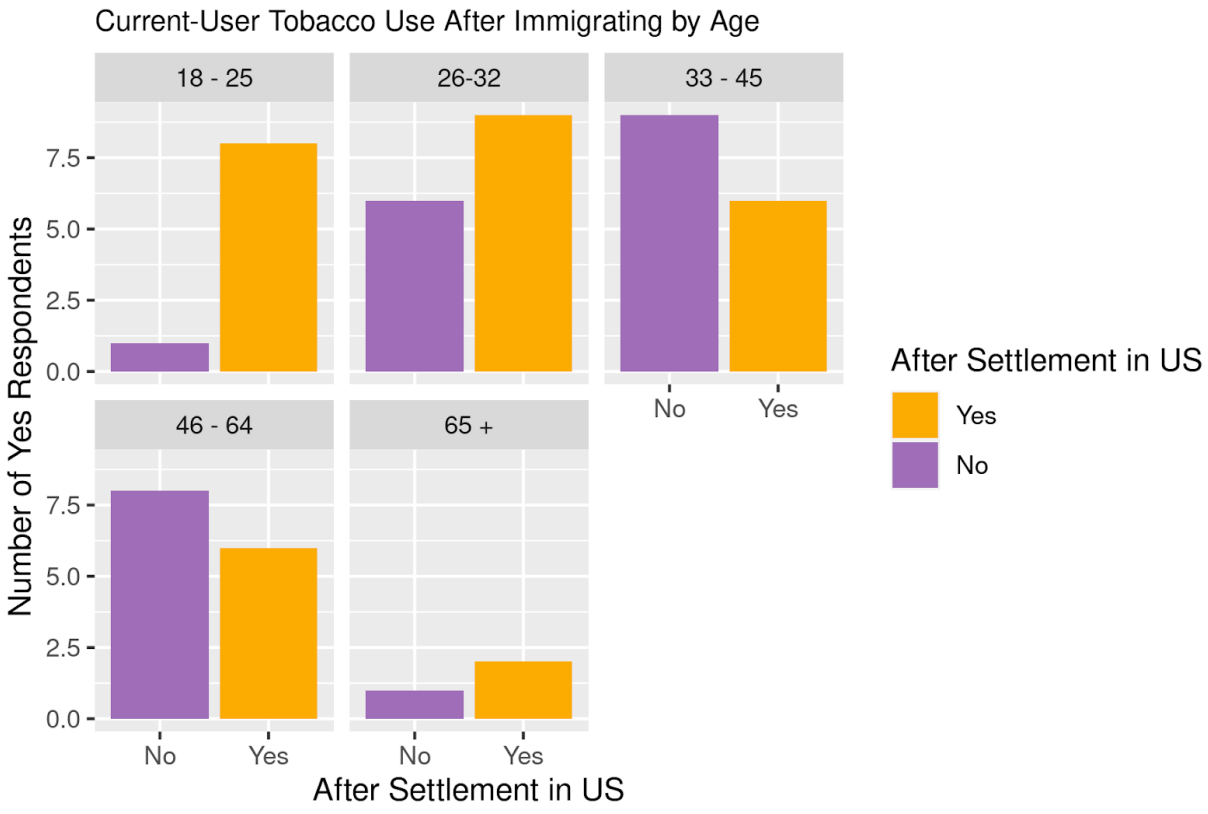




Figures 7 and 8

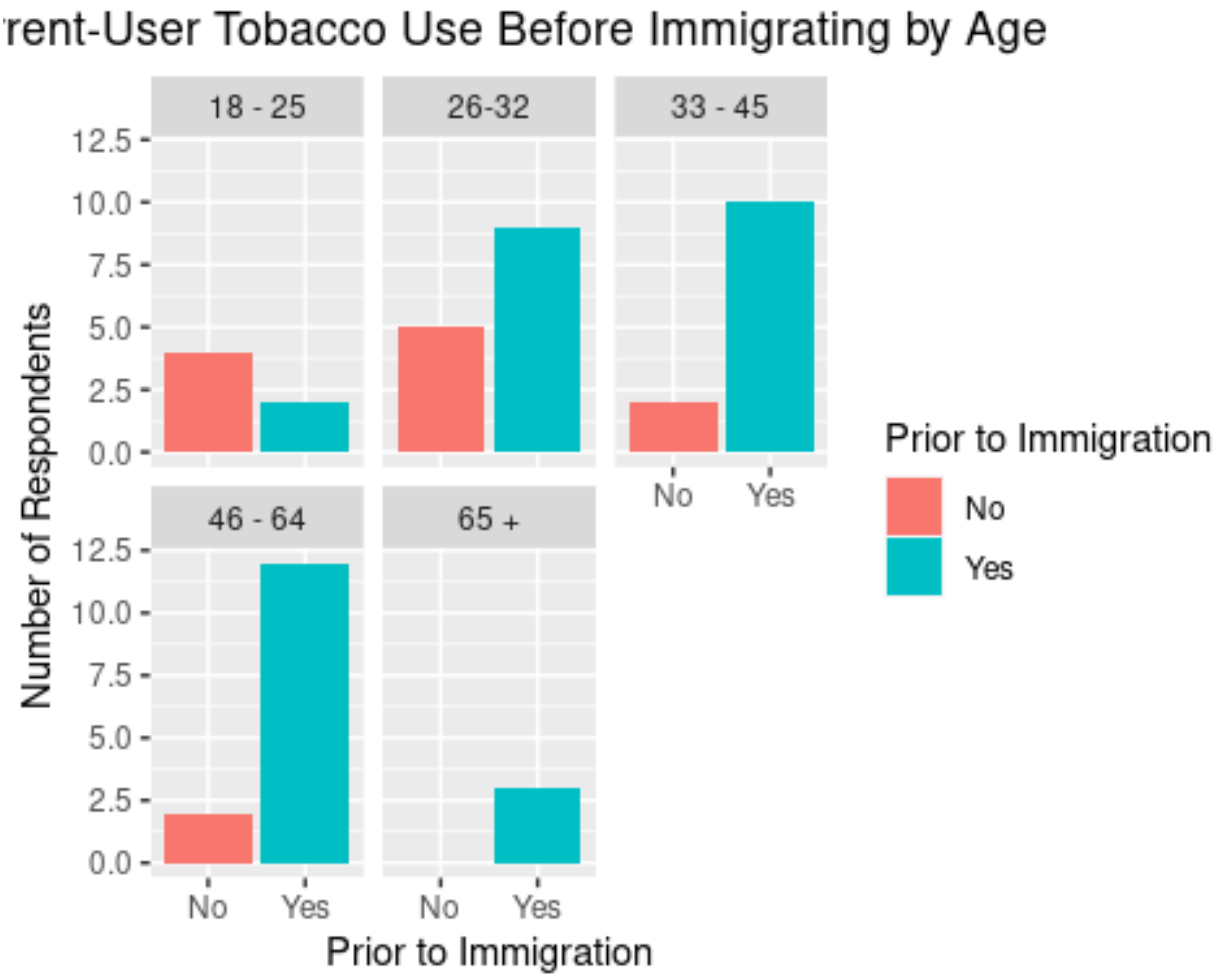
These graphs compare current tobacco users and whether or not they started using tobacco before or after immigrating to the United States. Noticeable differences can be seen between Canada, Kenya, and Somalia. The alluvial plot above demonstrates the change/flow over time of respondents' answers which helps with observations concerning net change in people's choice to use or not use tobacco. Overall, there were a total of 15 respondents who indicated that they did not use tobacco before moving but started once they settled in the US. The following graphs will look at how different facets of identity are possible contributors to using tobacco and will specifically look at the net changes in the 15 respondents who indicated a change in their use of tobacco since moving.

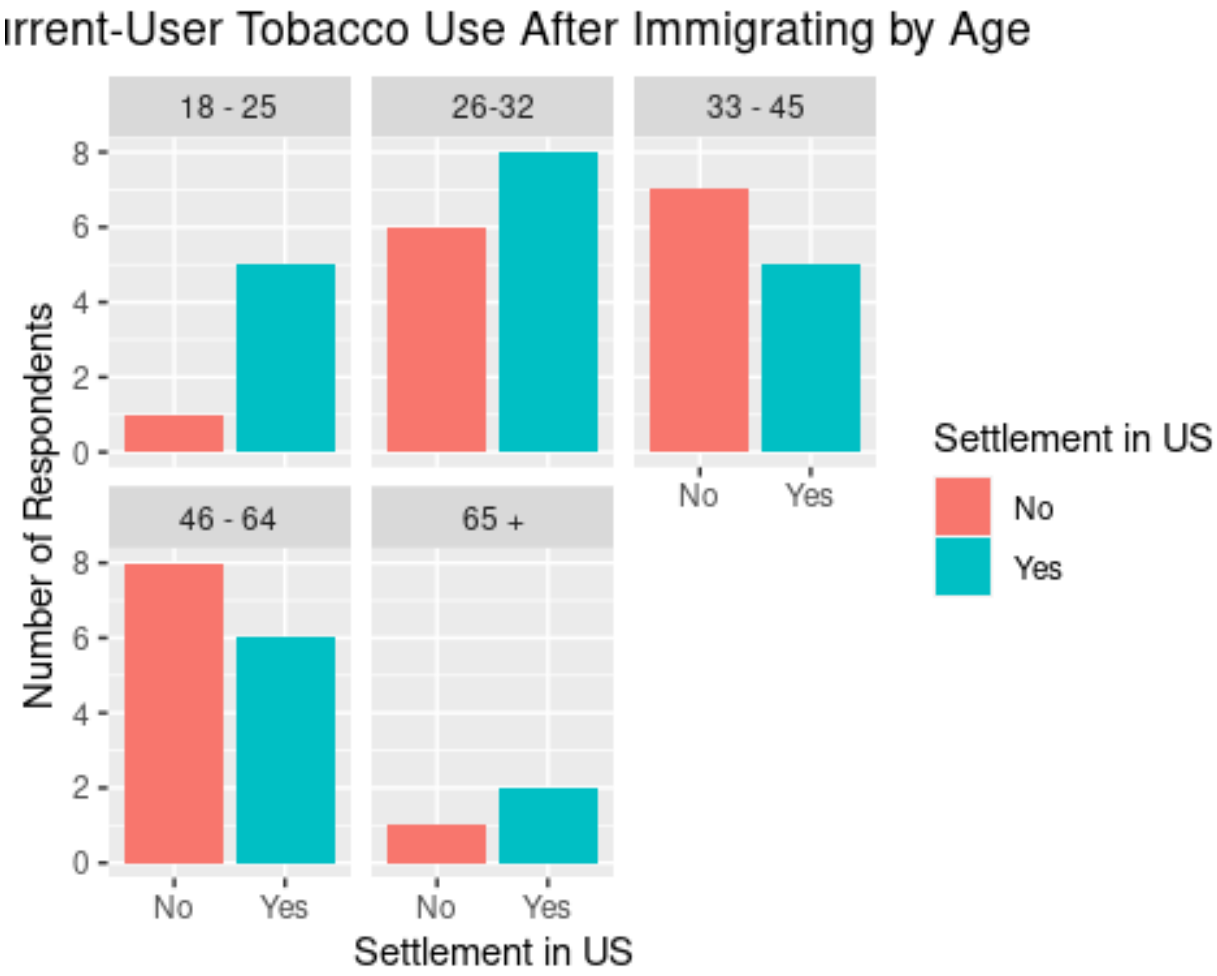


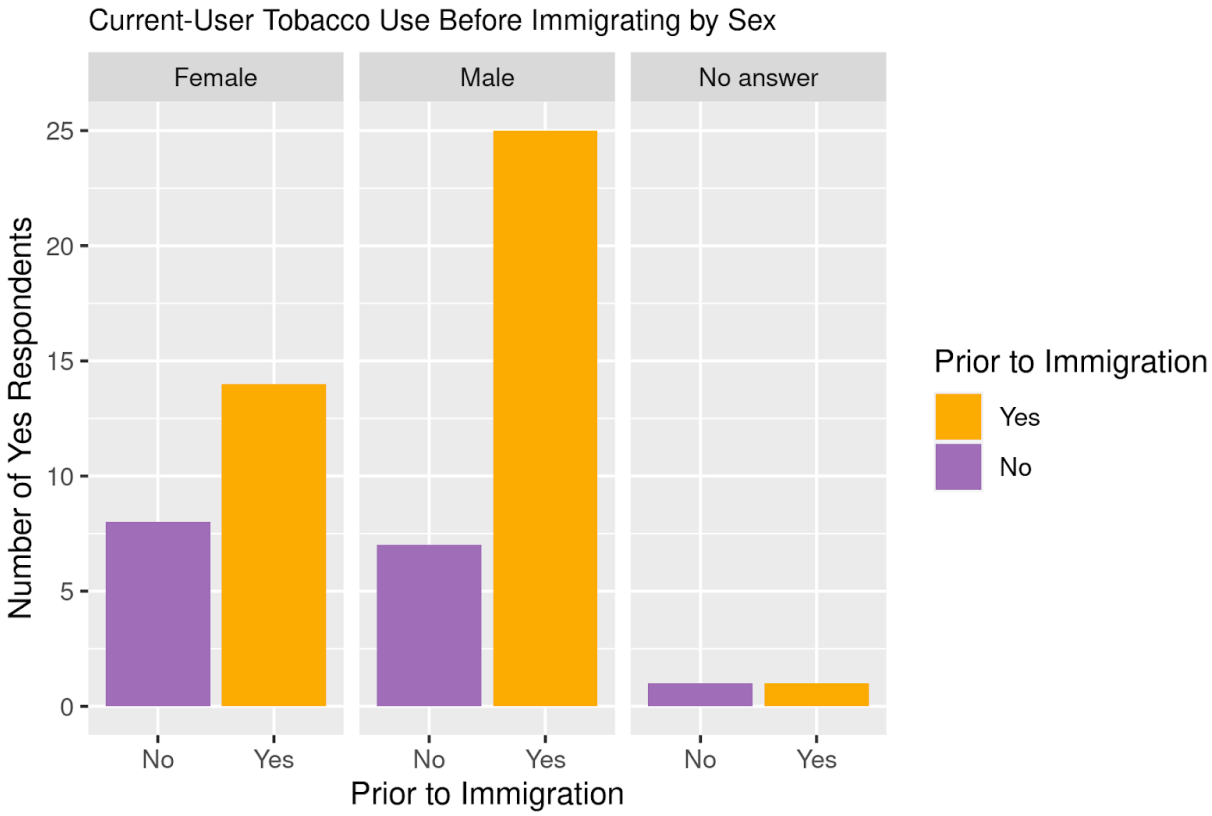


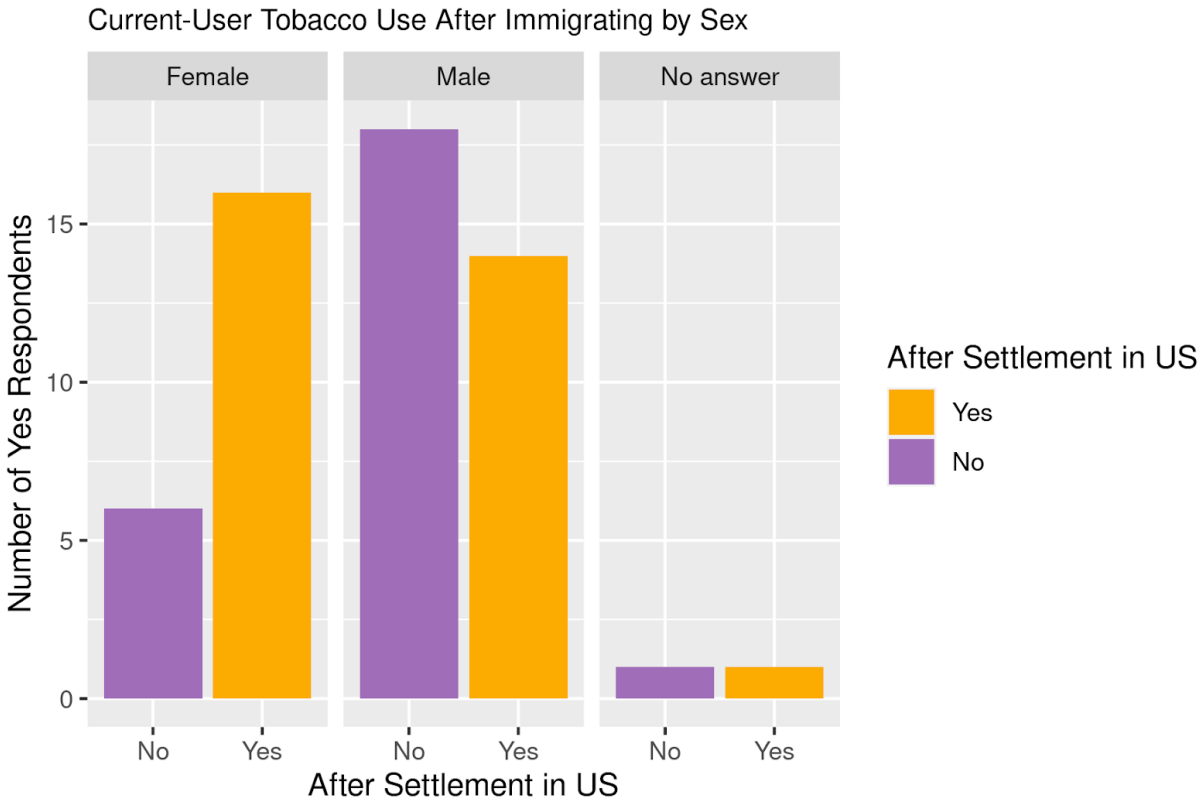
Figures 9 and 10

Similar to *Figure 3*. The above visualizations display current users of tobacco and whether or not they started using tobacco either before immigrating or after moving to the United States by age. To identify whether or not there was a significant change in respondent's usage of tobacco, a calculation for net change was completed. Specifically, this found: 7 users between 18-25, 4 users between 26-32, 2 users between 46-64, and 2 users 65+ did not use tobacco prior to coming to the United States but started using once they arrived. Based on the survey, it seems as if adults between 18-32 decided to start using tobacco after settling. Net change will also be used to explore patterns in tobacco usage to analyze possible trends by sex and religion in following graphs.



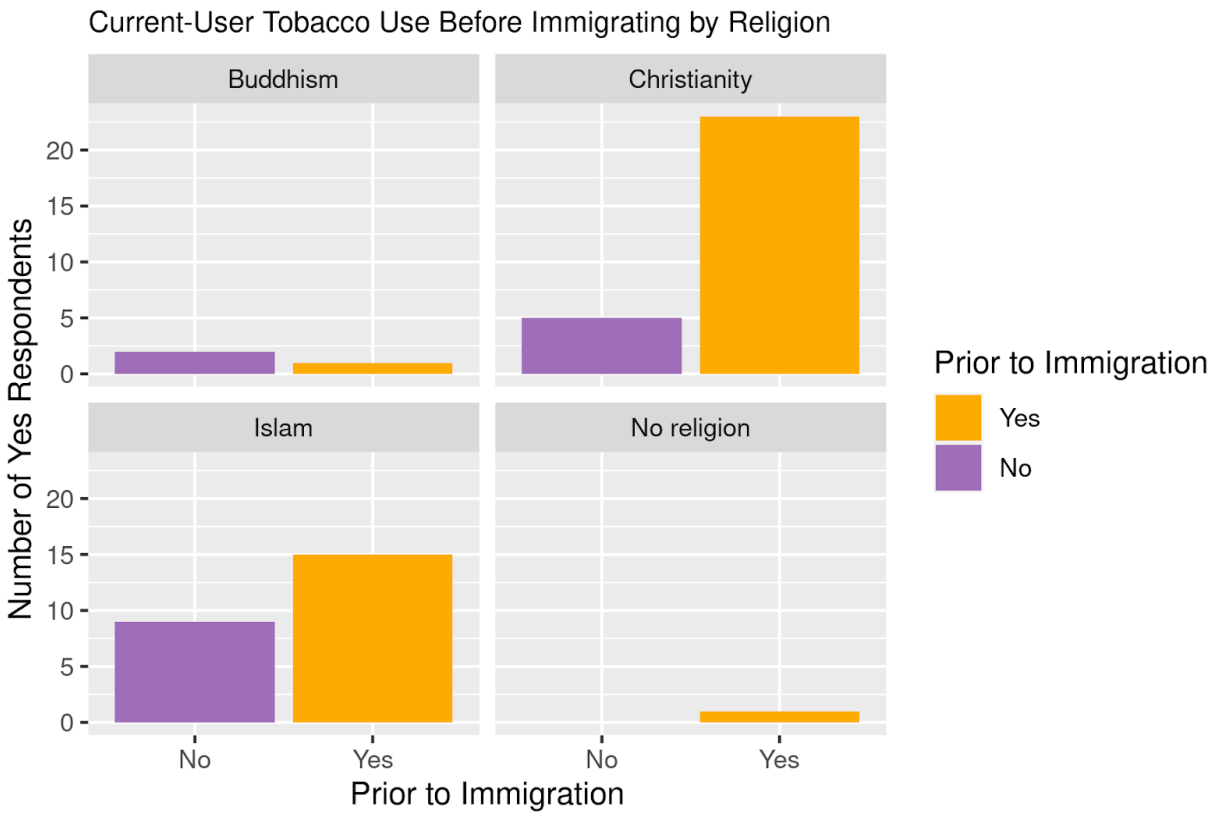


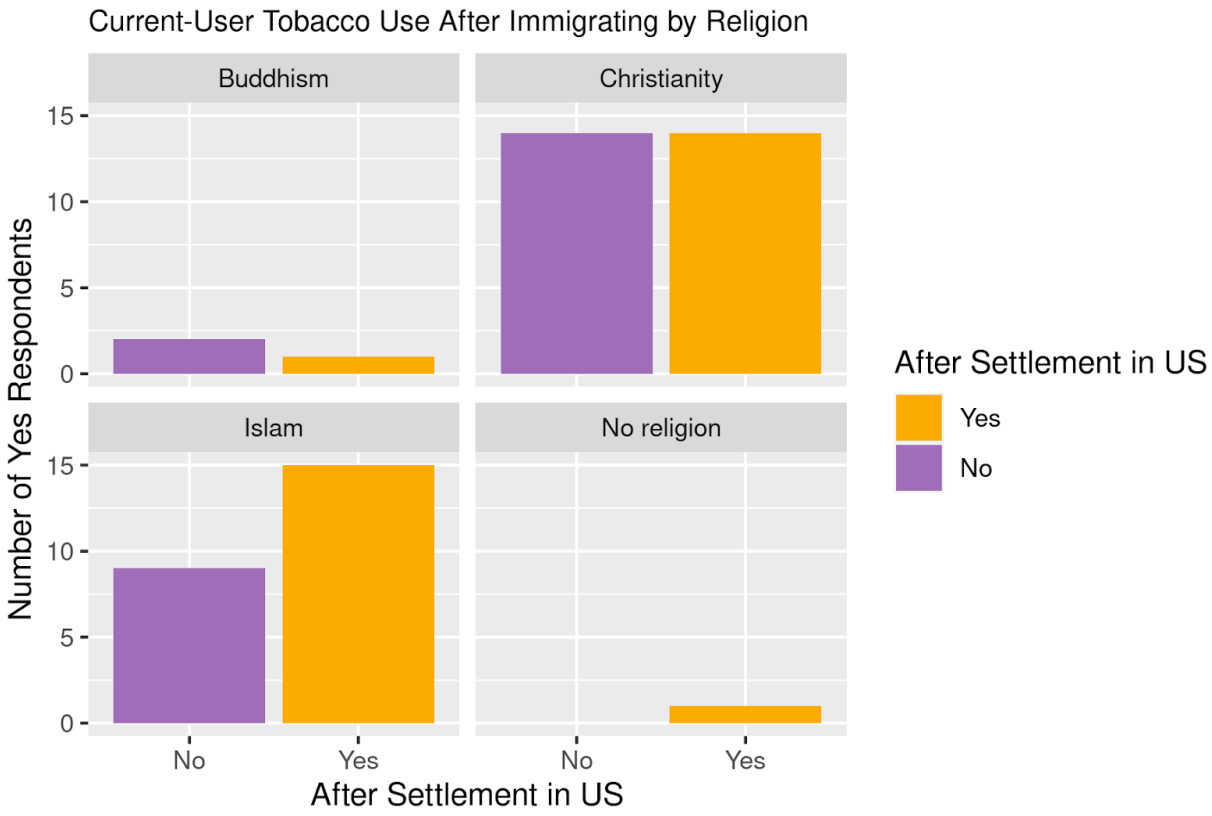

Current-User Tobacco Use Before Immigrating by Sex
Female
Male
No answer
Number of Yes Respondents
25
20
15
10
5
0
No
Yes
No
Yes
No
Yes
Prior to Immigration
Prior to Immigration
Yes
No



Figures 11 and 12

Similar to *Figure 2*. These visualizations display trends in tobacco users before and after immigrating to the United States by their sex assigned at birth. Calculations for net change indicate that 8 female-identifying respondents, 6 male-identifying respondents, and 1 respondent who did not choose to disclose their sex did not use tobacco prior to immigrating but started using tobacco once they moved to the United States. Again, though analyzed from a small pool of respondents, it is interesting to note that the number of female-identifying respondents who started using tobacco after settling is greater than than the number of male-identifying respondents given the gendered social and cultural implications of tobacco use.


Current-User Tobacco Use Before Immigrating by Religion
Buddhism
Christianity
Islam
No religion
Number of Yes Respondents
0
5
10
15
20
No
Yes
Prior to Immigration
Prior to Immigration
Yes
No



Figures 13 and 14

A continuation of *Figure 5* showing the breakdown of respondents who have indicated they currently use tobacco. These bar graphs will present a breakdown of users and their affiliated religions. Net calculations for respondents and their religion present that 9 respondents practicing Islam, 5 practicing Christianity, and 1 practicing Buddhism started using tobacco after settling.

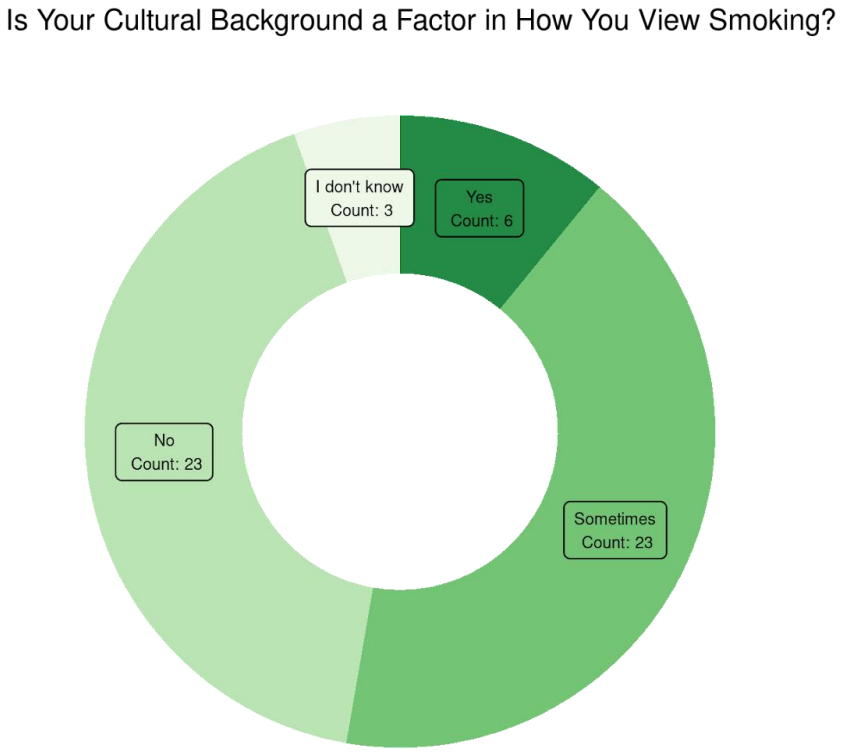


Figure 15

Donut chart displaying how tobacco users felt about their smoking in relation to their cultural background. A little over half of respondents (~53%) indicated that their cultural background had at least some influence on how they viewed smoking. Our team chose to show all respondent choices and not recode any of the answers in order to have community partners possibly investigate what could have possibly influenced community members to answer in such a fashion.

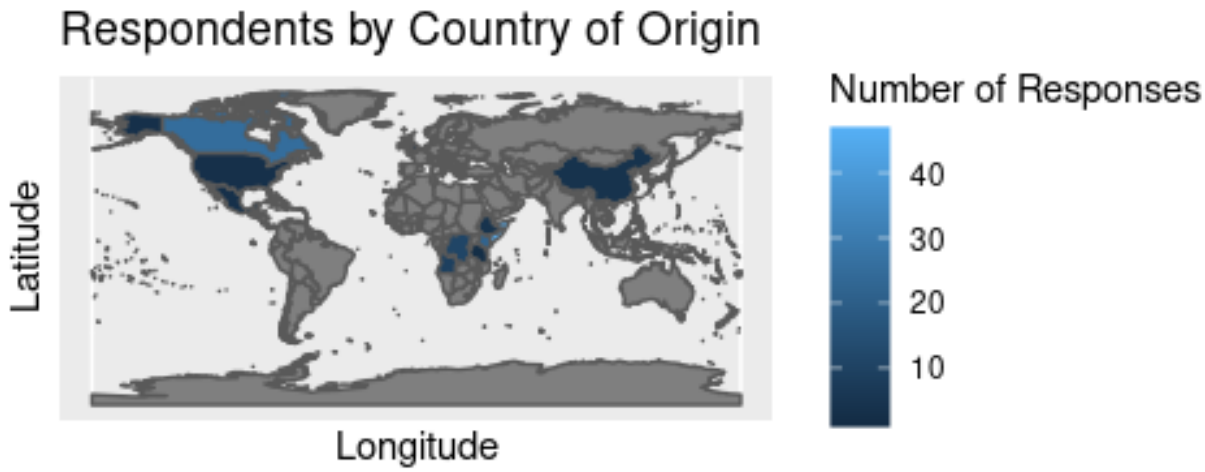


Figure 16

Static leaflet map showing the distribution of survey respondents based on their country of origin. As discussed with our community partners, AKHSS, their convenient access to respondents from Somali made it difficult to diversify the range of identities during the distribution of their survey. Given the small scope of the survey and limited range of responses, assessment on immigrant tobacco usage should be adjusted and considered accordingly.

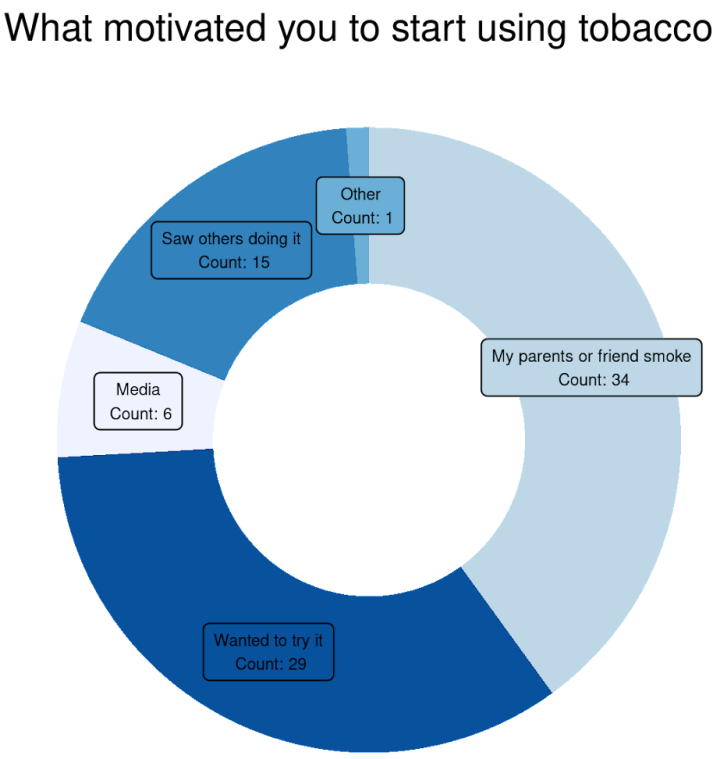


Figure 20

This question allowed respondents to check all that applied to their own situations. There were a total of 63 respondents who chose to answer the question. About 78% of the total respondents seemed to indicate seeing people in their surrounding environments (such as in their household) using tobacco motivated them to start using themselves. Media in the form of commercials, ads, video games, and billboards seemed to have less of an influence with only about 10% of total respondents claiming that had an influence on their choice to use tobacco. Lasty, the survey seems to show that about 46% of total respondents were curious to try tobacco and cited that as their motivator for trying tobacco in the first place.

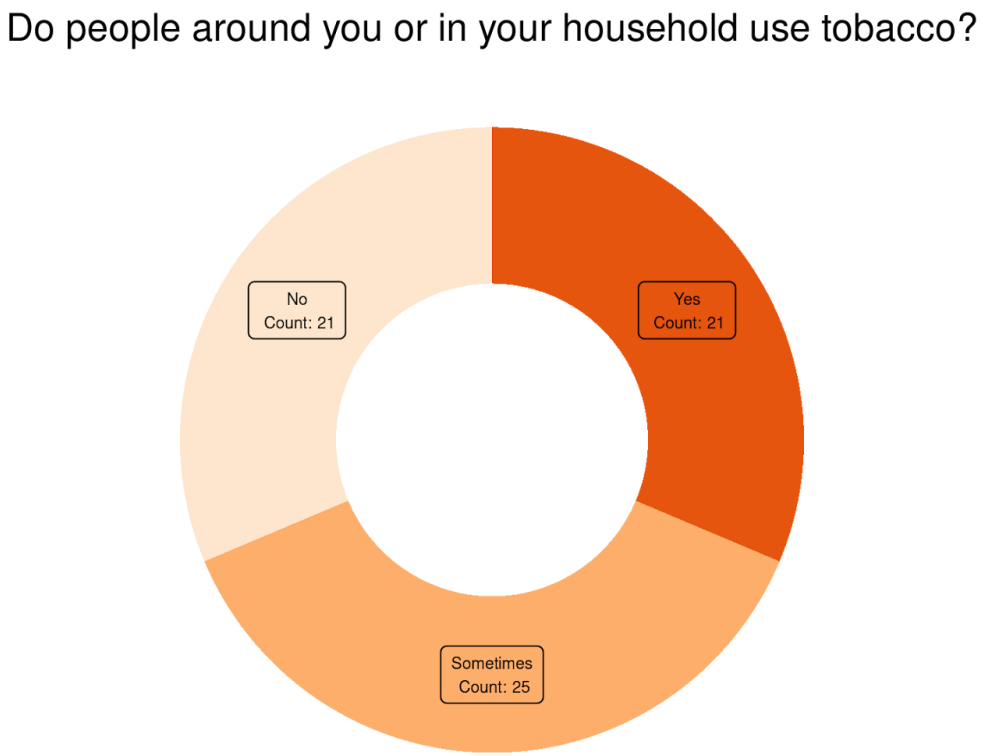


Figure 21

This figure addresses whether or not respondents are currently living with or around tobacco users. According to the visualization, about 69% of respondents (those that answered "Yes" and "Sometimes") are in environments with people that use tobacco. Based on *Figure 20* from above which showed that a large percentage of respondents cited their parents or friends using tobacco or seeing others use tobacco as a large influence on their decision to use tobacco, it might be interesting to observe patterns in familial or home settings and relationships.

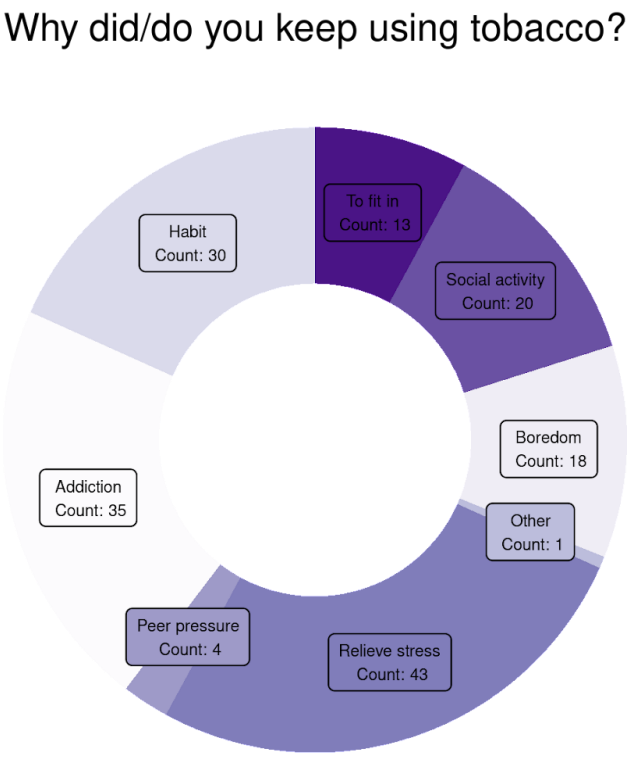


Figure 22

This graph was created as a follow up to *Figure 20* which showed the motivations for using tobacco. There were a total of 63 respondents who answered this question but they had the option of checking all the options that applied to their own situations. Options that respondents most often picked included to relieve stress (~68%), addiction (~56%), or habit (48%). Given those options were picked most among respondents, it would be interesting to find out specific stressors that would cause respondents to turn to tobacco. Moreover, with nearly half of respondents indicating that addiction or habit contribute to their continued usage of tobacco, it would be interesting to not only look at culturally-specific intervention methods but also implement resources for education that would allow these communities to understand the repercussions of using tobacco. Additionally, creating programs that support and possibly divert people from using tobacco might also be useful. As briefly mentioned in the technical report, rather than contribute to the negative stigma of tobacco usage, community organizations should instead look to reduce that stigma and work towards offering accessible solutions. Emphasizing the guilt and negative association of using tobacco will not convince respondents to change their outlook on tobacco and could possibly become an added stressor. A common theme across the US seems to be distrust between large corporations and small communities. Though this research is on a much smaller level, that same idea of fostering trust amongst communities of different identities remains key.

CODEBOOK

Original Tobacco Survey Dataframe

Description

This data frame contains all questions contained in the survey with no altered variables or answers. Our team used the complete survey to then narrow the scope of our research and establish what information was most necessary to present to our community partners.

Usage

Tobacco Assessment

Format

A data frame with 151 rows and 81 variables:

- Respondent ID: Unique identification associated with respondent
- Collector ID: Associated with surveyor distributing survey
- Start Date: Start time of data collection
- End Date: End time of data collection
- IP Address: Location survey was distributed
- Email Address: N/A for confidentiality purposes
- First Name: N/A for confidentiality purposes
- Last Name: N/A for confidentiality purposes
- What is your gender?: Male, Female, or NA
- How old are you?: Distribution of age (Below 18, 18-25, 26-32, 33-45, 46-64, 65+)
- What is your race?: Choice of White or Caucasian; Black or African American; Hispanic or Latino; Asian or Asian American; American Indian or Alaska Native; Native Hawaiian or other Pacific Islander; or Another race
- What country were you born in?: Free text response
- What language do you mainly speak at home?: Language spoken in the household
- Do you identify with any of the following religions? (Please select all that apply.): Choices include Protestantism, Catholicism, Christianity, Judaism, Islam, Buddhism, Hinduism, Native American, Inter/Non-denominational, No religion, or Other (please specify)

- Do you use tobacco? Determine if the respondent will proceed through the rest of the survey. Choices include Yes, Sometimes, No (skip to the end of the survey), Previously, or I don't know

- Which of the following tobacco products do you or have you previously used? (Please select all that apply.): Respondents indicate what tobacco products they have or are

currently using. Choices include Cigarettes, Cigars, Dipping or chewing tobacco, Electronic cigarettes, Pipes/hookah/shisha, Kreteks, Bidis, or Other (please specify)

- What motivated you to start using tobacco? (Check all that apply)?: Respondents' motivation to start using tobacco. Choices include My parents or friend, Wanted to try it, Media (TV Commercials, Ads online, Video Games, Billboards), Saw others doing it in the neighborhood, or Other (please specify)

- Do people around you or in your household use tobacco?: Respondents indicate if they are in a shared living space with tobacco users

- Did/Does your tobacco usage affect your relationship with your religion?: Tobacco users indicate whether or not tobacco use and relationship with religion are related. Choices include Yes, Sometimes, No, or I don't know
    - If answered yes, how did/does your tobacco usage affect your relationship with your religion?: Respondents answering "yes" have the option to enter a free text response indicating how tobacco usage influences their relationship with religion
- Did/Does your tobacco usage affect your marriage potential?: Tobacco users indicate whether or not tobacco use affects their potential to get married. Choices include Yes, Sometimes, No, I don't know, or Other (please specify)
    - If answered yes, how did/does your tobacco usage affect your marriage potential?: Respondents answering "yes" have the option to enter a free text response indicating how tobacco usage influences their marriage potential
- How much are/did you spend on tobacco on a monthly basis?: Estimate of monthly expenses on tobacco. Options include $0-30, $31-60, $61-90, $91+

- Why did/do you keep using tobacco (Check all that apply)?: Reason respondents continue using tobacco. Choices include: Boredom, To fit in with my friends, Social activity, Relieve stress, Addiction to tobacco, Habit, Peer pressure, or Other (please specify)
- Did you use tobacco before you came to the U.S.?: Respondents indicate if they've used tobacco prior to immigrating. Choices include Yes, Sometimes, or No

- Did you start using tobacco when you settled in the U.S.?: Respondents indicate if they started using tobacco once they arrived in the U.S. Choices include Yes, Sometimes, No, or Other (please specify)

- Has mass media (TV Commercials, Ads online, Video Games, and Billboards) influenced your tobacco usage?: Media's role in tobacco users' choice to use tobacco. Choices include Yes, Sometimes, No, or Other (please specify)

- Have you changed your opinion on tobacco use since arriving in the U.S.?: Respondents decide whether or not coming to the U.S. has influenced their opinion on tobacco usage. Choices include Yes, Sometimes, No, I don't know, or Other (please specify)
- What is the difference in your opinion or beliefs on tobacco usage now that you are in the U.S.?: Free text response where respondents indicate how their outlook may or may not have shifted after immigrating
- Is your cultural background a factor in how you feel about smoking?: Cultural implications of using tobacco. Choices include Yes, Sometimes, No, I don't know, or Other (please specify)
- How does your country of origin feel about tobacco use?: Free text response where respondents indicate their previous answer to "What country were you born in?" is related to tobacco usage
- Do you have access to culturally appropriate tobacco programs (cessation, support groups, or informational sessions)?: Respondents indicate if they have cultural support resources for tobacco usage. Choices include Yes, No, I don't know, or Other (please specify)
- In your household or around you, do people around you smoke?: Identify possible social factors contributing to tobacco usage by observing if people in the surrounding environment use tobacco
    - If answered yes to question 23, What is your exposure to smoking (daily, weekly, occasionally): Free text response indicating smoking exposure
- What kept you from starting to use tobacco (Check all that apply)?: Choices include Lack of money, No free time, To stay healthy, The smell, You've been told it's bad for you, Religious beliefs, or Other (please specify)
- How has mass media affected the idea or the use of tobacco?: Free text response where respondents have the option to share their experience with media portrayals of tobacco
- Have you changed your opinion toward tobacco use since arriving in the U.S.?: Choices include Yes, Sometimes, No, I don't know, or Other (please specify)

Subset of Original Tobacco Survey Dataframe

Description

Subset of the original dataset named Tobacco_Assessment. This data frame contains the necessary information extracted from the original dataset in order to create our team's visualizations and analysis.

Usage

tobacco sub

Format

A data frame with 151 rows and 9 variables:

- Respondent ID: Unique identification associated with respondent
- Biological Sex: Male, Female, or NA
- Age: Below 18, 18-25, 26-32, 33-45, 46-64, 65+
- Country of Origin: Free text response
- Tobacco User: Respondents indicate whether or not they are currently using tobacco products
- Religion: Respondents indicate whether they are currently practicing any religions
- Relationship with Religion: Tobacco users indicate whether or not their relationship with religion is impacted by using tobacco
- Prior to Immigration: Status of tobacco usage prior to coming to the States
- Settlement in the U.S.: Status of tobacco usage after settling in the U.S.