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Final Project

Introduction

In this project, we wanted to focus on LGBTQ+ sample within the **Household Pulse Data**, from the Census Bureau, Phase 4 Cycle 2. We specifically wanted to relate our focus to psychological distress (e.g. depression, anxiety), as well as mental health necessity and aid received for LGBTQ+ adoptive parents children (MHLTH_NEED, MHLTH_GET). Overall, to examine whether experienced stigma which is strongly correlated towards negative mental health outcomes for LGBTQ+ individuals as supported by literature, would also impact mental health aid and need outcomes for children in these families. In order to get the best results, we interacted with these variables with income, gender, education, race, state, health insurance, food insecurity, mental health satisfaction, and more. We expected LGBTQ+ parents would be more open towards mental health aid and access for children and more prone towards psychological illnesses than straight or heterosexual individuals, according to past research and studies. Our results show that in mental health need, the LGBTQ group was far more inclined in all children needing mental health treatment, while for mental health the LGBTQ group was more inclined in no children getting mental health treatment, even over the heterosexual group. With anxiety and depression, the LGBTQ+ had higher rates of both psychological conditions when compared to the heterosexual group. The questions we set out to answer or find clarity on were how does sexual orientation of parents go on to affect mental health aid a child needs or receives? How does sexual orientation impact the likelihood of developing depression, anxiety, etc? Does sexual orientation AND psychological disorders determine rates of mental health aid and need? Over the years, there has been a lack of focus and inclusivity of LGBTQ+ groups but specifically parents. With so many social changes happening and signs of stigma taking place in

constitutional settings, there should be a focus towards how LGBTQ+ parents are adapting to these sentiments, and in turn the effects this may leave for their children.

Literature Review:

The LGBTQ+ community has rightfully gained more visibility, even if same-sex marriage was legalized not as long ago as one would expect. Yet, there is still a perpetual amount of internalized and outer stigma that impacts this group today. Experiences of homophobia can lead to drastic physical and mental health effects, not only for sole individuals in this community, but in same-sex families and their children. The main confounding factor that impacts mental health rates for LGBTQ+ families and individuals in psychological conditions such as anxiety or depression, as well as mental health stigma was heteronormativity (excess of only heterosexual family stereotypes; no inclusion), gender stereotypes, and experienced homophobia. One study examining stigma experiences and mental health among lesbian, gay, and heterosexual adoptive parents in two waves found that lesbian and gay parents who described experiencing homophobic microaggressions had significant associations with children's perceptions of lower parent-child relationship quality. Through a one-way ANOVA lesbian and gay parents were not found to experience greater mental health symptoms, perceived parenting competence, and adoption stigma despite experiencing homophobic microaggressions, and described themselves particularly competent in their parenting roles despite social stigma. Five independent sample t-tests were also conducted to assess the effects of “lesbian versus heterosexual” and “gay versus heterosexual” on relationship quality between parent and children; no significant differences were found among any of the three groups (lesbian, gay, heterosexual). A Tukey post-hoc analysis found that the only group in the study that was found to report significantly low parenting competence were heterosexual fathers compared to gay fathers, heterosexual mothers, and lesbian mothers. Lack of doubt among parenting competence in LGBGTQ+ adoptive families aligns with the family resilience theory in the study which describes how families experience crisis and how some families adapt better than others through the stress, for LGBTQ+ families this may be social or interpersonal stigma. The effects of these stressors may be buffered by how well these families respond to adverse experiences. (Farr & Vazquez, 2020) Another qualitative study focusing among parent perspectives of child health in same-sex families and

how child health is constructed in these families found that same-sex parents did not only see their child's health as physical and mental, but also as a myriad of understandings and perceptions with gender stereotypes, adoption stigma in seeing how a parent does not have to be biologically related to a child in order to raise them and more. When it ties into discrimination that parents in same-sex relationships deal with socially for example, being fired from their jobs which can result in termination of jobs at times it goes on to directly impact child health and well-being. At times, this can extend to institutions such as healthcare services, education, and legal services. It was found that same-sex attracted parents reported negative experiences with healthcare services, especially in contexts of IVF treatment, counseling services, and more. Overall, entrenched heteronormativity in some institutions can connect to tied experiences with discrimination for LGBTQ+ families. Overall, entrenched heteronormativity in some institutions can connect to tied experiences with discrimination for LGBTQ+ families. This study shows that these same-sex parents have had to battle with heteronormativity throughout their lives, on one hand feeling normal in their parenting dynamics and lives, while on the other hand acknowledging the differences when compared to the general expectation of how families are seen ("the nuclear family"). Striving to be normal but constrained by the rules of public institutions is a part of daily life, and due to this parents seek to remedy the negative impacts and build resilience for their children. Resiliency strategies that parents use (positive self-view, understanding diversity, and communication, multiple parental supports, positive role models, educating the community and institutions, and seeking accepting environments) capture the way many same-sex parents organize their parenting styles that directly influence child health and wellbeing. Lack of recognition of same-sex parented families does more damage than good, this can result in children from these families feeling ostracized and perceive discrimination going on to negatively impact their health. Stigma derived from a society that paints diverse sexual orientations negatively is an overall key factor that leads to negative health outcomes for children. (Crouch, McNair & Waters, 2017) These two research articles mainly examined LGBTQ families and children's health outcomes, finding that there is resiliency building among these families to combat the negative experiences of stigma in social institutions and lack of inclusion for their children and their lives at home. This outcome was more or less expected in terms of significance one would find in the LGBTQ+ community and with variables such as

mental health need and get, especially in accordance with more openness of mental health and lack of stigma due to the social hardships people in this community may face.

To shift focus on mental health outcomes exclusively among LGBTQ+ community and the various stressors they may deal with on a daily basis rather than on children in adoptive LGBTQ+ families. One research study focusing upon stressors for LGBTQ+ young adults expands on the idea that despite high representation, LGBTQ+ individuals are at increased risk of experiencing mental health inequities such as depression, anxiety, and so on. This can be due to various stressors LGBGTQ+ young adults may experience such as concealment, family heterosexist experiences, family rejection, internalized homophobia and so on. This study seeked to form empirically based risk profiles of LGBTQ+ young adults based on experiences with stressors as mentioned before and identify associations with psychological distress symptoms. The study had a sample of 482 LGBTQ+ young adults in college through a cross-sectional online survey. Using a three-step latent class analysis to identify unique categories of response patterns to the LGBTQ+ related minority stress subscale items. Also using a multinomial logistic regression to derive associations between stress categories and psychological distress. The results included five distinct classes from the LCA; low minority stress, identity concealment, family rejection, moderate minority stress, and high minority stress. Participants who classified within high and moderate minority stress were more likely to suffer from moderate to severe psychological distress compared to low minority distress. This also applied for participants who classified in identity concealment (Shrader et al., 2024). Gender can also have various effects towards mental health outcomes, even further with sexual orientation or as Boysen (2019) defines it as mate selection. Evolutionary psychology has delved into exploring how mate selection is influenced by mental disorders and other factors. This summary sheds light on findings regarding mental health issues, gender differences and factors, such as financial stability with a focus on the statistical methodologies employed to understand these impacts. The study suggests that having a mental illness significantly diminishes one's appeal as a mate, particularly in long-term relationships. For instance, a two-way ANOVA analysis revealed the impacts of mental health status on mate evaluation scores ($F(2, 235) = 35.74$, $p < .001$ $\eta^2 = .23$) indicating that individuals with psychiatric conditions receive lower ratings. The evaluation of mates with mental illness differs between men and women. A significant impact of gender ($F(1, 235) =$

6.42, p =.012, η^2 =.03) showed that men often gave higher ratings compared to women. Women tended to rate mates with disorder negatively (p <.05 in t tests) especially if they displayed signs of promiscuity. Additionally, factors such as financial stability have been found to have an influence on mate selection choices, especially in the context where mental illness was prevalent. A test using a 2x3x2 mixed ANOVA (F (2, 235) = 46.33, p <.001, η^2 = .28) revealed connections, among financial stability, gender and mental health conditions. It showed that having financial stability, especially for women considering long-term relationships, lessened the negative effects of obsessive-compulsive disorder on evaluations. Significant discoveries include the influence of financial resources, gendered differences in judgments, and reduced desirability of mates with mental illness. These observations highlight the significance of strong statistical methods in understanding the dynamics of mate selection (Boysen, 2019). With mental health specifically anxiety and depression, through this we are expecting much higher rates of depression and anxiety among the LGBTQ+ sample compared to individuals who identify as heterosexual.

Simple Statistics of Mental Health Need & Get, Anxiety and Depression with Sexual Orientation

Simple statistics of **Sexual Orientation** with **Mental Health Need & Get**, with the subsequent restriction of only focusing on LGBTQ+ parents and making a subset solely focusing on this sample. We re-coded the MHLTH_NEED and GET factors from a scale of one to three, **(1 = all children need or get mental health treatment, 2 = some but not all, 3 = no, none of the children)**. Between both tables, there is a clear overpower of straight observations rather than LGBTQ, this is a flaw seen throughout the data set and goes on to show how more research should be centered and attempt equal representation in terms of queer identity. The average of thoughts towards mental health needs among LGBTQ groups is close to two (2 = some but not all) meaning there's a gray standing and could depend on context. This is further shown with the median of mental health-need scores being "2.00" across all groups. Meanwhile, for mental health-get, there's an inclination toward a score of one (1 = all children get the mental health treatment they need). It is also important to point out that many less observations are recorded for mental health-get compared to mental health-need.

MENTAL HEALTH NEED

Sexual Orientation and Mental Health Need

Sexual Orientation	Mean	SD	n_obs	Median	Max.	Min.
Gay or Lesbian	1.67	0.47	66	2.00	2.00	1.00
Straight	1.82	0.38	5287	2.00	2.00	1.00
Bisexual	1.78	0.42	250	2.00	2.00	1.00
Something Else	1.65	0.49	98	2.00	2.00	1.00
Don't Know	1.88	0.32	60	2.00	2.00	1.00

MENTAL HEALTH GET

Sexual Orientation and Mental Health Get

Sexual Orientation	Mean	SD	n_obs	Median	Max.	Min.
Gay or Lesbian	1.23	0.43	22	1.00	2.00	1.00
Straight	1.11	0.31	917	1.00	2.00	1.00
Bisexual	1.09	0.29	55	1.00	2.00	1.00
Something Else	1.29	0.46	34	1.00	2.00	1.00
Don't Know	1.57	0.53	7	2.00	2.00	1.00

Simple statistics of **Sexual Orientation** with **Depression and Anxiety**, with the subsequent restriction of focusing on LGBTQ+ community. With these two variables, we see a larger amount of LGBTQ representation, and once again the sample mainly consists of individuals who identify as straight. We re-coded **DOWN** (depression) and **ANXIOUS** (anxiety), from a scale of zero to three (**0 = no anx. or dep. over past 2 wks, 1 = several anx. or dep. over past 2 wks, 2 = more than half days anx. or dep. over the past 2 wks, 3 = nearly every day**). The straight group had lower means compared to all other groups, with bisexual and people who identify as something else having the highest means close to the score of one (several anxiety or depression over past 2 wks). This can relate back to how the LGBTQ+ community face constant homophobia or stigma that can lead to higher risk of psychological disorders according to the literature. We did expect for gay or lesbian to have the highest scoring means among the group.

DEPRESSION

Sexual Orientation and Depression

Sexual Orientation	Mean	SD	n_obs	Median	Max.	Min.
Gay or Lesbian	0.59	0.84	655	0.00	3.00	0.00
Straight	0.41	0.74	17400	0.00	3.00	0.00
Bisexual	0.97	0.95	813	1.00	3.00	0.00
Something Else	1.03	1.01	358	1.00	3.00	0.00
Don't Know	0.68	0.93	206	0.00	3.00	0.00

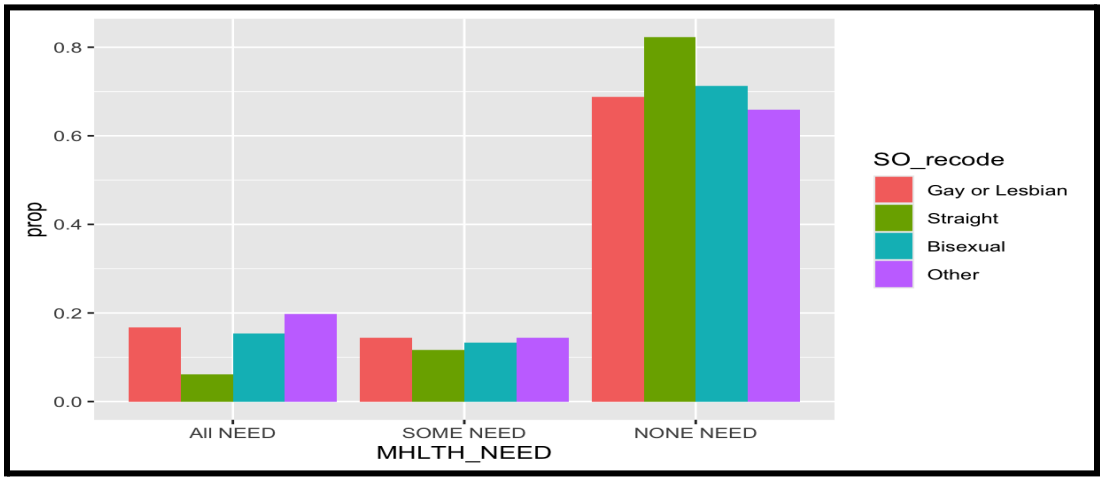
ANXIETY

Sexual Orientation and Anxiety

Sexual Orientation	Mean	SD	n_obs	Median	Max.	Min.
Gay or Lesbian	0.84	0.92	655	1.00	3.00	0.00
Straight	0.58	0.84	17426	0.00	3.00	0.00
Bisexual	1.30	1.00	814	1.00	3.00	0.00
Something Else	1.31	1.09	358	1.00	3.00	0.00
Don't Know	0.95	1.03	207	1.00	3.00	0.00

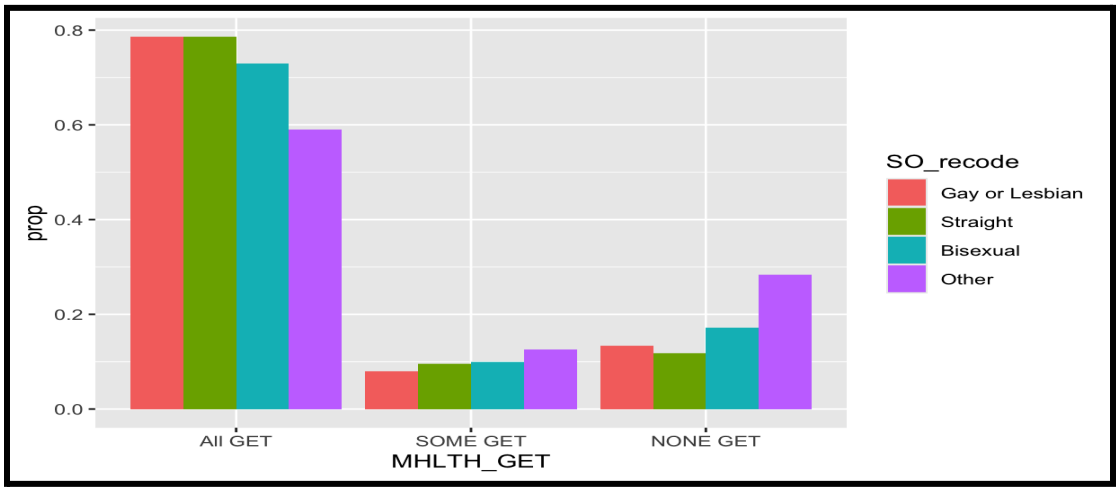
Mental Health-Need and Sexual Orientation Need Graph

The LGBTQ group (mainly gay or lesbian and bisexual) had higher proportions of voting for either “all need” or “some need” in comparison to the Straight group. The Straight group was the highest in voting that none of the children need mental health treatment. This corresponds towards the resiliency strategies LGBTQ families must use such as mental health treatment to combat social stigma.



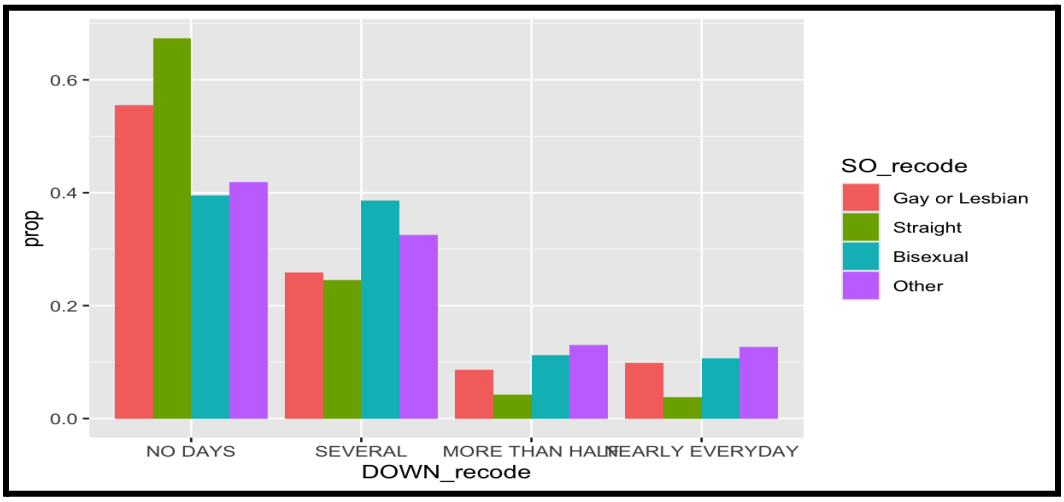
Mental Health-Get and Sexual Orientation Graph

For the “all get” category, gay or lesbian and straight had extremely close propositions, as the mhlth_get categories go on, we see a decrease in gay or lesbian who are lower than the straight group in the “some get” category. Instead, the “other” group show an increase in proposition, with bisexual coming in as second.



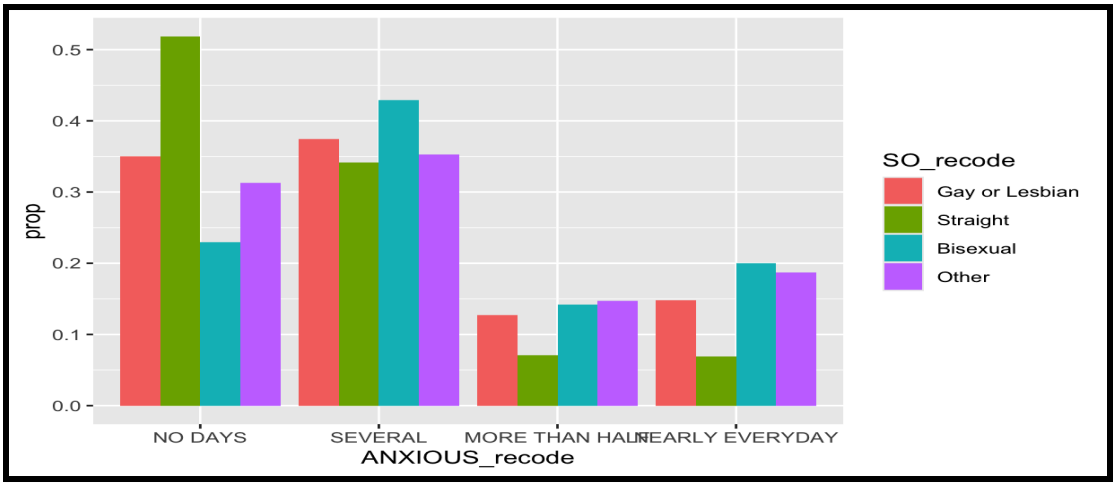
Depression and Sexual Orientation Graph

The straight group shows higher propositions in not feeling depressed on any days, while bisexual show highest propositions on several days of feeling depressed, and people who identify as something else (“other”) having the highest propositions of more than half and nearly every day of feeling depressed. Referencing past literature in higher risk of developing and suffering through psychological distress or illnesses due to the social stigma that comes in identifying as queer.



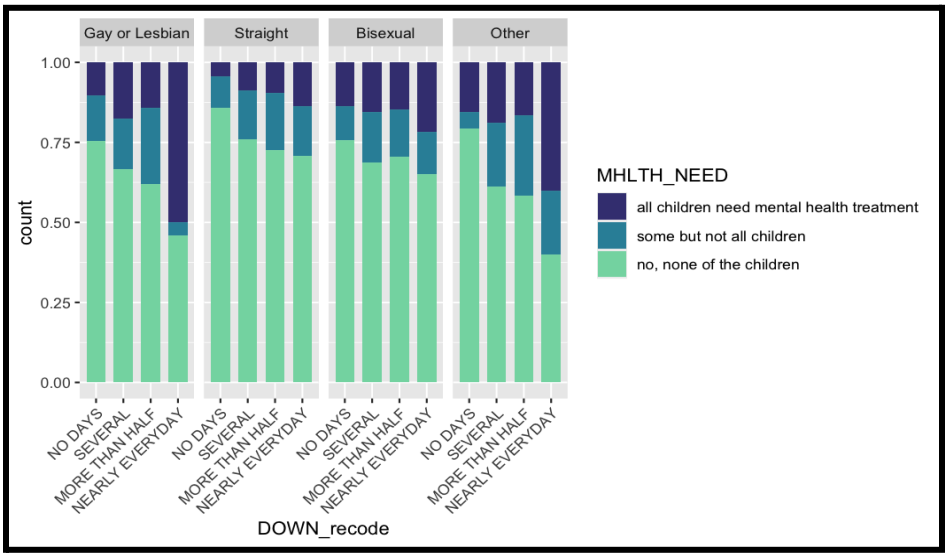
Anxiety and Sexual Orientation Graph

Once again, the straight group shows the highest proposition of not feeling anxious , while bisexual show a high proposition for several days feeling anxious and nearly every day anxiousness. People identifying as something else (‘other’) being the highest in more than half the days of the past 2 weeks feeling anxious.



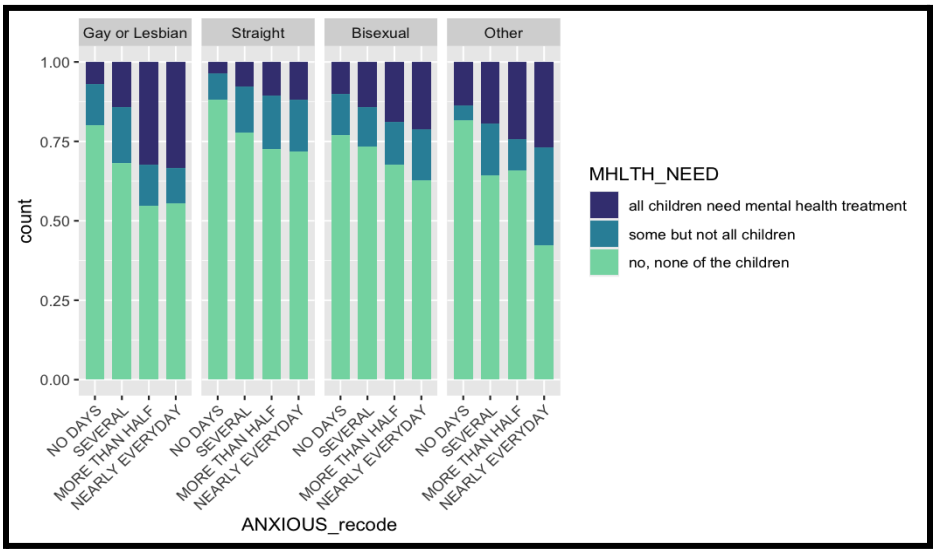
Mental Health Aid Need Intersected with Depression

Based on the frequency of depressed symptoms in the previous two weeks, the figure shows how respondents with varying sexual orientations distribute the need for mental health therapy for their children.



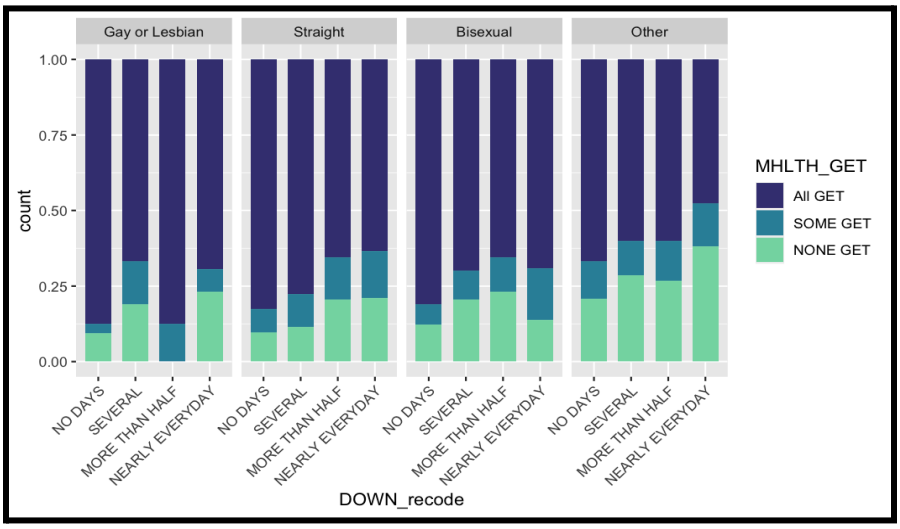
Mental Health Aid Need Intersected with Anxiety

According to the frequency of anxiety symptoms experienced during the previous two weeks, the chart illustrates the distribution of respondents' demands for mental health therapy for children across various sexual orientations.



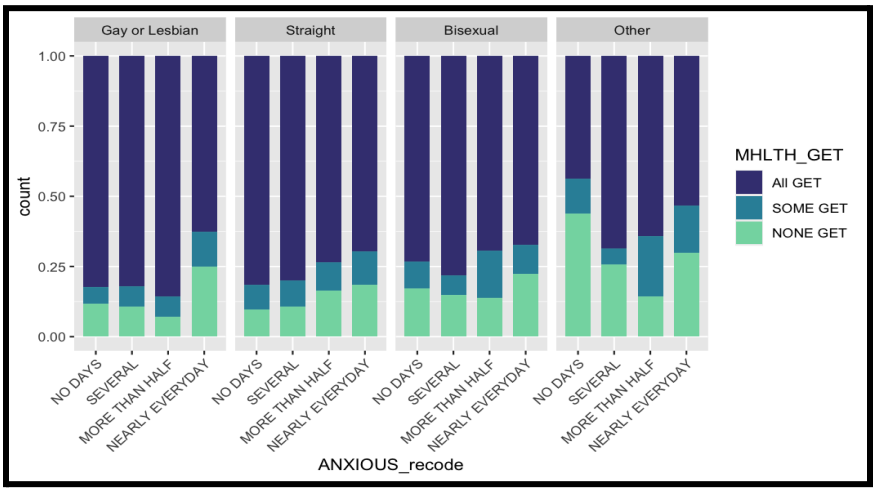
Mental Health Aid Get Intersected with Depression

The distribution of children's access to mental health care is shown in the chart, which is divided into categories based on respondents' sexual orientation and the frequency with which they reported experiencing depressed symptoms over the previous two weeks. It demonstrates that the percentage of children getting all, some, or no mental health care differs according to respondents' sexual orientation and the severity of their depression symptoms.



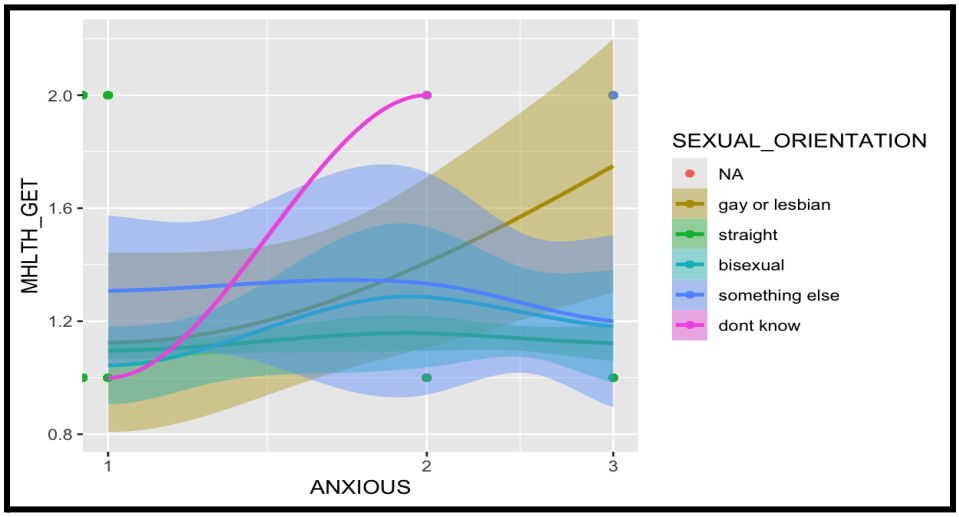
Mental Health Aid Get Intersected with Anxiety

The distribution of respondents' sexual orientation and the frequency of their anxiety symptoms over the previous two weeks are used to characterize the access to mental health treatment for children in the chart. It demonstrates how respondents' sexual orientation and the severity of their anxiety symptoms affect the percentage of children receiving all, some, or no mental health therapy.



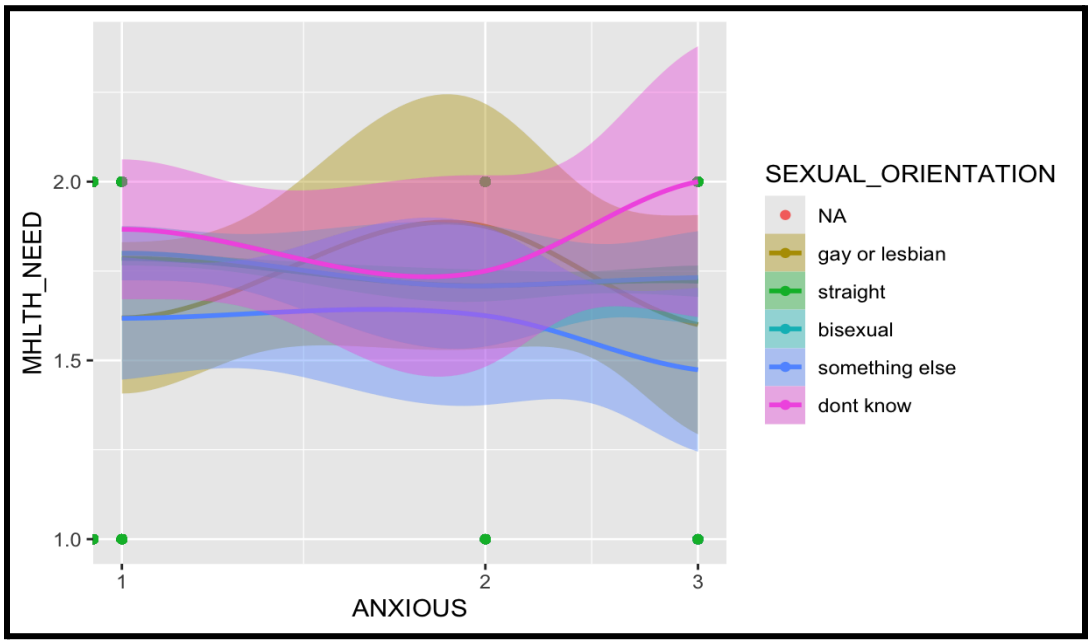
Line Graph - MH Get and Anxiety

When mental health-get is interacted with anxiety, people in the categories of ‘dont know’ and ‘gay or lesbian’ show a clear trajectory of more anxiousness and level two of no children get mental treatment. While all other groups show more of a negative trajectory. We decided to include the dont know group because they have a clear significant proportion compared to the other groups.



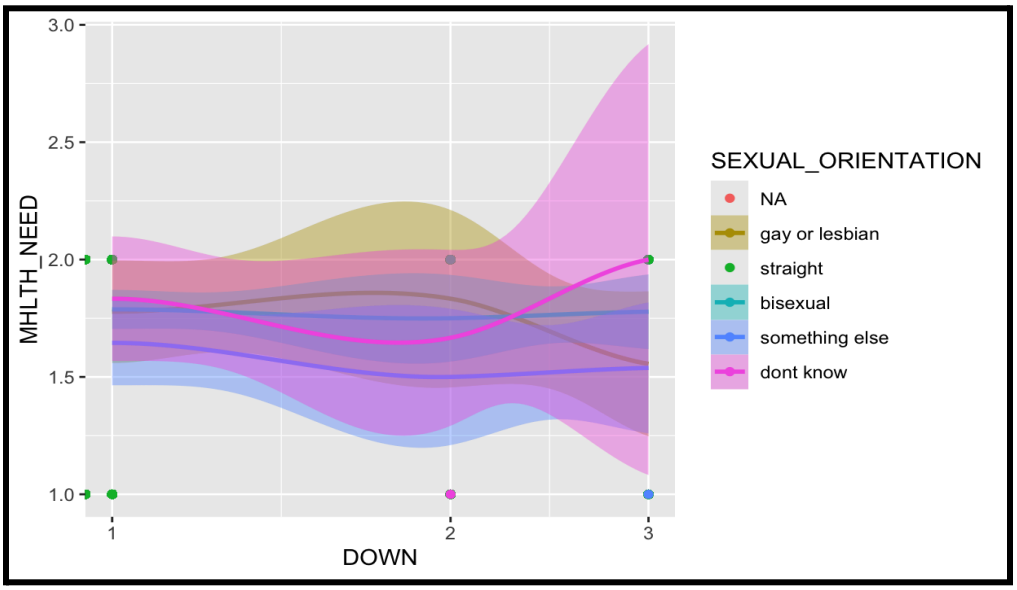
Line Graph - MH Need and Anxiety

When mental health-need is interacted with anxiety, again individuals in the category of ‘don’t know’ show higher trajectories of high levels of anxiousness and mental health need.



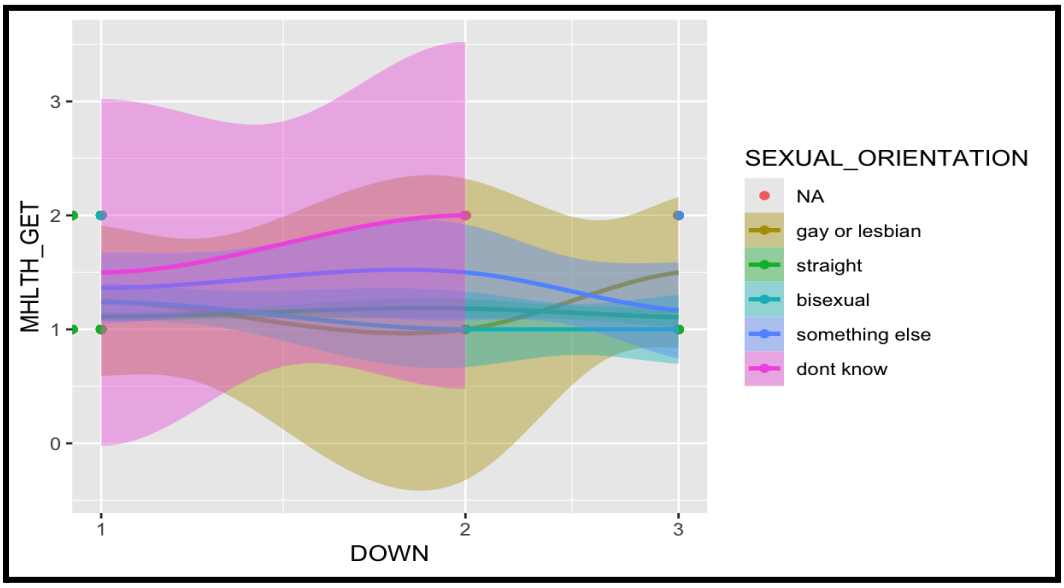
Line Graph MH Need and Depression

The ‘dont know’ group again shows an incline between depression and mental health need. While ‘gay or lesbian’ shows a slight decline.



Line Graph and MH Get and Depression

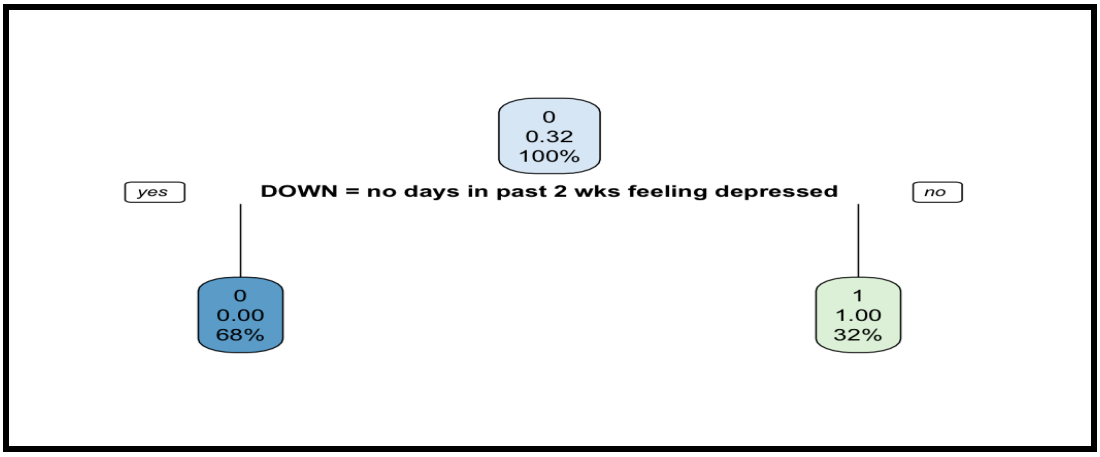
The ‘dont know’ group shows a higher proportion between mental health get and depression, even as it is cut off at the depression level of two. While one can see the ‘gay or lesbian’ group shows a slight incline after level two of the DOWN variable.



Tree Models: Depression

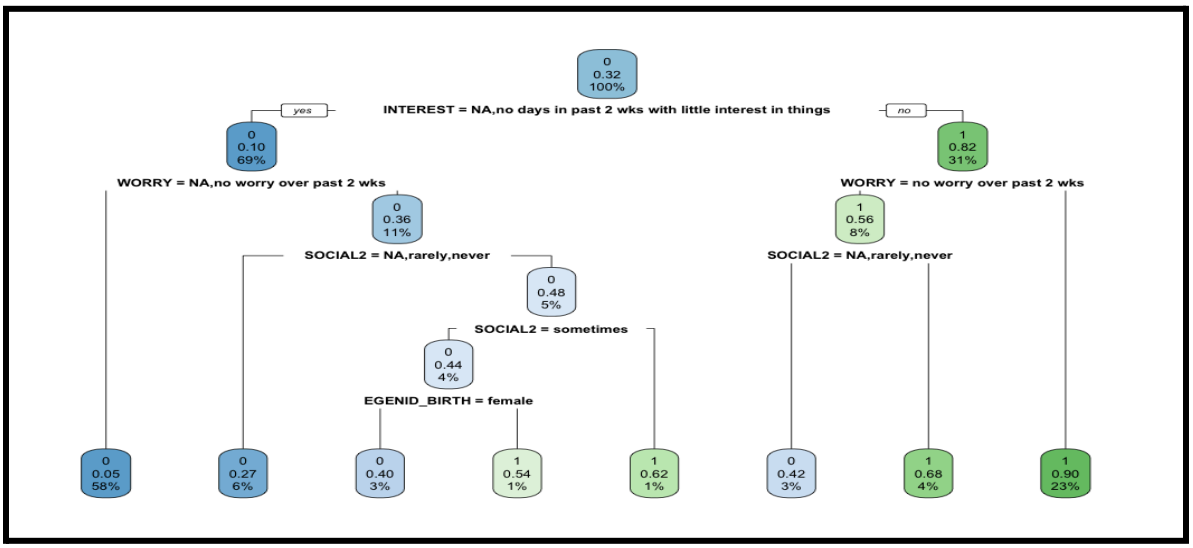
Tree Model #1:

Based on the presence of depressed symptoms, this model divides the data with a 68% likelihood of no depression and a 32% probability of depression.



Tree Model #2:

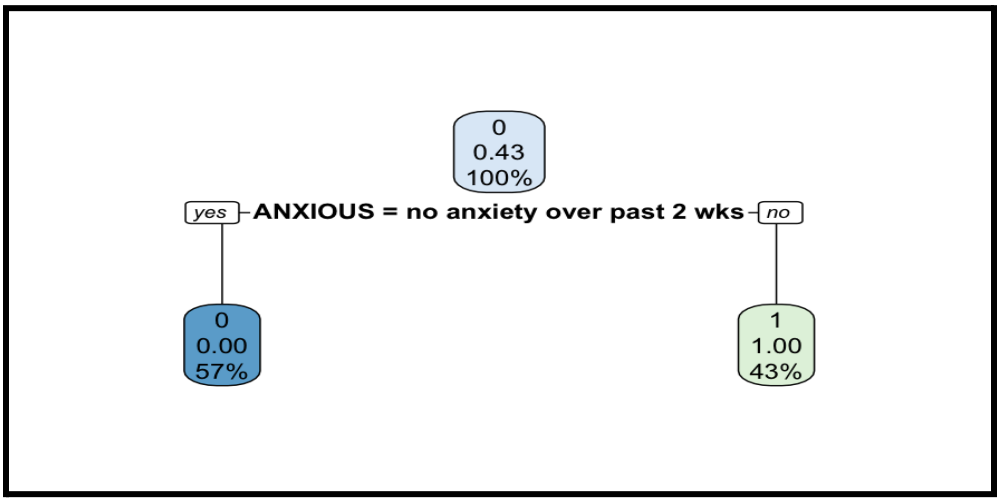
This tree model illustrates the way in which a number of variables, including gender, interest in extracurricular activities, worry frequency, and social interactions, predict the chance of developing depressive symptoms.



Tree Models: Anxiety

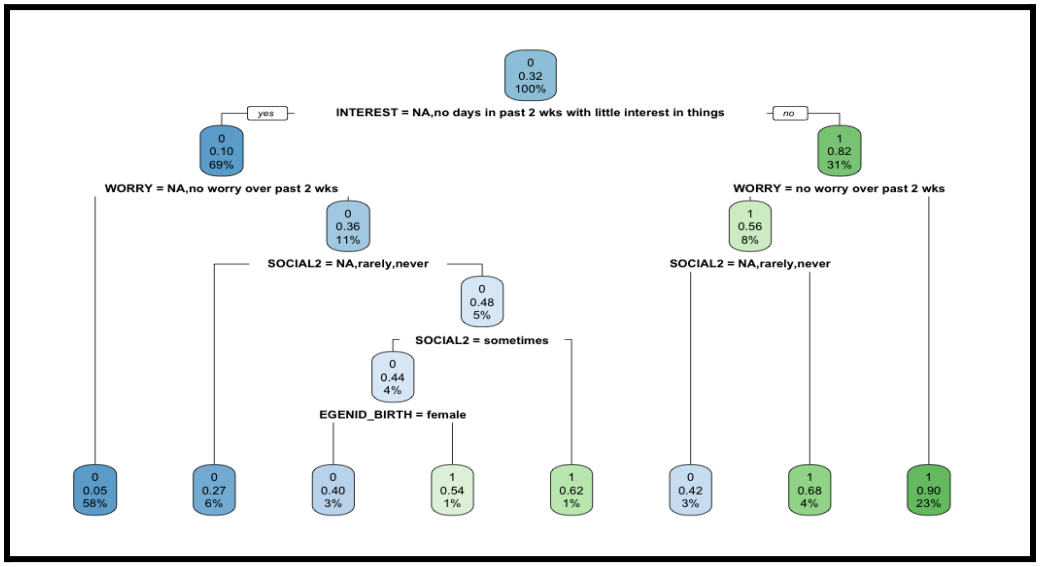
Tree Model #1:

According to this tree model, there is a 43% chance of anxiety and a 57% chance of no anxiety if there have been no anxiety symptoms for the previous two weeks. On the other hand, if there have been several or more frequent anxiety symptoms, anxiety is predicted.



Tree Model #2:

This tree model demonstrates how characteristics like worry frequency, interest in activities, and birth year might predict anxiety symptoms. Based on these variables, different splits result in varying odds of experiencing anxiety.



KNN Algorithm:

The Variables Used:

X1= Householdsmall$DOWN_recode
X2 = Householdsmall$ANXIOUS_recode
X3 = Householdsmall$SEXUAL_ORIENTATION_recode
X4 = MHLTH_GET_recode
Y = Householdsmall$MHLTH_NEED

KNN Results:

Values of K	Classification Accuracy
1.0000000	0.7741935
3.0000000	0.7419355
5.0000000	0.7419355
7.0000000	0.7741935
9.0000000	0.7741935

KNN Summary:

According to these K-Nearest Neighbors (KNN) results, the classification accuracy is consistently across a range of values of k (1, 3, 5, 7, 9). The findings indicate that the model's accuracy in predicting whether children need mental health treatment is consistently accurate around 77.41% to 77.42% of the time. This suggests a stable performance in predicting the need for mental health treatment based on input data across these values.

Ordinary Least Squares (OLS)

A total of ten OLS regressions were conducted between dependent variables Mental Health Need, Mental Health Get, Depression, and Anxiety; we interacted independent variables such as **Social 1 and 2** (measuring social support one feels from scale of always to rarely), Kind of Work;**KINDWORK** (whether they work in a private company, own their own business, etc.), Mental Health Difficulty;**MHLTH_DIFFCLT** and Satisfaction;**MHLTH_SATISFD** (How difficult it is to get mental health treatment for children and whether they are satisfied with the service), and if children were not enrolled in school (**ENROLLNONE**). These were the interacted variables that showed the most significance after trial and error, including that we interacted the main variables with each other throughout. Below are the specific significant values for each dependent variable.

- Mental Health Need (MHLTH_NEED)

  DOWN = -0.018** (0.009)

  ANXIOUS = -0.052*** (0.008)

  SEXUAL_ORIENTATION (gay or lesbian) = 1.731*** (0.048)

  SEXUAL_ORIENTATION (straight) = 1.867*** (0.007)

  SEXUAL_ORIENTATION (bisexual) = 1.852*** (0.025)

  SEXUAL_ORIENTATION (something else) = 1.735*** (0.039)

  SEXUAL_ORIENTATION (gay or lesbian) :KINDWORK (self employed) = 0.545** (0.277)

  SEXUAL_ORIENTATION (bisexual) :KINDWORK (self employed) = 0.510** (0.250)

  MHLTH_DIFFCLT (not difficult to get kids mental health treatment) = -0.997***

  MHLTH_DIFFCLT (somewhat difficult) = -0.997*** (0.002)

  MHLTH_DIFFCLT (very difficult) = -0.996*** (0.003)

  MHLTH_DIFFCLT (unable to get treatment due to difficulty) = -0.997*** (0.007)

  MHLTH_DIFFCLT (did not try to get) = -0.998*** (0.010)

- Mental Health Get (MHLTH_GET)

SEXUAL_ORIENTATION (gay or lesbian) = 1.008*** (0.069)

SEXUAL_ORIENTATION (bisexual) = 0.998*** (0.068)

SEXUAL_ORIENTATION (something else) = 0.979*** (0.068)

MHLTH_DIFFCLT (not difficult to get kids mental health treatment) = 0.925*** (0.068)

MHLTH_DIFFCLT (somewhat difficult) = 0.934*** (0.068)

MHLTH_DIFFCLT (very difficult) = 0.946*** (0.068)

MHLTH_DIFFCLT (unable to get treatment due to difficulty) = 0.996*** (0.069)

MHLTH_DIFFCLT (did not try to get) = 0.997*** (0.069)

MHLTH_SATISFD (satisfied with all the mental health treatment they get) = -0.928*** (0.009)

MHLTH_SATISFD (some but not all) = -0.931*** (0.009)

MHLTH_SATISFD (no, none) = -0.939*** (0.011)

SOCIAL1 (never) = 1.030*** (0.375)

ENROLLNONE (children not in any type of school) = 0.125** (0.059)

- <u>Anxiety (ANXIOUS)</u>

MHLTH_NEED = -0.260*** (0.029)

SEXUAL_ORIENTATION (gay or lesbian) = 3.816*** (0.724)

SEXUAL_ORIENTATION (bisexual) = 1.770*** (0.417)

SEXUAL_ORIENTATION (gay or lesbian:) SOCIAL1 (always get social emotional support) = -1.820*** (0.539)

SEXUAL_ORIENTATION (gay or lesbian:) SOCIAL1 (usually) = -1.634*** (0.530)

- <u>Depression (DOWN)</u>

ANXIOUS = 0.583*** (0.008)

SEXUAL_ORIENTATION (gay or lesbian) = 0.902*** (0.345)

MHLTH_SATISFD (satisfied with all the mental health treatment they get) = -0.139** (0.070)

Summary of OLS: Throughout the OLS regressions, all of the sexual orientations were significantly correlated with Mental Health Need in the area of level 2 (some but not all need mh treatment) and Mental Health Get being closer to level 1 (all get mh treatment) specifically for LGBTQ+ groups. We originally hypothesized that public or private health insurance would be a significant correlate for mental health need, get, depression, and anxiety but after a few tests, this was found to not be true. Anxiety and Depression seem to be somewhat reciprocal, with anxiety being of high significance for depression (0.583), and interestingly gay or lesbian individuals having significantly correlated with depression (0.902). Due to Mental Health Get having fewer responses than Mental Health Need, throughout the regressions we've relied much more on mental health need and significance results, but in this case Mental Health Get and Need pulled significance across levels for Mental Health Difficult and Satisfied, which can be a mixed response of mental health across the board but when interacted with sexual_orientation it did not pull anything.

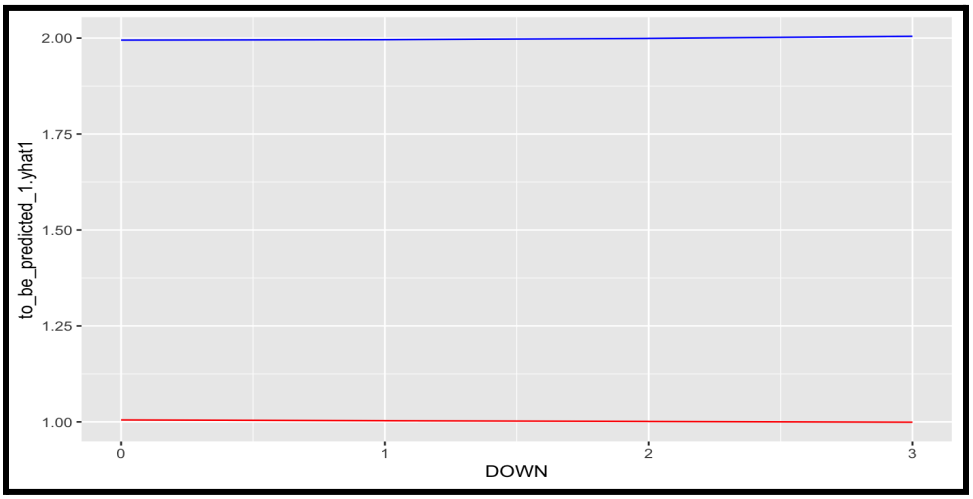
Logit Model/ANOVA(1): We created a total of two models (model 2 & 3). For both models we wanted/predicted results specifically for the sexual orientation: bisexual, mental health difficulty: unable to get treatment due to difficulty, gender = male, depression = between levels 0 - 3 (0 = no days depression, 1 = several days depression , 2 = more than half day depression, 3 = nearly every day depression)

Model 2 measured mental health need (dv), and sexual orientation, mental health difficulty, gender, and depression squared (iv). Model 3 measured the same variables but with depression not squared.

Model 3 measured mental health get (dv) and the same independent variables as model 2, but with non-squared depression.

The ANOVA for Model 2 and Model 3 gave significance towards sexual orientation (2.89e-09***) and mental health difficulty (< 2.2e-16***). Below is the line graph it produced. It shows that the blue line which represents model 2, goes slightly up in depression, while the red line which represents model 3 goes down. They are on completely opposite sides showing that mental health-need depression squared gives a significant difference visually compared to mental health with non-squared depression.

Model 2 and 3 Line Graph



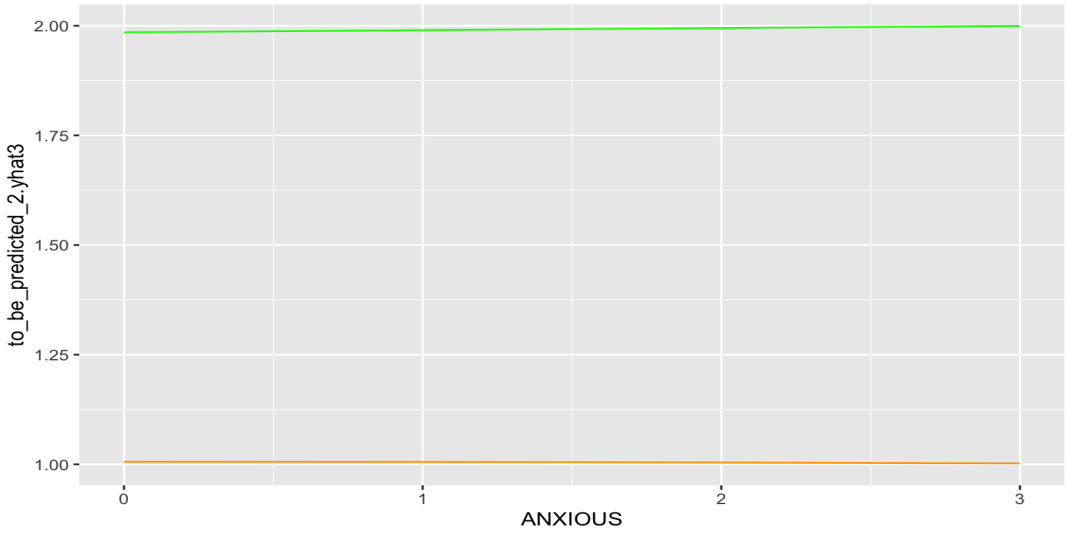
Logit Model/ANOVA (2): We created a total of two models (Model 4 and 5). For both models we wanted/predicted results specifically for the sexual orientation: bisexual, mental health difficulty: unable to get treatment due to difficulty, gender = male, anxiety = between levels 0 - 3 (0 = no days anxiety, 1 = several days anxiety , 2 = more than half day anxiety, 3 = nearly every day anxiety)

Model 4 measured mental health-need (dv), sexual orientation, mental health difficulty, and gender description, as well as anxious squared (iv.)

Model 5 measured mental health-get (dv), the same variables as model 4 but anxious as non-squared.

The ANOVA for Model 4 and Model 5, gave significance once again for sexual orientation and mental health difficulty. In the graph it shows a slight increase for model 5 which is green, and a slight decrease in model 4 which is orange. Also showing that anxiety squared gives a significant difference visually when comparing anxiety squared and non-squared.

Model 4 and 5 line graph



Hypothesis Tests *we only included sexual orientations = gay or lesbian, bisexual, and something else

1) Do LGBTQ+ individuals who believe no children should need mental health resources have higher depression rates (nearly every day) than individuals who believe all children need mental health resources?

Group A represents LGBTQ+ individuals who believe *no children need mental health treatment* in Mental Health Need, being a total of **79** respondents ranging from gay or lesbian, bisexual, and something else out of 104 responses who also said they experienced depression nearly every day for the past two weeks. The proposition being **0.56 (56%)** of the sample**. Group B** represents LGBTQ+ individuals who believe all *children need mental health treatment* in Mental Health Need, the total being **44** out of 142 respondents who also said they experienced depression nearly every day for the past two weeks. The proposition of this group is **0.31(31%)** of the sample. The **variance** between these two groups is **0.25**, and we decided to conduct a *two-tail hypothesis test* with the **significance level of 0.05.**

Null (Ho) Hypothesis: Group A = Group B
Both the LGBTQ+ none need group and all need will have the same rates of high depression.

Alternative (Ha) Hypothesis: Group A ≠ Group B
The LGBTQ+ none need group and all need group will NOT have the same rates of high depression.

Hypothesis Test 1

	x	n	p	x2	95% CI	p-val
Group A	79	142	0.52	NA	NA	NA
Group B	44	142	0.31	NA	NA	NA
Results	NA	NA	NA	17.568	[0.1348, 0.3581]	2.772e - 05

Decision: The null hypothesis is rejected, the sample proportional difference (0.25) does not fit within the 95% region of acceptance [-0.115, 0.115]. Meaning both groups do NOT have the same rates of high depression and hold significant difference. It can be clearly seen that Group A has a higher rate of depressive symptoms. This can be connected to possible parenting competence in LGBTQ+ adoptive families and parents. Possibly lower received parenting

competence can cause individuals to believe that nothing will work in resilience strategies for children due to lack of inclusion and stigma predisposing these individuals to feel hopeless not only for themselves but for children as well.

2) Do LGBTQ+ individuals who believe no children should not get mental health resources have higher anxiety rates (nearly every day) than individuals who believe all children should get mental health resources?

Group A consists of LGBTQ+ individuals who believe *all children should get mental health treatment* in the Mental Health-Get variable. Holding a total of **65** responses out of 104 who chose this statement and also had feelings of anxiety nearly every day for the past 2 weeks. The proposition being **0.62 (62%)** of the sample. **Group B** consists of LGBTQ+ individuals who believe no children should get mental health treatment in the Mental Health-Get variable. Having a total of 26 responses out of 104 who chose this statement and also dealt with nearly every day anxiety. The proposition being **0.25(25%)** of the sample.The **variance** between the two groups is **0.38**, we proceeded with conducting a two-tailed hypothesis test at the **significance level of 0.05**.

Null (Ho) Hypothesis: Group A = Group B
Both the LGBTQ+ all get and none get group will show the same rates of high anxiety on a daily basis.

Alternative (Ha) Hypothesis: Group A ≠ Group B
The LGBTQ+ all get and none get group will NOT show the same proportions of high anxiety on a daily basis.

Hypothesis Test 2

	x	n	p	x2	95% CI	p-val
Group A	65	104	0.62	NA	NA	NA
Group B	26	104	0.25	NA	NA	NA
Results	NA	NA	NA	29.714	[0.2501, 0.4998]	5.006e-08

Decision: Null hypothesis is rejected due to the proportional difference being large enough to be significant. The difference in proportion (variance) being 0.38, does not fit in the 95% region of acceptance being [-0.135, 0.135]. Meaning both groups do NOT have the same proportions of

high anxiety on a daily basis and hold significant difference. It is clear that Group A had a larger likelihood of severe anxiety symptoms if they choose all children to get mental health treatment compared to those who say none. This could be due to resiliency strategies in the household with kids when being same-sex parents. Due to social stigma and lack of inclusion, it is integral to keep mental resilience not only for parents but for kids as well, and this can produce worry or anxiety for some parents.

Conclusion:

In conclusion, this project examines whether experienced stigma which is strongly correlated towards negative mental health outcomes for LGBTQ+ individuals and would also impact mental health aid and need outcomes for children in these families. After interacting the variables for mental health necessity and aid received, MHLTH_NEED and MHLTH_GET, with other variables, our research has found that sexual orientation does have a substantial impact on mental health outcomes, as well as the need for and access to mental health treatment of children with LGBTQ+ parents. We did this by testing the variables using simple statistics, logit models, ANOVAs, hypothesis tests, a KNN algorithm, tree models, and ordinary least squares (OLS) regressions. With these tests we discovered that, in comparison to heterosexual parents, LGBTQ+ parents have greater rates of depression and anxiety and are more likely to recognize the need for mental health therapy for their children. This highlights the ongoing negative effects of stigma and bias on the mental health of LGBTQ+ people and their families. The disparities in mental health outcomes and treatment accessibility highlight the need for inclusive policies and support systems that cater to the unique needs of LGBTQ+ families. It is imperative that future research prioritize increasing LGBTQ+ individual representation in studies to guarantee a comprehensive understanding and to create focused interventions that foster an environment that is more helpful and inclusive for all families.

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