

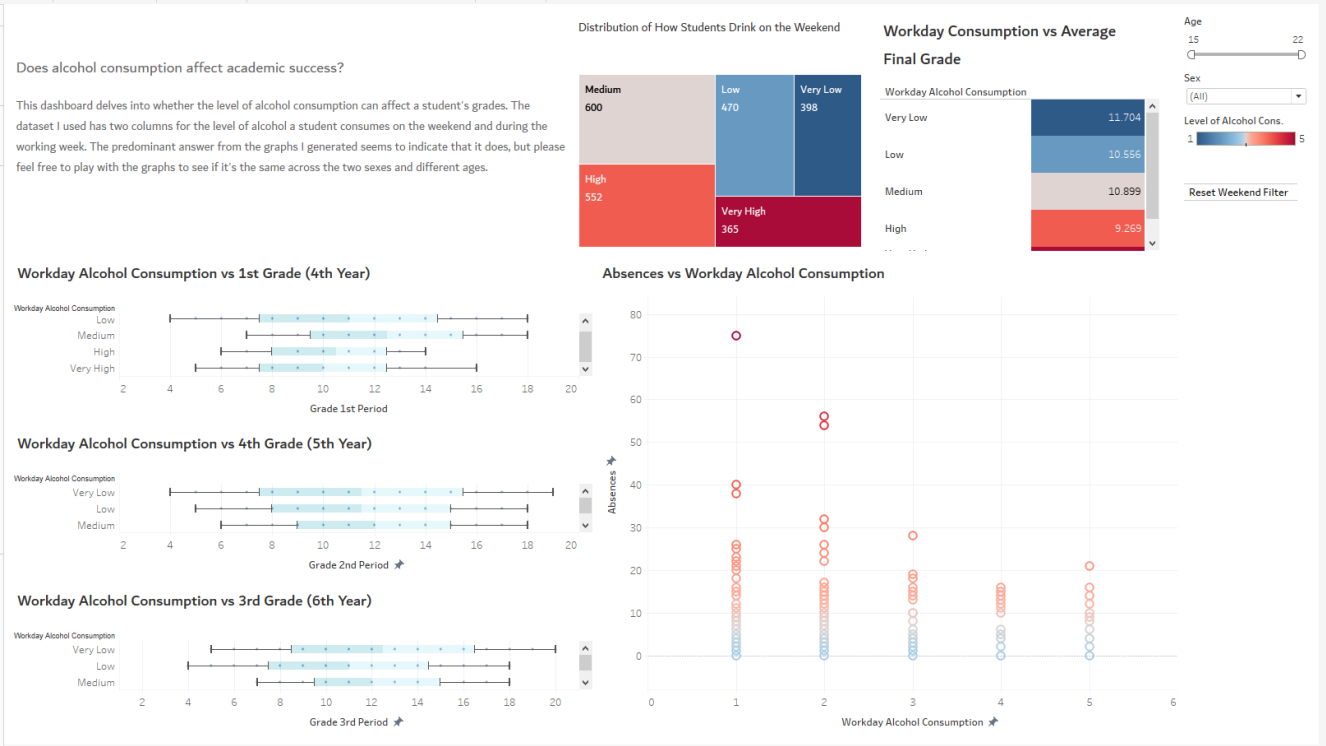


INTERACTIVE MEDIA DESIGN

CA1

Student Alcohol Consumption Dataset &
Visualization

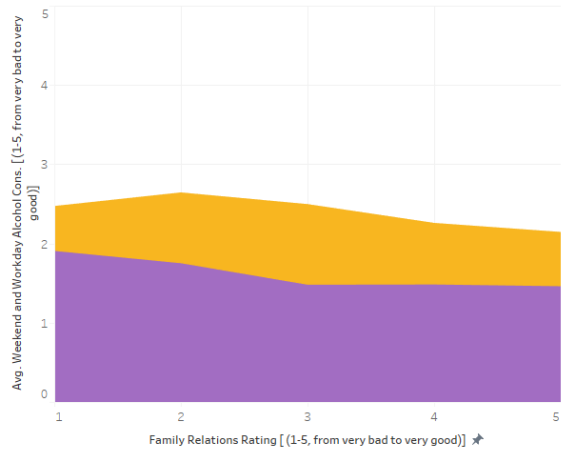
Dashboards:



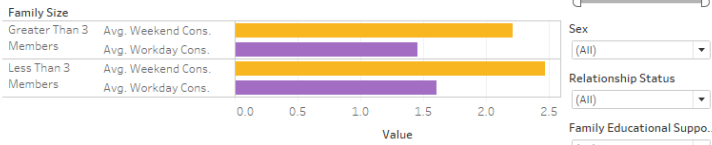
Do parental or familial relationships affect a student's alcohol consumption?

In this dashboard, we explore the quality of familial relations, family size and whether parents cohabit or not -- to see if it has an affect on how students consume alcohol on the weekends and during the week. The visualizations can be manipulated with the filters on the right. See how a relationship, a student's sex and age may affect the visualizations.

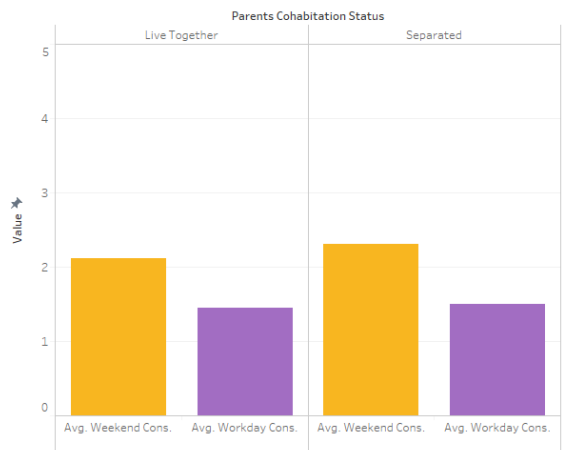
Family Relations vs Overall Alcohol Consumption



Does family size affect alcohol consumption?



Parents Cohabitation Status vs Average Alcohol Consumption (1-5)



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Summary:

My IMD project was elapsed over a three-week period. This document details why and how I designed my Tableau dashboard, and what I did in the process in doing so. My main objective, using a dataset from Kaggle (Kaggle, 2016). It is from a survey of Maths and Portuguese students in secondary school. It contains many attributes and information referring to their social, academic and personal life. I found this very intriguing because of how commonly accepted teenage alcohol consumption is in Ireland, I also wanted to see if there were parallels in this dataset with my own personal experiences growing up in Ireland. Finding a dataset was difficult. I initially set upon working with a Premier League dataset from the 19/20 season, showcasing how Liverpool clinched the title with a 19-point lead from their rivals, Manchester City. However, finding a dataset of decent quality proved to be incredibly difficult. I looked at datasets scrapped from the Fantasy Premier League football game, which uses real-world stats from the league itself. But ultimately, I could not find a dataset which contained enough information with the ideas I had for it.

Moving onto discussing the dataset in question, my main objective was to find the correlation between grades and high alcohol consumption. Does someone who drinks alcohol less than someone who drinks it a lot have higher grades? What about vice versa? I also wanted to see how often alcohol is consumed amongst teenagers, how do social/parental relationships affect grades? Does alcohol consumption affect study time? There was a lot of room in this CA, and with an apt number of numerical columns, as well as categorical, it was suitable to create high-quality visualizations.

Background:

I mentioned before in the summary that I found this dataset intriguing because of how widely accepted teenage alcohol consumption is in Ireland. Ireland is known for the 'drunken Irish person' stereotype, which although exaggerated, it does have some truth to it. The reality is, any Irish person knows the drinking culture has deep, deep roots in our society – and in turn, is deeply ingrained into how we socialize. "Sure, it's only a drink." I could not tell you the amount of times I have seen at the local pub, parents buying their kids a drink when they are all at the pub together.

I can say that my personal experiences with alcohol influenced me into picking this dataset. Is it the same in Portugal? How does it affect students, academically? While not Tableau dashboards, I have found very many interesting visualizations of alcohol consumption data from one of my favourite websites, reddit. (Reddit, 2020) There is indeed many posts about visualizing the consumption of alcohol from this subreddit (/r/dataisbeautiful) so it is not a topic that has never been touched upon before, but it is also not a topic that's also been done to death. That helped me in way of deciding to visualize this dataset.

Dataset:

As I initially stated, I originally sought after a Premier League dataset for the 19/20 season. This proved near impossible with any decent data. The format of the Fantasy Premier League datasets was not up to scratch in terms of visualising what I wanted to show for my dashboard. There was a lot of missing data, more than deemed acceptable as well. I found this a great shame, as the idea in theory had a lot of possibilities to it. There is a lot you can do, in terms of storytelling, with a sports dataset. But that suitable dataset for that initial objective does not exist yet, despite much searching, sadly. With time of the essence, I decided to switch focus on a more suitable, interesting dataset.

I eventually came to the Student Alcohol Consumption Dataset upon much searching on Kaggle. The dataset in question is from a paper written in 2008, by A. Brito and J. Teixeira Eds. (Paulo Cortez, 2014) There were two datasets, one for Maths students and one for Portuguese students, but I merged them together to keep things as less messy as possible.

There was a lot to work with in this dataset. There is a lot of information on students' personal information, their drinking habits, their relationships. I was much happier with this dataset as the format was very clear cut. Every student has a row to themselves, with their information laid out in an easy to parse manner. There was a lot of stories to tell, with most of the columns being numerical and categorical. As well with the content of the data being quite rich in quality. I am also a fan of more controversial topics, as last year I picked a dataset containing data about worldwide suicide rates per country. So, it was very easy once I found this dataset, to make it the one I wanted to work off for this module.

Acquire:

I initially struggled trying to find a dataset at first. My initial interest was in visualizing sports statistics, but I could not find a suitable dataset for the 19/20 season without having to pay for it. I spent hours trying to find a suitable dataset for the purpose I wanted. But it was just not possible, despite even scraping data from the Fantasy Premier League game myself, using Python scripts made for that purpose. The format of the data was incompatible for what I wanted to do and getting it into a format that would be friendly for Tableau would have taken way too much time than necessary. I knew after I could not find a suitable Premier League dataset for the 19/20 season, I knew I wanted a dataset that was more controversial and interesting than something like avocado prices or Netflix data. I find controversial topics to be more interesting to draw from, and more interesting to visualize.

Upon pouring over a lot of datasets, I settled on this Student Performance Data Set from UCI, although I originally obtained it from Kaggle. This dataset immediately caught my attention due to the interesting columns relating to social and alcohol use data. Like I mentioned prior, it also piqued my interest due to the drinking culture in Ireland. I thought it would be interesting to correlate, if any, how someone from the age of 15-22 drinking alcohol might have their grades affected. I also wanted to see how the relationships of students who drink alcohol might have their relationships with their parents affected. Does someone who drink a lot of alcohol have a worse relationship with their dad than someone who does not? This was the idea going into this project, upon analysing the contents of the dataset.

When I analysed the dataset further, it looked like I could do exactly that. I was thinking of the interactive component of the dashboard, thinking you could filter the visualizations by age and sex, to easily find the differences between alcohol use/grades or alcohol use/familial relationships.

Parsing:

Upon downloading the dataset, I noticed there were two dataset files. One for called student-mat.csv, and the other called student-por.csv. This is because student-mat contains data from students who study Maths, while student-por contains data from students who study Portuguese. The columns are the exact same, they just have different data for each class. Upon investigation, I decided to merge the two datasets to get as much data as possible, to take me over just 1000 rows to work with.

Before loading the data into Tableau, I decided to use Jupyter Notebooks, as I have been using it a lot for my Applied Machine Learning class. The two datasets loaded successfully into Pandas data frame objects. Once I loaded them into data frames, it would be very easy to manipulate them both. I decided to check for missing data at first however, but I could not find anything. I believe it may have been pre-cleaned. I checked for NaNs, but there was not any. This obviously made my job a bit easier, not having to worry about missing data.

I decided to focus on merging the two datasets. I decided to give each dataset a new column, 'class.' This would indicate whether the data came from the Portuguese dataset or the Maths dataset. It would be easy to run analysis to see which of the two drinks more or has better grades, etc, too.

```
In [6]: #No nulls recorded. We're going to merge the two datasets based on their classes

data.insert(0, 'class', 'Maths')
data.head()

data2.insert(0, 'class', 'Portugese')
data2.head()
```

```
In [10]: student_merge.reset_index(drop=True, inplace=True)
print(student_merge)
duplicate = student_merge[student_merge.duplicated()]
print(duplicate)
#No duplicate rows.
```

	class	school	sex	age	address	famsize	Pstatus	Medu	Fedu	Mjob
\										
0	Maths	GP	F	18	U	GT3	A	4	4	at_home
1	Maths	GP	F	17	U	GT3	T	1	1	at_home
2	Maths	GP	F	15	U	LE3	T	1	1	at_home
3	Maths	GP	F	15	U	GT3	T	4	2	health
4	Maths	GP	F	16	U	GT3	T	3	3	other
...
1039	Portugese	MS	F	19	R	GT3	T	2	3	services
1040	Portugese	MS	F	18	U	LE3	T	3	1	teacher
1041	Portugese	MS	F	18	U	GT3	T	1	1	other
1042	Portugese	MS	M	17	U	LE3	T	3	1	services
1043	Portugese	MS	M	18	R	LE3	T	3	2	services

Showing the merged dataset. As you can see, the new column is the first.

Merging the two datasets was not a difficult process as you can see from the screenshots. After checking the data was valid with no empty rows or columns, I decided to save the new, merged data frame as a CSV file. It is called student-merge.csv and has 1045 rows.

The work I did in Jupyter Notebooks is included with the upload. Loading into Tableau from this point forward was no problem. The new column shows up fine and the data looks the exact way I wanted it.

Filter:

There was no data in the dataset I explicitly wanted to remove in my Exploratory Data Analysis. Every column could be of use to me while I was working on the dataset. So, I decided to not drop any columns in the dataset in the hopes they could be useful in the Mining step.

Mining:

In terms of statistical calculations, to make use of Tableau's complex features, I created two new variables. Average ALL Grade, which encompasses three years of high school grades.

Average ALL Grade
Role: Continuous Measure
Type: Calculated Field
Default aggregation: Sum
Status: Valid
Formula
`[Grade 1st Period] + [Grade 2nd Period] + [Grade 3rd Period] / 3`

Average Final Grade, which is just the average of Grade 3rd Period.

Average FINAL Grade
Role: Continuous Measure
Type: Calculated Field
Status: Valid
Formula
`AVG([Grade 3rd Period])`

Total Alcohol Consumption: Gives an overall rating of both weekend and workday consumption out of 10.

Describe Field

Total Alcohol Consumption
Role: Continuous Measure
Type: Calculated Field
Default aggregation: Sum
Status: Valid
Formula
`[Weekend Alcohol Consumption] + [Workday Alcohol Consumption]`

I renamed most of the variables from the dataset in Tableau itself, to be more user friendly when generating visualizations. This includes like changing a column like fams up to be 'Family Educational Support', which makes a lot more immediate sense. Or G1 to 'Grade 1st Period'. I also created new variables for each grade, containing the average respectively.

Represent:

My priority was to do some Exploratory Data Analysis, using Tableau. But I decided to use Jupyter Notebooks first to do a tiny bit, just because I am more used to that platform for any kind of data analysis.

	age	Medu	Fedu	traveltime	studytime	failures	famrel	freetime	goout	Dalc	Walc	health	absences	G1	G2	G3
age	1.00	-0.13	-0.14	0.05	-0.01	0.28	0.01	0.00	0.12	0.13	0.10	-0.03	0.15	-0.12	-0.12	-0.13
Medu	-0.13	1.00	0.64	-0.24	0.09	-0.19	0.02	0.00	0.03	0.00	-0.03	-0.01	0.06	0.23	0.22	0.20
Fedu	-0.14	0.64	1.00	-0.20	0.03	-0.19	0.01	0.00	0.03	-0.00	0.02	0.03	0.04	0.20	0.18	0.16
traveltime	0.05	-0.24	-0.20	1.00	-0.08	0.09	-0.01	-0.01	0.05	0.11	0.08	-0.03	-0.02	-0.12	-0.14	-0.10
studytime	-0.01	0.09	0.03	-0.08	1.00	-0.15	0.01	-0.09	-0.07	-0.16	-0.23	-0.06	-0.08	0.21	0.18	0.16
failures	0.28	-0.19	-0.19	0.09	-0.15	1.00	-0.05	0.10	0.07	0.12	0.11	0.05	0.10	-0.37	-0.38	-0.38
famrel	0.01	0.02	0.01	-0.01	0.01	-0.05	1.00	0.14	0.08	-0.08	-0.10	0.10	-0.06	0.04	0.04	0.05
freetime	0.00	0.00	0.00	-0.01	-0.09	0.10	0.14	1.00	0.32	0.14	0.13	0.08	-0.03	-0.05	-0.07	-0.06
goout	0.12	0.03	0.03	0.05	-0.07	0.07	0.08	0.32	1.00	0.25	0.40	-0.01	0.06	-0.10	-0.11	-0.10
Dalc	0.13	0.00	-0.00	0.11	-0.16	0.12	-0.08	0.14	0.25	1.00	0.63	0.07	0.13	-0.15	-0.13	-0.13
Walc	0.10	-0.03	0.02	0.08	-0.23	0.11	-0.10	0.13	0.40	0.63	1.00	0.11	0.14	-0.14	-0.13	-0.12
health	-0.03	-0.01	0.03	-0.03	-0.06	0.05	0.10	0.08	-0.01	0.07	0.11	1.00	-0.03	-0.06	-0.09	-0.08
absences	0.15	0.06	0.04	-0.02	-0.08	0.10	-0.06	-0.03	0.06	0.13	0.14	-0.03	1.00	-0.09	-0.09	-0.05
G1	-0.12	0.23	0.20	-0.12	0.21	-0.37	0.04	-0.05	-0.10	-0.15	-0.14	-0.06	-0.09	1.00	0.86	0.81
G2	-0.12	0.22	0.18	-0.14	0.18	-0.38	0.04	-0.07	-0.11	-0.13	-0.13	-0.09	-0.09	0.86	1.00	0.91
G3	-0.13	0.20	0.16	-0.10	0.16	-0.38	0.05	-0.06	-0.10	-0.13	-0.12	-0.08	-0.05	0.81	0.91	1.00

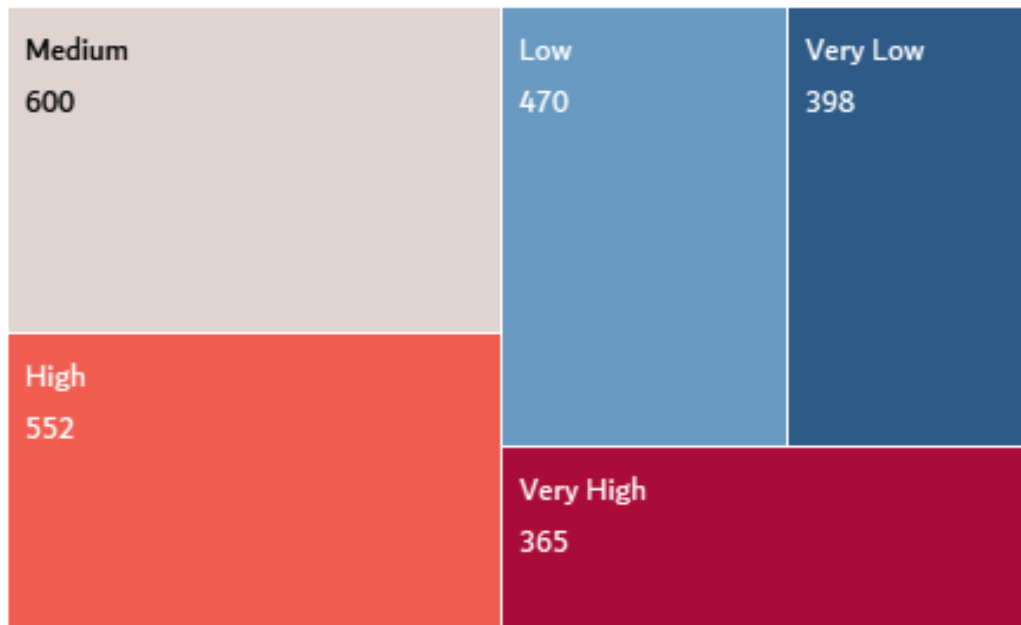
I did a correlation table just to notice some potential relationships I might've not known about.

Hypothesising:

- Grades 1, 2 and 3 are correlated with each other because they reflect consistent performance.
- The level of weekday drinking, and weekend drinking seem to share a relatively strong correlation too. Does this mean that students who drink a certain amount during the week drink that same amount on the weekend too?
- Mother and father's education seem to be highly correlated as well. Is this because men and women tend to marry each other/date each other with the same kind of educational background?
- While weak correlations, it seems like both 'going out' and 'free time' seem to correlate a bit with the level of weekend drinking one does.

Other than those hypotheses, there's no real strong relationships to talk about.

Distribution of How Students Drink on the Weekend



I decided to graph what the distribution between drinkers was during the weekend. I feel, as that it is the weekend, a lot of students might drink. We can see the majority drink a medium-high amount on the weekend. There is not a person who doesn't drink in the dataset.

I decided to graph what the average final grade variable I created versus the workday drinkers.

Workday Consumption vs Average

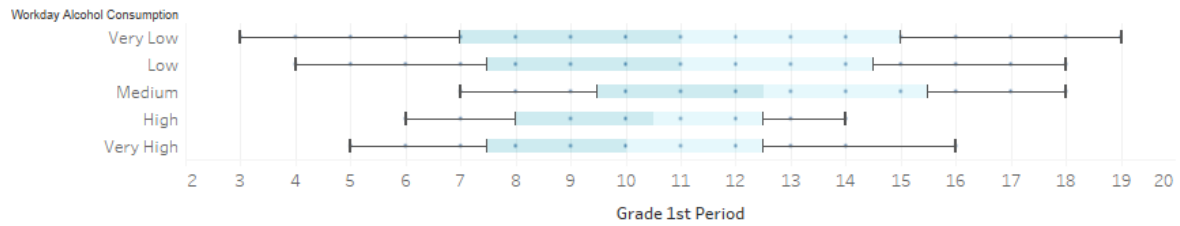
Final Grade

Workday Alcohol Consumption	
Very Low	11.704
Low	10.556
Medium	10.899
High	9.269
Very High	10.385

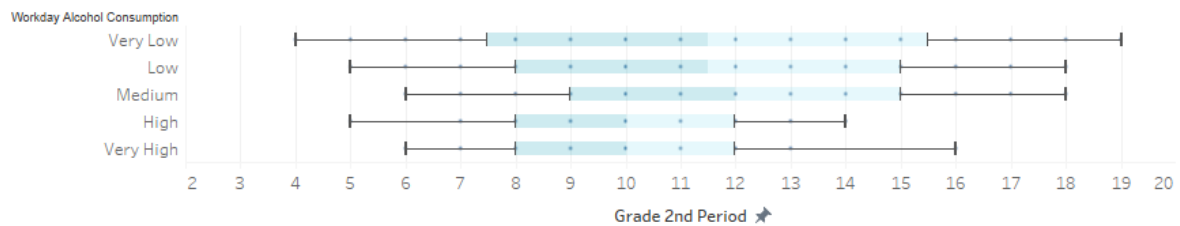
The results are interesting. There is a higher average grade for those who rarely drink during the week. However, what's most interesting is the drop off between medium and high and very high! The drop off between Medium and High is 1.63! And then, unbelievably, goes back up with very high. What does this imply? That people who drink a lot are more functional than those who only drink a relatively high amount during the week. Strange results. 9.5 to 13.4 is considered 'sufficient' according to the *Diário da República*, the official Portuguese government gazette. So, it's no surprise that the average results are well, average. (REPÚBLICA, 2005.)

I then decided to graph workday drinking against all three grades. Why workday drinking over weekend drinking? Well, it is quite evident that weekend drinking is not as impactful as workday drinking judging from the graphs I have made above. I used a box and whisker plot for each grade because I remember learning in my Data Analysis class it was good for showing academic results. Let's have a look.

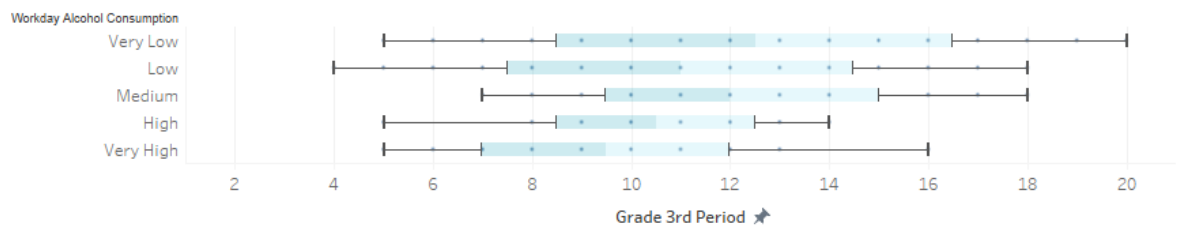
Workday Alcohol Consumption vs 1st Grade (4th Year)



Workday Alcohol Consumption vs 4th Grade (5th Year)



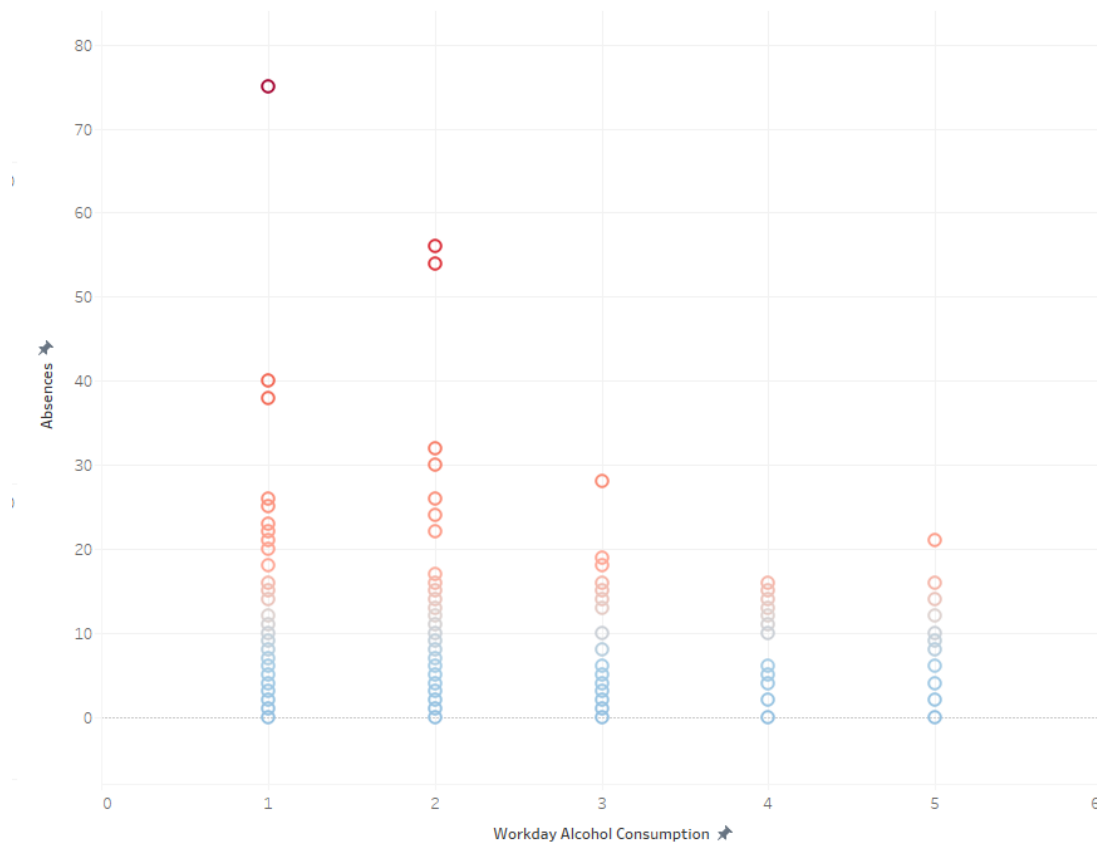
Workday Alcohol Consumption vs 3rd Grade (6th Year)



As we can see, the higher the amount of workday drinking the range of grades gets smaller, but interestingly not always for the worst. With workday drinking being very low in particular, we can see that the range for grades is much higher than anything else on these charts. But in tandem, the height for academic success does lower considering higher uses of alcohol during the work week. As we can see, the maximum for 'very high' workday alcohol usage in 3rd Grade is a maximum of 16. This is respectable, but you can see that the person who achieved this achieved it with quite a gap, with the next people to have done it being at 13. It is the same for 2nd Grade.

The graph is helping us reach a conclusion, high alcohol usage/abuse does seem to influence student's results. However, it is interesting to note judging from the graph that there are people much worse academically than functioning alcoholics. So, while the range is smaller for people who drink a lot, it does not mean they necessarily perform worse than people who don't drink as much.

Absences vs Workday Alcohol Consumption

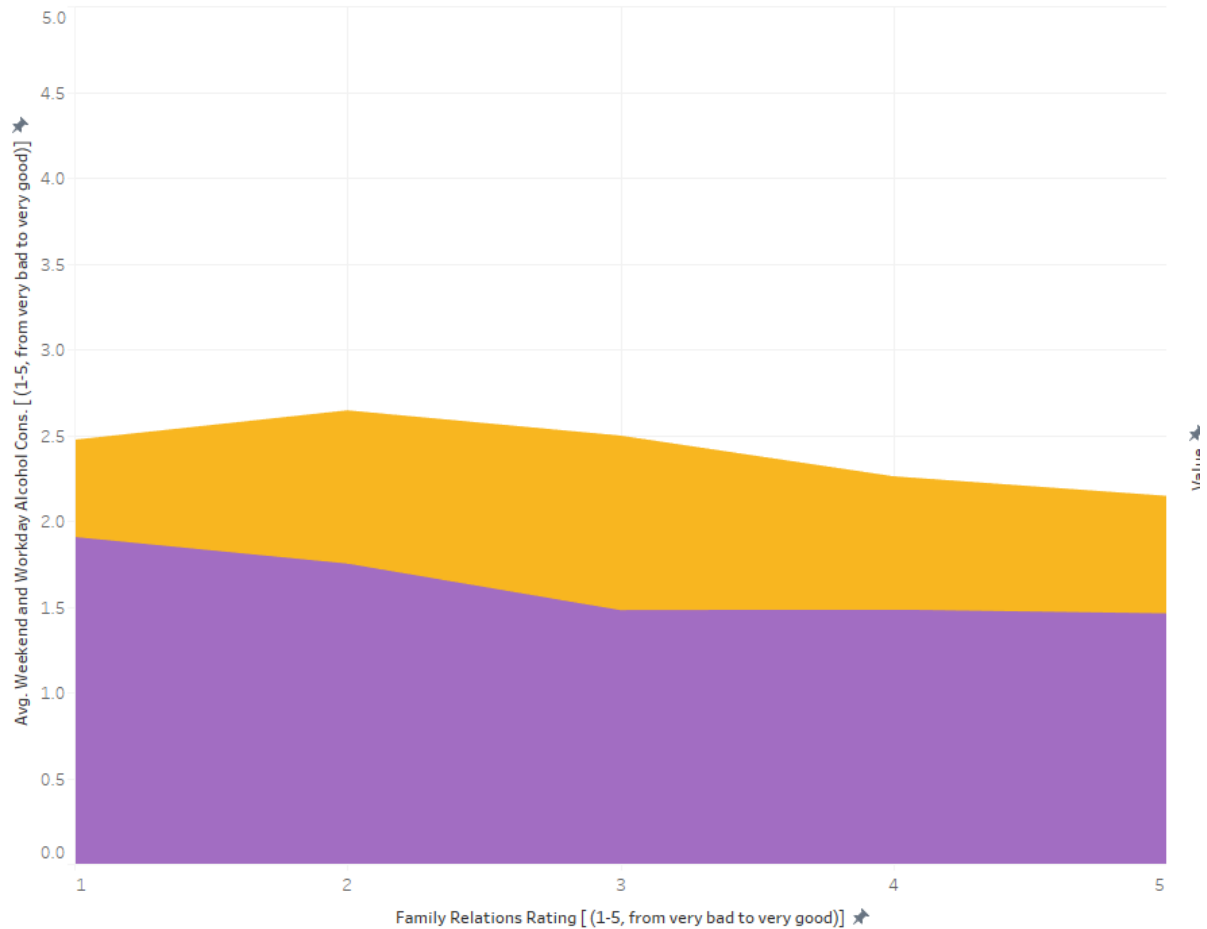


The final graph I created for this dashboard, was to plot absences against weekday alcohol usage. This just to show that absences, missing essential academic work and alcohol usage may be of note. From what I can tell, it is not overly so. But it is an interesting graph to interact with and have regardless.

We will move onto our second dashboard; how social factors may affect a student's alcohol consumption. What social factors might affect a student's grade? There are a few we can look in the dataset, namely: Relationship status, their sex, whether they receive educational support from their family, relationship with their parents, and family size.

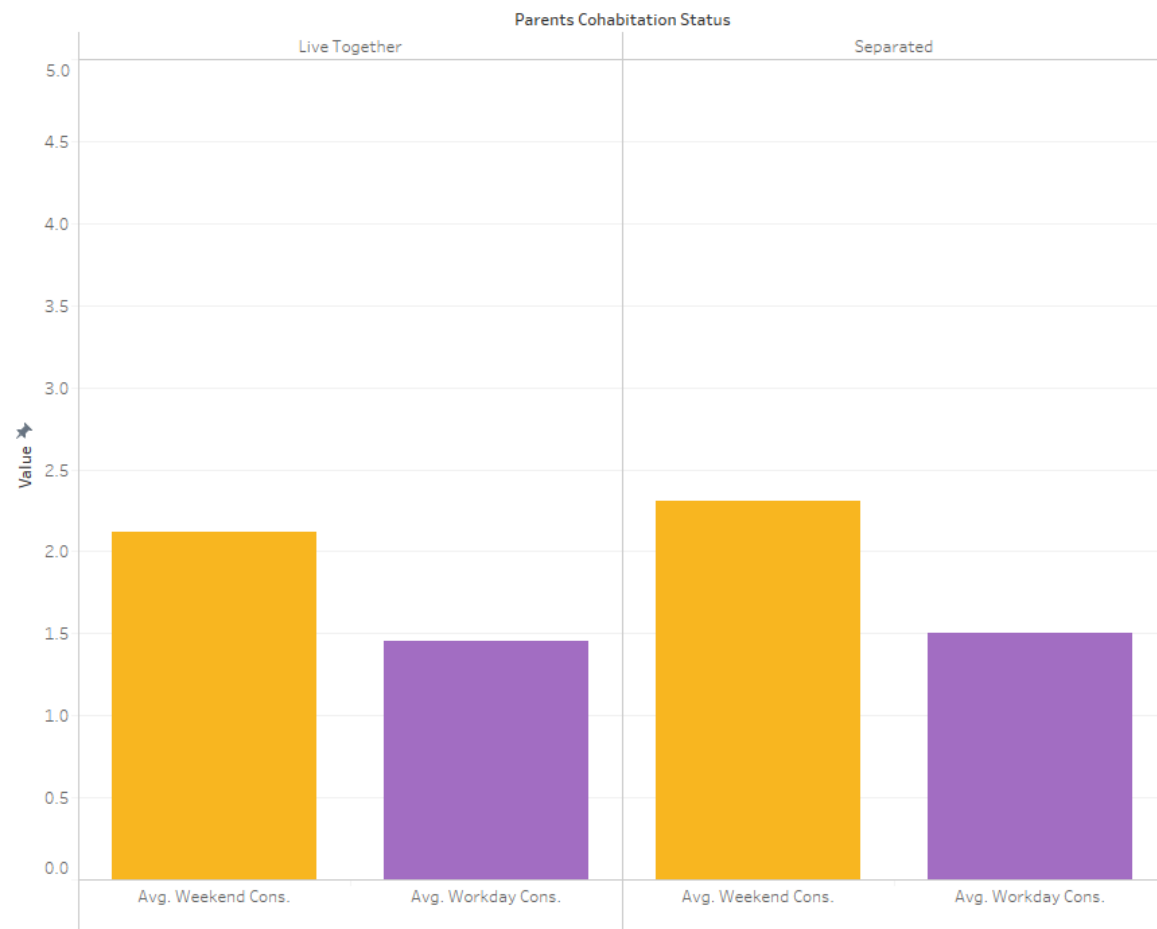
Family Relations vs Overall Alcohol Consumption

P.



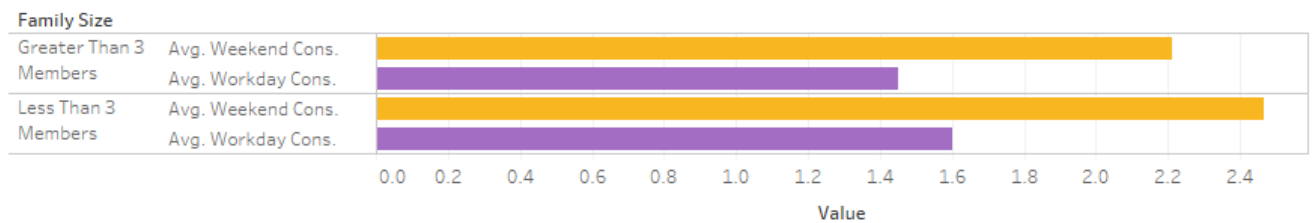
I plotted family relations (on a scale to 1-5) using a stacked area graph. I feel this accurately shows the difference between weekend and workday alcohol consumption, while not being too visually noisy. As we can see by the default, drinking seems to be higher the worse a person's relationship with their family seems to be, specifically for men. The rate of alcohol consumption is much higher when choosing only men.

Parents Cohabitation Status vs Average Alcohol Consumption (1-5)



I used a side-by-side bar chart to show the difference between students who live with parents who live together or are separated. The overall weekend consumption of alcohol seems to be higher when students who have parents who are separated. However, on the workday, it seems to be level.

Does family size affect alcohol consumption?

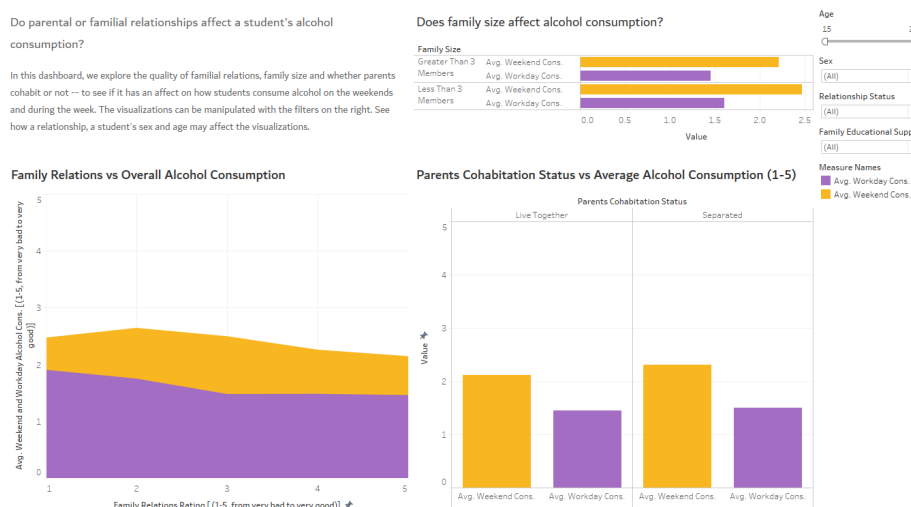


The dataset contained a variable for whether a student's family contained more than 3 members or not, so I decided to see by default if people drank more or less than three members in their family. The answer seemed to be predominantly, even when manipulating the data through interacting with the data – that students drank more both on the weekend and during the weekday if they had less than three family members.

Refine:

To really refine the dashboards, I paid close attention to fonts, colours, and spacing. I wanted my dashboard to stand out enough from the others by making it look good. I used the font 'Dubai' a lot to stand out from the usual Tableau fonts, to give it a better-looking presentation. I made heavy use of text, giving context to the information displayed and aiding to tell the story the dashboards convey. I used heavy usage of red and blue for the first Academic Success dashboard, indicating from very low (blue) use of alcohol to very high use of alcohol (dark red.) With the second, I used yellow and purple to indicate weekend and weekday drinking. This aids in displaying the difference between the information conveyed, on both dashboards. And should hopefully make it easier for people to discern what is going on and what story I am trying to tell.

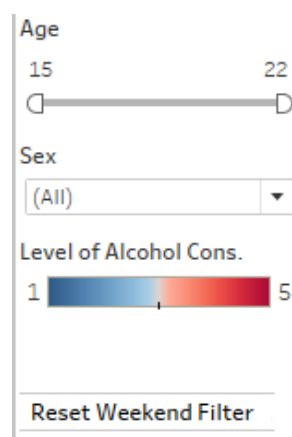
I put the two dashboards into a story, a sequence of visualizations within Tableau, to help convey the information. This allows for the user to easily switch between the two. Very useful.



Interactivity:

I created all my graphs under the guise that they can be manipulated through interactive features. So, this was very important for me. For the first dashboard, I decided to implement filters for the sex and age of students. This would make it easy to see if the dashboard's narrative held up under scrutiny via filters and further analysis. From what I can tell, it does, especially when only Men is selected for the Sex filter.

I also implemented a Tableau action to filter by the amount selected on the Weekend Distribution graph. This means you can see the absences and workday alcohol consumption depending on how much someone drinks on the Weekend. You can also see if someone drinks more on the Weekend or during the Workday. You can reset the filter by clicking the 'Reset Weekend Filter' button to the right – this is a bit hacky, but it is the only way to reset a filter according to Tableau. (Tableau, 2020.)



Age

15 22

Sex

(All)

Level of Alcohol Cons.

1 5

Reset Weekend Filter

For the second dashboard, I decided to focus on the more social aspects of the dataset, namely age, sex, relationship status and whether a student receives additional family educational support. This enables further analysis of different social factors within the already established graphs. For example, does a teenage male who is single and has a bad relationship with their family drink more than another teenage male who is single and has a good relationship with their family? In this case it is likely. I feel the sliders are very accessible and easy to understand, to enable simple manipulation of the graphs.



Age

15 22

Sex

(All)

Relationship Status

(All)

Family Educational Suppo..

(All)

Measure Names

- Avg. Workday Cons.
- Avg. Weekend Cons.

Problems and Solutions:

I regularly work between three computers, one with a 1440p monitor – my PC, one with a 1080p monitor – family PC and my laptop, which has a 1366 x 768 display panel. Making the dashboard look good between all of them was difficult, due to lack of space on the laptop and the illusion of too much space on my desktop. So, I decided to set a target of 1080p, since most monitors are 16:9 and at least 1080p in 2020.

Finding an apt dataset was difficult as well. I always try to look for an interesting topic, but it was genuinely a serious pain to find one. It was not recommended to use Kaggle, but it was the only saving grace I had.

I encountered little difficulty in creating my visualizations, although I did create a visualization of 'Weekend Consumption vs Average Final Grade', which became redundant through my other visualizations as they already visualized Weekend Alcohol Consumption.

Weekend Consumption vs Average Final Grade

Weekend Alcohol Consumption	
Very Low	11.744
Low	11.472
Medium	11.290
High	10.536
Very High	10.397

When creating a Tableau action for the Distribution of How Students Drink on the Weekend graph, I found there was no easy way to reset the filter. I had to use a hacky solution suggested by Tableau themselves on their official website, which was to create a worksheet that'd act as a button on the dashboard to reset the filter, so this added another action to my graph.

Conclusion:

The graphs I created combined with the interactivity Tableau brings, generate some interesting but depressing results.

[1st Dashboard – Alcohol Consumption & Academic Success]

Men tend to lean more towards drinking 'High' and 'Very High' on the weekend. [Distribution of How Students Drink on the Weekend]

Men who drink very low have an average of at least two points than other men who drink more on the weekend, finishing a whopping 3.28 points more than men who drink a 'High' amount. [Workday Consumption vs Average Grade]

Men tend to have a minimum of a 5 grade when it comes to heavy drinking, but a maximum of 16. That is good. But not as good as other men who have Very Low drinking, which can reach a maximum of 20, but a low of 20. So, the overall potential and range of male students who drink a lot is lower than other men who don't drink a lot. [Workday Alcohol Consumption vs Grades]

Women don't seem to drink as much as men during the week, with less women reporting drinking 'High' and 'Very High' than men. This is apparent as there is little sample data for the higher end of the alcohol consumption spectrum of the Workday Alcohol Consumption vs Grades graphs.

It is noticeable that women have a higher range of being absent than men. [Absences vs Workday Alcohol Consumption]

Women have a higher average grade than men across all the spectrum for consuming alcohol. In fact, women who drink a lot during the week beat men who drink very little on average! That's a bonkers stat! Of course, you must consider there's less of a sample size because less women drink very much during the week. [Workday Consumption vs Average Final Grade.]

Women have a peak of a 19 grade (Drinks Very Little) but a low of a 3 grade (Also Drinks Very Little). Men have a peak of 19 as well, and a low of 4. Both very drinks little as well. [Workday Alcohol Consumption vs 1st Grade] This is interesting as people who tend to drink as much don't do as bad as some people who drink very little but can't hit the peaks of people who drink very little either. Like I stated earlier, there's less of a range.

15 – 18 Years Old:

The academic low is 4. The academic peak is 20. They are the source of being most absent. Drinking a High Amount/Very High amount during the week absent peaks of 16 times absent for both.

Drinking High amount - academic peaks: Low of 5, peak of 14. Drinking Very High amount academic peaks – Low of 6, peak of 16.

19 – 22 Years Old:

The academic low is 5. The academic peak is 18. They are less absent than 15/18-year olds. Drinking a High Amount/Very High amount peaks at 12 and 21 times absent respectively.

Drinking high amount – academic peaks: Low of 7, peak of 11. Drinking a very high amount – academic peaks – Low of 7, high of 10.

What does this tell us? Well, 15-18-year olds achieve higher grades, even if they're alcoholics compared to their older counterparts. However, they're more frequently absent than 19/22 year olds. They also have a higher average grade than their older counterparts.

[Dashboard 2 – Parental and Familial Relationships]

Men drink a lot more on average if their relationship with their family is very bad, with registering high and a normal amount of drinking for the weekend and workday respectively. Men drink less the more the relationship with their family improves usually. [Family Relations Graph]

Men tend to drink higher on the weekend if they have less than 3 members in their family on the weekend and during the work week. They also drink more if their parents are separated as well. [Family Size Affect Alcohol Consumption, Cohabitation Status Graphs]

Women drink less than men if their relationship with their family is bad, in fact they drink seem to drink more on the weekend if they have a better relationship with their family, the opposite of men. [Family Relations Graph]

Women tend to be level with what they drink regardless of their family containing more or less than 3 members. However, there is a tiny margin more if they have less than 3 members, but it is negligible. It is the same with parents being divorced or not, but again there is a tiny margin towards separated. [Family Size Affect Alcohol Consumption, Cohabitation Status Graphs]

Single people drink a low amount if their family relationship is bad, with the amount they drink tending to rise the better they got on with their family. They drink more if they have a family of less than 3 members and if their parents are separated. [All Graphs]

Taken people tend to drink more than single people if their familial relationships are bad, they drink more than single people if they have less than 3 members in their family and if their parents are separated too.

If a student does not receive educational support from their family and are on bad terms with them, the highest average peak for their weekend drinking is a 4.4 (high-very high)! This is the highest peak recorded. Respectively, if a child does receive educational support from their family, the average peak low is 1.0. This is a strange result and is interesting to see just how this affects how much someone might drink depending if they receive support from their family or not! [Family Relations vs Overall Alcohol Consumption]

15/18-year olds record a peak of 3.2 for weekend drinking, and a 1.8 for workday drinking. 19/22-year olds record a peak of 4 for both. Older students tend to drink much more.

[Final Words]

These are all very interesting finds, and I'm glad to have created my graphs around the interactive component of Tableau so that I could find them. The baseline story of my dashboard is that consuming more alcohol does affect grades, but not exactly in the way I would've expected. **I would've expected the lows for heavy alcohol consumption would be lower than those who drink very little, but it was not the case so that was certainly a surprise. I wouldn't have found that out if I hadn't reviewed the data.**

For those who wanted to do further analysis, they could possibly focus on how much time students' study and travel to school and how that might affect one's grades and alcohol consumption. That's easily enough content for another two dashboards, in my opinion.

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