

A Survey Study of the Factors of School Life on Mental Health

By Jolynn Cai

AUTHOR BIO

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ABSTRACT

This survey study explores the different factors contributing to the stress levels of students in a school district in California. This survey, distributed with the help of the district, focuses on the ways in which the students' demographic information, academics, personal activities, and school life influence the mental health of the student body. Through the comprehensive questions asked in the various sections of the survey, the students were able to share their thoughts about the ways in which they believed different aspects of their experiences contributed to their well-being.

Interestingly, the findings suggest that grade level, gender identity, and transportation methods primarily contribute to the stress levels of students. The study did find a correlation between the stress levels of the student and their satisfaction with their respective schools and teachers. However, more research should be done to determine the directionality of the relationship. Additionally, the study advocates for more communication among distinct school administrations and students, more up-to-date infrastructure, and opportunities for creative expression in order to nurture a safer and healthier environment for students to engage in to reach their full potential.

Keywords: academic environment, high school, improvement, mental health, satisfaction, stress, student feedback, student well-being, technology, transportation

INTRODUCTION

The mental well-being of teenagers has emerged as a critical topic of conversation, especially in academic settings. Adolescence is a crucial stage in development where everything drastically changes in social, emotional, and academic settings (Jaworska & MacQueen, 2015). Because school is where much of this development occurs, it is important to understand the various factors, such as academic pressure, social interactions, and technology use, that contribute to the rising stress levels in students today.

With college applications closer in the future and admissions getting more and more competitive each year, students are putting more and more on their plates. In all corners of the world, teenagers take exams, join clubs, and compete with their peers in almost every aspect of their experience (Jiang et al., 2022). However, more recently, it's not just academic pressures that teens now face, but also the social environments and technology that they interact with. Socially, adolescents learn to explore and navigate all types of social environments and learn to interact with their peers and families and authority figures. They understand their available support systems and make choices during these times of rapid development which contribute to their mental health and arise as depressive symptoms, anxiety, low self-esteem and more (Rueger et al., 2010). Research has shown that peer relationships were a predictor of emotional symptoms in both males and females, noting that these relationships play important roles in the mental health of adolescents and threats would significantly affect their well-being (Stepanous et al., 2023).

Additionally, the increased use of technology in daily life brings new challenges. Given the rate that technology has spread in the last couple of years, it's not surprising that this is one of the main factors that contribute to stress. Though there are many contradicting positions, it is generally accepted that different uses of technology affect the user in different ways, adolescents are more vulnerable to digital technology but have a level of control, and screentime is related to well-being (Dienlin &

Johannes, 2020). Technology is complicated because there is no set line to determine how much increases or decreases well-being. Some writers have tried to pinpoint the exact moment and offer solutions, but much of the discussion is left up to debate. Such literature has become increasingly popular in recent years. For example, *The Anxious Generation*, written by Jonathan Haidt (2024), has reached education systems and his concept of a "phone-based childhood" that destroyed the mental health of adolescents in the early 2010s has spurred districts across California, including my own, to pass new technology policies in schools.

Still, the idea of mental health in students is always brought up but hardly actually touched upon. In Board or faculty meetings, the well-being of the student is always stated to be of the utmost priority. Because of this, many districts have changed their policies in recent years to reflect research done on the mental health of teenagers, typically those in high school. Being a high school student myself, I wanted to learn more about the specific situation in my district and either challenge or strengthen such decisions that impact my community directly.

The purpose of this student survey is to evaluate how the students view the services offered by the district concerning their academics and personal hobbies from a mental health perspective, as well as gather information on how the district could improve. By utilizing a carefully created survey, the data gathered reflects the students' experiences and perceptions of the district. In doing so, I hope to shed light on the current state of mental health in students from the lens of a student and provide suggestions which educators can use to foster a more proactive school environment that puts the students' well-being first.

METHODOLOGY

This research was done through a Google Forms survey, and after reviewing the questions to ensure the ethicality of the survey by the district, the Superintendent sent it out to all the students at both high schools in the district through a communication platform called

StudentSquare. Data collection lasted for three weeks in the first quarter of 2024. All responses were voluntary, and in total, 187 responses were collected. The responses are spread across the student body and the collected data is representative of the district and schools. Names and emails of the responders were not collected, and all the responses were kept confidential and remained anonymous during data collection and analysis.

The survey included five parts: Demographics, Academics, Personal Hobbies, School Life, and Mental Health. Each part is composed of a mixture of multiple choice and open response questions to gauge the students' opinions of different services from their schools.

Q1 through Q7 are in the Demographics section. The questions in this section include high school, age, grade, gender, ethnicity, and some about their home life. The district has two high schools, which will be referred to as High School A and High Schools B in data analysis for confidentiality reasons. The purpose of asking these questions is to establish some context for the individual responses so that data analysis may be looked at more thoroughly.

Q8 to Q15 are in the Academics section. This section included questions about the students' favorite subject, the number of weighted (AP, IB, Honors) courses and exams taken, standardized test scores, and college plans. Some questions from this section will not be analyzed due to a lack of responses. For example, when asked about their standardized test scores, the majority responded with "Haven't taken/Prefer not to say". Thus, the data collected will not be fully unbiased due to voluntary response; however, all the responses are random. Although the observation may not be conclusive, the statistics are honest.

The Personal Hobbies section includes Q16 to Q21 which ask questions about the respondents' technology habits, typical bedtime, community service projects, topics of interest, and extracurricular activities. These questions aim to better understand the students' situations and interests.

The next is School Life which contains Q22 to Q33. This section has multiple-choice questions to ask about the usual method of transportation to and from school, insight on where students believed the schools could most improve, and the amount of time spent on homework. Questions are also asked in the form of a Likert scale to gather information about the respondents' satisfaction with different aspects of their academic experience. The scale goes from 1 to 5, with 1 meaning "needs improvement" to 5 meaning "very satisfied." Additionally, there are several open response questions for students to input additional information they feel is necessary.

The final section was the Mental Health section, which contains Q34 to Q41. This section uses a combination of Likert scale and multiple-choice questions to explore how certain aspects of school impact the students' mental well-being and which support systems they use to help cope with hard times.

After transferring the data onto an Excel spreadsheet, the statistics and tests were run through with an IBM software called Statistical Package for the Social Sciences (SPSS). The final outputs from the analysis are included in the paper as tables.

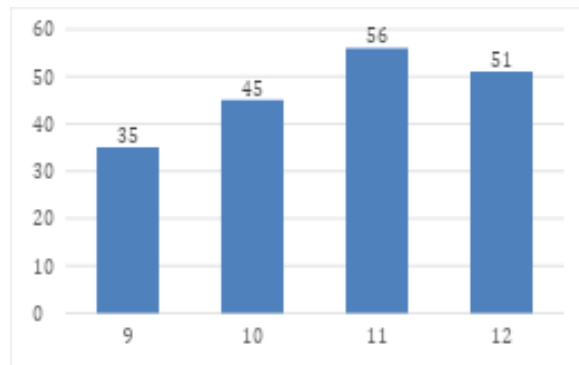
DEMOGRAPHIC RESULTS

Of the 187 responses collected in total, 128 responses (68%) were from High School A and 59 responses (32%) were from High School B.

The majority of the responses came from 16- and 17-year-old students. From both ages, 55 people responded followed by 35 responders at age 15, 21 responders at age 14, and 19 responders at age 18. Only 2 responders preferred not to disclose their age.

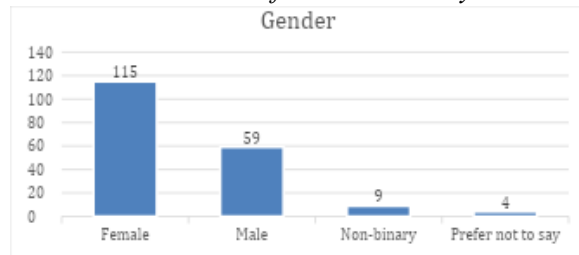
Most of the participants were juniors (56). 51 seniors, 45 sophomores, and 35 freshmen also filled out the survey.

Table 1: Grade Distribution



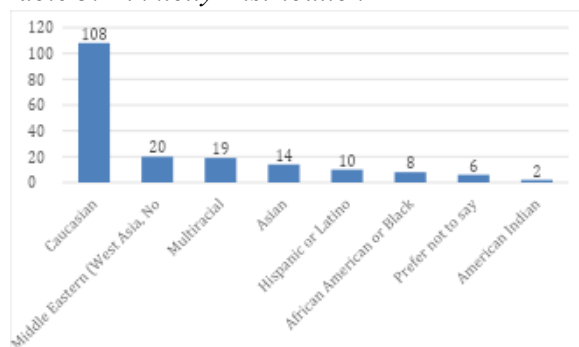
115 (61.5%) responders were female, 59 (31.6%) were male, 9 (4.8%) were non-binary, and 4 (2.1%) preferred not to say.

Table 2: Distribution of Gender Identity



As for ethnicity, 57.8% of the responders were Caucasian. 10.7% were from West Asia, North Africa, 7.5% were Asian, 5.3% were Hispanic or Latino, 4.3% were African American or Black, 1.1% were American Indian, and 10.2% were multiracial. 3.2% or 6 responders did not disclose.

Table 3: Ethnicity Distribution

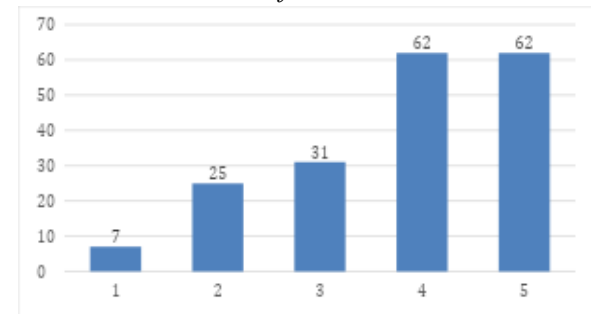


MENTAL HEALTH

In the mental health section, students were asked to rate how certain aspects of school impacted their mental well-being. Answers

ranged from a 1, meaning no stress, to 5, meaning extremely stressful. In the Table below, students rated how stressed they felt from school in general.

Table 4: Distribution of Stress Levels



In later analysis, responses were re-grouped. Responses of 1 through 3 represent no stress to mild stress while responses of 4 and 5 represent moderate to severe stress. In total, 63 people were grouped into no stress to mild stress, and 124 people were grouped into moderate to severe stress.

SATISFACTION RESEARCH

In the first look at the levels of stress compared to the other variables, some observations can be made.

Satisfaction of the school they attend and of the teachers are stronger correlated with mental health with the odds ratios for the variables all being greater than 1. The odds ratio for satisfaction of the school was 1.574 (see Table 5), meaning that students who were more satisfied with their schools were 1.574 times more likely to have lower levels of stress. Similarly, the odds ratio for the satisfaction of the teachers was 1.658 (see Table 6 below). However, it's difficult to make inferences on the temporality of the relationship. In other words, does satisfaction level contribute to different levels of stress, or is it the other way around? A bidirectional relationship is likely.

Table 5: Univariate Regression Results for Satisfaction of Schools

Variables in the Equation									
		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
Step	How	0.454	0.172	6.984	1	0.008	1.574	1.124	2.203
1 ^a	satisfied are you with your school?								
	Constant	-2.157	0.594	13.190	1	0.000	0.116		

a. Variable(s) entered on step 1: How satisfied are you with your school?.

Table 6: Univariate Regression Results for Satisfaction of Teachers

Variables in the Equation									
		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
Step	How	0.506	0.169	8.965	1	0.003	1.658	1.191	2.309
1 ^a	satisfied are you with the teachers?								
	Constant	-2.431	0.620	15.366	1	0.000	0.088		

a. Variable(s) entered on step 1: How satisfied are you with the teachers?.

Some variables did not make a difference in the results even though they seemed like they would at first glance. The relationships between stress levels and amount of time spent on homework, the number of weighted classes and exams the student took, time of sleep, and screen time should seem very strong, however the tests did not come back statistically significant, which could possibly be due to limitations in the method of collecting responses through a survey.

The link to this survey was sent to all students, however a small portion of the student body chose to respond. A result of this would be large random variation that makes it difficult to find a significant relationship, even if there is a relationship that exists. Alternatively, it could just be a characteristic of the population or sample that caused the results to be different from expectations.

In the future, to avoid confounding variables and reduce the large variations, a different method of data collection could be

utilized to ensure more accurate representation of the population, and the way survey questions are framed could be changed as well. Utilizing a Likert scale method more thoroughly would also help to quantify the results better and make the calculations for different categories more usable during data analysis.

MENTAL HEALTH - UNIVARIATE ANALYSIS

Although the variables expected to be significant did not come back as such, other variables did have strong relationships. After doing univariate analysis on all the variables using Chi-Square Test for independence, it is found that the participants' grade, gender identity, and, interestingly, method of transportation had the most impact on their mental health.

Table 7: Characteristics associated with No Stress to Mild Stress vs Moderate to Severe Stress

	No Stress to Mild Stress (1-3)		Moderate to Severe Stress (4-5)		
	N	%	N	%	p
Grade					0.032
Freshman	19	30.20%	16	12.90%	
Sophomore	14	22.20%	31	25.00%	
Junior	14	22.20%	42	33.90%	
Senior	16	25.40%	35	28.20%	
Gender Identity					0.024
Female	30	47.60%	85	68.50%	
Male	29	46.00%	30	24.20%	
Non-binary	3	4.80%	6	4.80%	
Prefer not to say	1	1.60%	3	2.40%	
Transportation					0.007
Biking/Walking	7	11.10%	3	2.40%	
Biking/Walking, Driving	1	1.60%	0	0.00%	

City Bus	1	1.60%	0	0.00%	
Driving	52	82.50%	118	95.20%	
Driving/School Bus	2	3.20%	0	0.00%	
Schol Bus	0	0.00%	3	2.40%	

Grade: Junior year appears to be the most stressful year. 75% percent of juniors were reported to have moderate to severe stress. Around 69% of both sophomores and seniors reported the same, while only 45.7% of freshmen reported moderate to severe stress. This survey was also distributed in the second semester, so these rates in seniors would likely be higher in the first semester from stress due to college applications.

Gender identity: Overall, females seem to struggle with their mental health at school more, with 73.9% reporting moderate to severe stress (85 out of 115 responders). In comparison, males were more evenly spread with 50.8% having moderate to severe stress (30 out of 59) responders. Additionally, 66.7% of nonbinary students reported moderate to severe stress. 4 participants preferred not to disclose.

Transportation: Curiously, out of the 173 responders who said they drove to school, 118 responders – or 68.2% - reported higher levels of stress. To compare, it was evenly split between lower levels and higher levels of stress for those who rode the bus, and 3 out of the 11 responders who biked or walked to school (27.3%) reported moderate to severe stress.

This could be due to a couple of reasons-

For students who drive to school, navigating traffic, finding parking spaces, and making it to class on time can lead to chaotic mornings and increased stress. Combining these issues with the distance the amount of cars on the road, it can be a big factor in their mental health.

For people who use buses as transportation, it may be less stressful because

they run on a schedule and usually get the student to school on time. Those who bike or walk to school tend to have lower levels of stress compared to the other methods of transportation. Studies in China (Ding & Feng, 2022) and Ireland (Költő et al., 2021) found that walking or cycling to school is positively associated with students' psychological well-being.

However, these are only some of my speculations and are not the only possible reasons for these trends. The survey did not cover in depth information about this, and more research could be done to find factual reasoning behind this.

Technology – A couple questions about technology and Internet habits were part of the survey. It asked about average screen time per day, favorite social media platform, and the social topics that come up most. None of these variables came back significantly, which is interesting because of how much recent research about technology on the adolescent brain focuses on the effects to their mental well-being. In fact, a study from the Yale Department of Psychiatry and Columbia School of Nursing found that adolescents who spend more time on digital technology were significantly more likely to exhibit higher levels of internalizing and externalizing problems two years later (Potenza, 2023). They found a strong association between screen time and mental health problems.

This increased use of digital technology comes from educational demands but also from social and cognitive demands in teenagers. During these vital developmental years, the behavior of this age group is largely driven by the brain's reward system (also increasing the risk of addictions and risk-taking), social connections, and social acceptance (Giedd, 2020). With their frontal lobes not entirely developed, teenagers are more prone to making impulsive decisions and not judging situations fully. This leads to increased use of digital technology and social media to fulfill those impulsive needs. In a time where anything can be found on the Internet and everything is captured forever on social media as a performance to be accepted, rates of anxiety, depression, self-destructive behaviors,

internalizing, and externalizing behaviors in teens have skyrocketed since the 2000s (Haidt, 2024). These also show up as an inability to concentrate, insomnia and chronic fatigue, metabolic instability, and feelings of guilt.

Therefore, it was interesting to discover that this survey didn't capture any of these associations and instead came back insignificant. Further research could be done to analyze this issue more in-depth, and another study could be done to investigate the specific impacts of digital technology and social media on the teenage brain.

MENTAL HEALTH - MULTIVARIATE REGRESSION

In the following analysis, multivariate logistic regression was used to examine the three significant variables simultaneously to determine the relationships and interactions between them.

Including the responders' grade, gender identity, and transportation method into the multivariate regression, various conclusions can be drawn -

Male students and alternative methods to get to school outside of driving came up as independent predictors of *lower* stress levels.

It found that male students are 0.359 times *less* likely to have moderate to severe stress, compared to students who are non-binary or female.

Interestingly, the analysis also found that students who drive to school are 3.877 times *more* likely to have moderate to severe stress, compared to students with alternative means of transport such as riding a bus, or walking or biking to school. This could be due to the reasons isolated under univariate analysis.

Table 8: Multivariate Regression Results

Variables in the Equation								
	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
GradeLowerHigher	-0.529	0.330	2.574	1	0.109	0.589	0.309	1.125
Gender								
Male(1)	-1.024	0.340	9.094	1	0.003	0.359	0.185	0.699
Driving(1)	1.355	0.555	5.960	1	0.015	3.877	1.306	11.507
Constant	0.678	0.591	1.315	1	0.252	1.970		

a. Variable(s) entered on step 1: GradeLowerHigher, Male, Driving.

However, when controlled for differences in gender identity and transportation, students' grade level was not a significant predictor of mental health.

STUDENT CONCERNS AND FEEDBACK

Through this survey, students demonstrate that they care greatly about the state of their schools and the education the students receive. One of the most important questions on the survey was about how students felt the schools could be improved, and much of the feedback could be grouped into three categories: class improvement, the counseling system, and school in general.

In terms of how the classes could improve, students suggested that teachers could cover content using more interactive teaching methods that engage students through completing fun projects in teams. They felt that the projects they worked on did not give them opportunities to express their creativity and that often, the rubrics limited their capabilities on such projects. They also believed that teachers could utilize communication methods such as Remind and class websites for quick and important announcements to students. Most of the announcements that teachers post are typically posted on Google Classroom which sends a notification to the student's email. Students are not likely to see the announcements because not many tend to regularly check their school emails. Students also believe that the classroom equipment, especially in the science buildings, could be updated every so often to keep up with the frequent student usage.

Concerning the counseling system, most students believed that they could increase the information shared about the counseling system so that they would have an easier time accessing the support they need. They felt that the information was hard to navigate and they felt unsure in their decisions. They also wanted counselors to increase the scope of information that they could give to students regarding different aspects of their academics and mental health so that they could be more informed about the opportunities offered and have an easier time utilizing the information. On a related note, they wanted counselors to increase communication with students to gain a better understanding of their needs, such as using other forms of communication besides emails and providing more frequent meetings with the students. Understandably, this is not entirely realistic given that each counselor would have to organize meetings with hundreds of students and individually understand all their needs.

When giving feedback about school in general, students believed that schools could support and communicate with them more through social media platforms such as Instagram or incentivizing students to listen to morning announcements or watching school news, as well as giving the teachers a motivation to listen to announcements or playing the school videos. They also believed that the schools' infrastructure could be improved by renovating and improving places like the restrooms, roofs and ceilings, and balancing the buildings' air ducting system so that the buildings would be roughly the same temperature.

A main question of the students taking the survey was what actions the schools and district would be able to take to address students' feedback. They were interested in taking the survey, but they were more enthusiastic to help improve the school conditions. In their comments, they expressed their hope to see changes come from this survey with actual input from students.

PROGRESS

Fortunately, the district has also noticed a couple of these concerns and have been

working on making policy changes to address those from the survey.

For example, for the 2024-2025 school year, they changed the counseling system so that all the counselors could give out all the same information in contrast with the old system where the counselors were separated into Academic, Wellness, and College and Career counselors. Though each counselor is assigned a range of students based on their last names, students can get the same information from every counselor and often meet with other counselors.

Also, as of the 2024-2025 school year, a new schedule was put in place to stagger the traffic. Students who attend periods 1-6 arrive and leave school earlier than students who attend periods 2-7. This policy was put into place in hopes that students would not spend so much time stuck in traffic everyday which could reduce some stress that students feel coming and going from school.

After recent reports came out about the relationships between screen time and teen mental health, the district introduced new phone policies to limit the usage at school. At the moment, these policies are controversial among parents, staff members, and students and next steps are still being discussed by the board regarding stricter limits for students, especially in elementary schools. Current policies include having the phone off and away during the school day, but students are allowed to have them during breaks. Most teachers have phone pockets for students to put their phones in at the beginning of class and they are required to report the student if they see them with a phone out after a first warning.

Additionally, this research project has benefited the district when they introduced a project to rebrand the district. Working with the team, I was able to utilize the findings and conclusions of my research to help them make changes and be part of the process.

Such policies have been discussed for a long time, and the findings of the survey support most of their goals. Though there are a multitude

of ways to go about achieving those goals, these new policies are evidence of the district's willingness to improve.

CONCLUSION

In conclusion, this survey has uncovered many interesting relationships and themes in the student body of both high schools surveyed. As a student myself, I've learned that many other students are interested in seeing the schools improve and that they care deeply about the experiences they are receiving as a student. This survey was an important opportunity to see what people had to say about different aspects of the schools, and continuous surveys to gain feedback from students and staff are extremely important for policies that are up to date with their needs. Through this project, I hope the district can better understand the situations they face and can be more proactive in reaching out and helping the community in reaching their goals.

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