

What factors influence College of the Canyons students to maintain good health?

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Abstract

Health is a complex concept. Literature on the subject includes metrics like organ health and function, physical stamina, and the effects of personal decisions like smoking or decisions outside of an individual's control like a pandemic lock-down. By looking at College of the Canyons student's self-reported health behaviors and tweets from college students across the country mentioning health related keywords, I can identify trends that indicate how students are managing their health. I found that only age made a difference in how often a respondent performed a positive or negative health behavior. The overall trend was a tendency to positive health behaviors which countered the qualitative data that indicated stress was a major feature of college life. It seems that students are not recognizing stress as affecting health or as something that an individual can do anything about. Limitations of my study include limited sample sizes of my survey and content analysis and no verification of college enrollment for participants. Future research could examine more specific details of what is stressful about college, or which positive health behaviors are being performed and how often.

Introduction

I am interested in this topic because I want to understand the obstacles college students face when trying to balance healthy living with the pressures of classwork. Health is a topic that is easy to ignore until it negatively impacts us through disease or degeneration, but it is one that encompasses huge portions of our daily lives. Health is not just a matter of being free from disease or disorder, but a multidimensional, interconnected system involving emotional, physical, social, and intellectual factors (Nelms, Hutchins, Hutchins, & Pursley, 2007). Once challenges are identified, solutions can be created to maximize students' ability to perform consistent, high-quality self-care which could lead to stronger, healthier college communities.

My research question is: What factors influence College of the Canyons students to maintain a healthy lifestyle?

Review of Literature

Factors of Health

Health is complex and multidimensional. Research tends to focus on one factor or metric. Some measure physiological metrics like cardiac function (Dobrosielski, Rosenbaum, Wooster, Merrill, Swanson, Moore, & Brubaker, 2010; Hu, Liu, Zhang, & Jiang, 2022). Hu et al. used data collected from a Ministry of Education of China testing program called Physical Activity and Fitness in China. This program measures and tracks the physical health of school children annually. The tests include BMI, running stamina, abdominal or upper body strength, explosive strength, and vital capacity. By comparing data from pre and post COVID-19 school closures, Hu et al. found that the lack of physical activity significantly negatively impacted average weight adolescent's physical health but had less or no effect on overweight students.

Dobrosielski et al. (2010) used standardized cardiac testing and measurement procedures to assess two groups of college football players (lineman and skill position) and one group of overweight non-athletes. Among their findings is the presence of elevated risk for cardiovascular disease (CVD) and diabetes in nearly half (46%) of linemen. This could indicate that despite the consistent exercise they participate in, the prevalence of central adiposity, pre-hypertension, and low levels of HDL within this group leave them vulnerable to CVD and diabetes.

Some research focuses on psychological metrics like symptoms of mental health or incidents of traumatic experiences (Boehm, Lei, Lloyd, & Prichard, 2016; Taliaferro & Muehlenkamp, 2015) and Nelms et al. (2007) looked at the affect spirituality has on self-perceived health status. Taliaferro and Muehlenkamp analyzed information from a national college student survey to examine both the relationship between self-harm and suicide attempt

and identify risk factors that can influence those relationships. Boehm et al. looked at the relationship between mental health disorders, tobacco use, and sleep quality.

Risk Factors

Risk factors create obstacles to good health. These can vary widely from a global pandemic causing widespread forced sedentary behavior (Hu et al., 2022) to a personal decision to smoke cigarettes in one's car (Ossip, Johnson, Assibey-Mensah, Wang, McLaren, Calabro, Prokhorov, & McIntosh, 2018). Tobacco use has numerous health risks including cardiovascular disease, cancer, and pulmonary disease. Ossip et al., who examined community college students who smoke cigarettes, found that 92.5% of their sample smoked daily but only 4.2% have a smoke free car and home. This gives the majority of smokers more opportunities to smoke, particularly since many community college students commute instead of live on campus. Some factors like living with parents or having children positively influence the presence of a smoke free policy.

The COVID-19 pandemic put physical activities on hold for millions of adolescents. Hu et al. (2022) had access to detailed health data of a group of Chinese students pre and post school lockdown and were able to show that the extended sedentary lifestyle had a negative effect on the average student studied. For those students who had previously been sedentary, the lockdown had little negative effect on the measures of their health.

Taliaferro and Muehlenkamp (2015) identified queerness, weight control disorders, and internalizing disorders as risk factors for nonsuicidal self-injury (NSSI) and suicide attempts. College first-year students and people of color were at higher risk for NSSI and suicide attempts. Among all students who had attempted suicide, more violence and substance abuse were common.

The Impact of Structural Functionalism on Personal Decisions

Structural Functionalism is a macro-level theory that conceptualizes societal roles, institutions, functions, and values as structures which constantly interconnect and interact creating a unified society (Blackstone, 2019). While student health may seem like a micro-level topic, macro-level forces have great influence on many personal decisions. If I want to identify factors that affect the health of college students, I have to look at the bigger picture influencing their decisions. For example, areas with no or limited access to high-quality nutritious fresh food are known as food deserts. Living in food deserts can force students to eat what is available, often cheap fast food. These items generally provide fats, carbs, and proteins but not many vitamins, minerals, or fiber. A consistent diet of low nutritional quality food can lead to a number of physiological and psychological disorders, one of which is fatigue. Chronic fatigue leads to increased sedentary behavior from lack of energy. Merely because of residency in a particular area- a factor completely out of their control, a student could be at greater risk for health problems, or for academic disadvantages if they miss class due to illness or have symptoms like lowered concentration and memory retention. Then there are cultural norms among Millennials and Gen Z to accept text messaging, short form information, and infographics from trusted sources as reliable and appropriate. When these norms are utilized to communicate health messaging, as in HealthyhornsTXT (Glowacki, Kirtz, Hughes Wagner, Duncan Cance, Barrera, & Bernhardt 2018), the individual recipient is better able to absorb the message. This creates a connection to their own culture instead of the recipient having to translate the message from a more academic or professional tone. Looking at the greater context that drives an individual's decisions can help identify the key factors that are making the greatest impact on students' health.

Methods

The Sample

Surveys were distributed through two methods. They were sent via email to College of the Canyons' (COC) students enrolled in Sociology 102 and Sociology 137, and to members of the COC Phi Theta Kappa chapter, Alpha Nu Xi. Surveys were also sent to COC students subscribed to COC related message boards on two social media platforms: Discord and Facebook. The age of the respondents ranged from 18 to 49. Additionally, I analyzed 43 public tweets from college students that mentioned one or more health related keyword seen in Appendix C.

Data Collection

The survey sample consisted of 46 respondents. Table 1 shows that the mean age of the respondents was 25.7 years old. Further, the majority are Hispanic (47.8%) and White (26.1%), with Asian or Pacific Islander making up 13%, Black 8.7%, and other races not specified representing 4.3%. Women made up an even 50% of respondents and men trailed with 39.1%. Non-traditional genders (non-binary, genderfluid/genderqueer, or other gender not specified) made up a combined 10.9% (6.5%, 2.2%, and 2.2% respectively). Lower class again made up 50% of the sample, followed by working class, 32.6%, middle class, 15.2%, and upper middle class, 2.2%. There were almost as many Agnostic or Atheist respondents as there were Catholic, 28.3% and 34.8% respectively. Christians, either liberal or evangelical/conservative, made up the next greatest proportion with liberal leaning Christians at 15.2% of the sample and conservative leaning Christians at 8.7% of the sample. There were 4.3% Jewish respondents, and 2.2% Muslim respondents. To collect my qualitative data, I searched Twitter.com for tweets from college students that mentioned one or more health related keywords. The list of keywords is

shown in Appendix C. Twitter is a social media platform that allows users to post short messages, known as tweets. Users are able to search for keywords within the entire tweet. Each qualifying tweet was documented by its username and classified by keyword(s) used and tone. The resulting data was analyzed for recurring themes and connections to the quantitative data.

Table 1. Demographic characteristics of the sample, N=46.

| | N | % | Mean |
|--------------------------------------------------------------------|----|------|------|
| Age in years | | | 25.7 |
| Race | | | |
| Black | 4 | 8.7 | |
| Hispanic | 22 | 47.8 | |
| Asian or Pacific Islander | 6 | 13.0 | |
| White | 12 | 26.1 | |
| Other not specified above | 2 | 4.3 | |
| Gender | | | |
| Woman | 23 | 50.0 | |
| Man | 18 | 39.1 | |
| Non-binary | 3 | 6.5 | |
| Genderfluid/Genderqueer | 1 | 2.2 | |
| Other not specified | 1 | 2.2 | |
| Social class | | | |
| Lower class, personal income of less than \$35,000 per year | 23 | 50.0 | |
| Working class, personal income of about \$35,001–\$75,000 per year | 15 | 32.6 | |
| Middle class, personal income of about \$75,001-\$100,000 per year | 7 | 15.2 | |
| Upper middle class, personal income of about \$100,001-\$200,000 | 1 | 2.2 | |
| What religion do you identify with? | | | |
| Agnostic or Atheist | 13 | 28.3 | |
| Catholic | 16 | 34.8 | |
| Christian, conservative or evangelical | 4 | 8.7 | |
| Christian, liberal | 7 | 15.2 | |
| Jewish | 2 | 4.3 | |
| Muslim | 1 | 2.2 | |
| Other | 3 | 6.5 | |

Operationalization of Concepts

For my study, factors of health are defined as behaviors with either a positive or negative affect on physiological health. A group of six questions was designed to determine an

individual's frequency of engaging in positive or negative factors of health. Four questions are negative behaviors and two are positive. Because these items do not function as a scale, I will be examining each of the six individually against the demographic variables.

Table 2. Frequency of Health Related Behaviors, N= 46.

| | N | % |
|---------------------------------------------------------------------|----|------|
| Frequency of smoking | | |
| Never | 22 | 47.8 |
| Sometimes | 11 | 23.9 |
| Often | 3 | 6.5 |
| Always | 10 | 21.7 |
| Frequency of drinking | | |
| Never | 19 | 41.3 |
| Sometimes | 17 | 37.0 |
| Often | 10 | 21.7 |
| Frequency of school impacting health decisions | | |
| Never | 15 | 32.6 |
| Sometimes | 17 | 37.0 |
| Often | 11 | 23.9 |
| Always | 3 | 6.5 |
| Frequency of day-to-day responsibilities impacting health decisions | | |
| Never | 11 | 23.9 |
| Sometimes | 17 | 37.0 |
| Often | 13 | 28.3 |
| Always | 5 | 10.9 |
| Frequency of performing healthy habits | | |
| Never | 3 | 6.5 |
| Sometimes | 12 | 26.1 |
| Often | 17 | 37.0 |
| Always | 14 | 30.4 |
| Frequency of thinking of improving health | | |
| Never | 4 | 8.7 |
| Sometimes | 12 | 26.1 |
| Often | 11 | 23.9 |
| Always | 19 | 41.3 |

Results

Bivariate Statistics

Descriptive statistics. I ran several cross tabulations. Looking at race and social class, 26.7% of respondents who selected "personal income of about \$35,001–\$75,000" per year are White.

I also examined gender and race. Hispanic respondents made up a majority of the sample with 52.2% percent of women respondents and 50% of men respondents.

Finally, a cross tabulation of gender and religion showed 47.8% of women are Catholic compared to 13% Agnostic or Atheist. After these two, the most popular religion is liberal Christianity with 17.4% of women.

Inferential statistics. I tested 6 hypotheses in order to answer my research question, "What factors influence College of the Canyons students to maintain a healthy lifestyle?"

H1: As age increases, frequency of school impacting health decisions will decrease. I ran a correlation on respondent age and frequency of school impacting health decisions. The results were statistically significant, weak, and negative ($r = -.283$, $p = .028$). I accept my hypothesis, older respondents were less likely to have health decisions impacted by school than younger respondents.

H2: Respondent's frequency of smoking and frequency of drinking will predict their frequency of thinking of improving health.

H2a: A higher frequency of drinking predicts higher frequency of thinking of improving health. I ran a linear regression on frequency of drinking and frequency of thinking of improving health. The results were significant ($b = .638$, $p = .002$). I accept H2a. For every additional unit of frequency of drinking, thinking of improving health increased by .638 units.

H2b: Higher frequency of smoking predicting lower frequency of thinking of improving health. I ran a linear regression on frequency of smoking and frequency of thinking of improving health. The results were not significant ($b = -.010$, $p = .940$). I reject H2b, the more a respondent smokes does not predict how often they think of improving their health.

H3: Women will have higher frequency of thinking of improving health scores compared to men. A *t*-Test on gender (woman, man) and frequency of thinking of improving health was significant ($t = -3.742$, $p < .001$, $ES = 1.03$). Men had higher frequency of thinking of improving health. Even though the results are significant, I reject H3 as I predicted the opposite outcome.

H4: Race will not determine how often school impacts health decisions. An ANOVA on frequency of school impacting health decisions by race was not significant ($f = .817$, $p = .522$). I accept my hypothesis, race is not a determining factor of the frequency that school impacts health decisions.

H4a: Asian people will have higher scores on frequency of school impacting health decisions than White people. An ANOVA was not significant ($p = .983$). Asian people do not have higher scores on frequency of school impacting health decisions than White people.

H4b: White people will have higher scores on frequency of school impacting health decisions than Black people. An ANOVA was not significant ($p = .990$). I reject my hypothesis. White people do not have higher scores on frequency of school impacting health decisions than Black people.

Qualitative Analysis

I collected tweets ($N = 43$) from US American college students that mentioned one or more keywords. Keywords were selected based on factors of health as described in the Operationalization of Concepts section. The keywords include smoking, drinking, health habit,

student life, stress, improve health. I also noted when a tweet had a positive or negative tone. After analyzing the tweets for content and tone, three themes emerged. These were

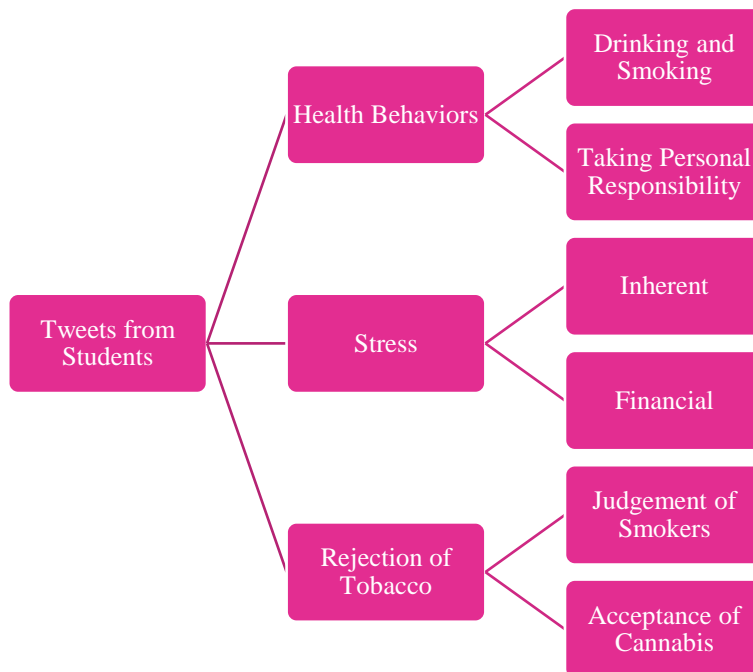
1. Stress as part of the college experience,
2. Positive or negative health behaviors, and
3. Rejection of tobacco products.

Stress as part of the college experience. It seems to be commonly accepted that being in college means being stressed. Some students felt dread toward their workloads, felt financial pressure, or felt that stress made an impact on their health. One tweet read, “college student life be like: am i having a medical emergency or am i just stressed?” This constant stress, especially for younger students as seen in H1 above, leads students to engage in more negative health behaviors.

Positive or negative health behaviors. While there were not many tweets expressing purely positive attitudes about their health, some students did make statements like, “college has somehow turned out to improve my mental health massively” or taking personal responsibility f==b reduce their alcohol intake to focus more on school. However, the majority of tweets mentioning health were negative. Bad eating habits and cannabis use were common. Both of these factors could be explained by the continual stress that is so common among college students. They aren’t accessing positive behaviors like exercise and healthy meals because drinking and smoking are so much easier and take less time to both perform the action and get a reaction from it. While exercise might take weeks of daily practice to start feeling the benefit of more energy and strength, drinking a beer or smoking cannabis makes the user feel relaxed right away. A student might feel that a few hours of being inebriated is much easier to fit into their

stressful schedule than trying to alter the entire way they eat or how they spend their time out of class.

Rejection of tobacco products. An interesting trend I noticed was the rejection of cigarettes. Students would not claim their own disuse but make judgmental comments on other student's use. One student said, "i'll never not be shocked to see a college student smoking a cigarette cuz [for real] what are you doing" and others say a student smoking tobacco must mean their life is too hard or more stressful than average. Only one person mentioned tobacco positively saying they would have a cigar to celebrate graduation. But despite the rejection of tobacco, many students were positive toward smoking cannabis. I think the greater amount of research that has been done on tobacco and the relatively little research on cannabis has caused a bias among college students. Studies or statistics on the danger of smoking tobacco are easy to find, but the stigma and demonization of cannabis has created barriers preventing scientists from thoroughly researching and experimenting on cannabis.



Discussion

Survey data showed that older respondents felt less impact on their health decisions from school which might indicate that having more years of experience allows for better management of college related stress. However, neither race, social class, gender, nor religion made a significant difference in a respondent's health behaviors. Looking at the data from my survey, the majority of respondents have a personal income of less than \$35,000, they don't drink or smoke excessively, and life and/or school don't get in the way of health decisions. But when I compare the quantitative and qualitative data, I find a disconnect between the majority of survey respondents who said school impacted health decisions "Never" or "Sometimes" and the declaration of stress in 15 of the 43 collected tweets. Students may be unaware of the effects of stress on health or may have become so used to academic stress that they no longer recognize it. Low-income students facing numerous institutional roadblocks affecting quality of life such as unaffordable or unavailable housing, income inequality, and rising costs across the board have no break from the pressures of stress. It becomes a fact of life. Students who view stress as a natural, intrinsic part of life will be less likely to take action to reduce it or reach out for help. It would be like asking your landlord to lower your rent. It is what it is. Even if they struggle significantly, they may feel it's something they are expected to deal with and try to manage it themselves. This could account for the 11 tweets, a quarter of the total collected, that mention drinking or smoking positively. Students in too much stress may only have energy to access faster acting coping strategies like getting high or drunk rather than long term solutions like regular exercise and good sleep hygiene. Feeling good while being intoxicated or knowing that relief is available immediately might be causing these students to feel like nothing is wrong and they're managing their overall health because they aren't suffering from any particular illness.

Conclusion

Limitations of my study include a small sample size for my survey which reduces the likelihood that the sample represents the student body. I also had no way to verify respondents' College of the Canyons enrollment status which creates validity issues. Limitations with my qualitative data again include a small sample size. Collecting tweets over a longer period of time would help find stronger trends. Future research could use more survey questions to ask about specific healthy habits such as average hours slept a night, number of meals a day, type of diet, type, and amount of exercise and what in particular is stressful about school (such as classwork, deadlines, teacher conflicts, or inflexible rules). After finding the trend of rejecting tobacco and accepting cannabis, further research could collect more specific data about what students are smoking or vaping, how often, and how much.

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Appendix A: Student Health Survey

Please only complete survey if you currently attend College of the Canyons. By completing the survey, you give your consent to participate and confirm that you are enrolled at College of theCanyons for the Fall 2022 semester. The survey does not ask you for any personally identifying information. All survey information will be kept confidential. You may choose to discontinue your participation at any time. You must be 18 years old or older to complete this survey. Please select the answer that most closely applies to you.

First, let's collect some information about you.

1. What is your age? ____
2. What is your racial or ethnic identification?
 - ____Indigenous North American
 - ____Black
 - ____Hispanic
 - ____Asian or Pacic Islander
 - ____White
 - ____Other not specified above
3. What is your gender identity?
 - ____Woman
 - ____Man
 - ____Non-binary
 - ____Genderfluid/Genderqueer
 - ____Prefer not to state

___ Other not specified

4. How would you describe your social class (this is based on your own personal income)?

___ Lower class, personal income of less than \$35,000 per year

___ Working class, personal income of about \$35,001-\$75,000 per year

___ Middle class, personal income of about \$75,001-\$100,000 per year

___ Upper middle class, personal income of about \$100,001-\$200,000 per year

___ Upper class, personal income over \$200,001 per year

5. What religion do you identify with?

___ Agnostic or Atheist

___ Buddhist

___ Catholic

___ Christian, conservative or evangelical

___ Christian, liberal

___ Hindu

___ Jewish

___ Muslim

___ Other

Health Habits

Now we'll ask some questions about your health habits. Please think about the current semester

(Fall 22).

6.

How often do you perform healthy habits (exercise, eat nutritious food, regular sleep habits)?

Never Daily

7.

How often do you smoke or vape (cigarettes, cigars, marijuana, nicotine blends)?

Never Daily

8.

How often do you drink alcohol?

Never Daily

9.

How often does school get in the way of maintaining good health?

Never Always

10.

How often do day-to-day responsibilities get in the way of maintaining good health?

Never Always

11.

How often do you think about improving your health?

Never Daily

Thank you for your participation!

Appendix B: Student Health Factors Survey Codebook

AGE ____ (interval, demographic)

RACE

What is your racial or ethnic identification? (nominal, demographic)

- 1- Indigenous North American
- 2- Black
- 3- Hispanic
- 4- Asian or Pacific Islander
- 5- White
- 6- Other not specified above

GENDER

What is your gender identity? (nominal, demographic)

- 1- Woman
- 2- Man
- 3- Non-binary
- 4- Genderfluid/Genderqueer
- 5- Prefer not to state
- 6- Other not specified

SOCCLASS

How would you describe your social class (this is based on your own personal income)?

(nominal, demographic)

- 1- Lower class, personal income of less than \$35,000 per year
- 2- Working class, personal income of about \$35,001-\$75,000 per year

- 3- Middle class, personal income of about \$75,001-\$100,000 per year
- 4- Upper middle class, personal income of about \$100,001-\$200,000 per year
- 5- Upper class, personal income over \$200,001 per year

RELIGION

What religion do you identify with? (nominal, demographic)

- 1- Agnostic or Atheist
- 2- Buddhist
- 3- Catholic
- 4- Christian, conservative or evangelical
- 5- Christian, liberal
- 6- Hindu
- 7- Jewish
- 8- Muslim
- 9- Other

HEALTHHABITS

How often do you perform healthy habits (exercise, eat nutritious food, regular sleep habits)?

(nominal)

- 1- Always
- 2- Often
- 3- Sometimes
- 4- Never

SMOKE

How often do you smoke or vape (cigarettes, cigars, marijuana, nicotine blends)? (nominal)

- 1- Never
- 2- Sometimes
- 3- Often
- 4- Always

ALCOHOL

How often do you drink alcohol? (nominal)

- 1- Never
- 2- Sometimes
- 3- Often
- 4- Always

SCHOOL

How often does school get in the way of maintaining good health? (nominal)

- 1- Never
- 2- Sometimes
- 3- Often
- 4- Always

LIFE

How often do day-to-day responsibilities get in the way of maintaining good health? (nominal)

- 1- Never
- 2- Sometimes
- 3- Often
- 4- Always

IMPROVE

How often do you think about improving your health? (nominal)

- 1- Always
- 2- Often
- 3- Sometimes
- 4- Never

Appendix C: Qualitative Research Grid

| username | smoking | drinking | health, habit | life | school | health, improve | positive tone | negative tone |
|----------|---------|----------|------------------|------|--------|--------------------|------------------|------------------|
| 1. | | | | | | | | |
| 2. | | | | | | | | |
| 3. | | | | | | | | |
| 4. | | | | | | | | |
| 5. | | | | | | | | |
| 6. | | | | | | | | |
| 7. | | | | | | | | |
| 8. | | | | | | | | |
| 9. | | | | | | | | |
| 10. | | | | | | | | |