

1 **Title:** Healthcare Students' Perception of Social Distancing during the 2019 Coronavirus Pandemic: A
2 Cross-Sectional Survey

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33 **Discussion Points:**

- 34 1. How do healthcare students perceive social distancing during the COVID19 era?
35 2. Is there a standard definition or practice for "social distancing"?
36 3. Common definitions of social distancing

37
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1 **ABSTRACT**

2 **Background:** Since the implementation of social distancing practices during the global coronavirus
3 disease 2019 (COVID-19) pandemic there have been a myriad of definitions for ‘social distancing.’ The
4 objective of this study was to determine students’ awareness of the various definitions of social
5 distancing, how strictly they adhered to social distancing guidelines, and how they perceived the
6 importance of various social distancing practices.

7 **Methods:** This cross-sectional survey was distributed via email to students at Emory-affiliated graduate
8 schools, including the Medical, Nursing, and Public Health Schools.

9 **Results:** Of the 2,453 recipients of the survey, 415 students responded (16.9% response rate). The
10 majority of respondents were medical students (n=225, 55.6%). Of the respondents, 357 noted that
11 they “frequently” or “always” abided by social distancing. The most common definition of social
12 distancing with which respondents were familiar was the Centers for Disease Control and Prevention
13 (CDC)’s (n=276 of 369 responses, 74.8%). There were significant differences across groups when
14 grouping students by the definition of social distancing that they were aware of, the social distancing
15 guideline they most closely followed, and their school of attendance regarding the importance of specific
16 social distancing examples ($p < 0.05$ for each).

17 **Conclusions:** A survey of healthcare students identified differences in the importance of social
18 distancing practices based on the definition of social distancing that they were aware of. The results of
19 this study underscore the importance of having unified definitions of public health messaging, which
20 ultimately may impact disease spread.

21
22 **Keywords:** Coronavirus, SARS-CoV-2, COVID-19, Social Distancing, Public Health, Students, Medical
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1 INTRODUCTION

2 On March 11, 2020, the SARS-CoV-2 (COVID-19) virus was declared a pandemic by the World Health
3 Organization (WHO).¹ The virus, with striking transmissibility through large respiratory particles, has
4 caused significant morbidity and mortality across the world. The exponential growth dynamics of the
5 virus² and failed efforts to control the spread strain not only healthcare resources and services, but also
6 economies, education, and the psychological wellbeing of the general population, particularly students.³
7 With limited knowledge of how to treat and contain the virus throughout the first half of 2020,
8 organizations like the Center for Disease Control (CDC), the WHO and the White House published
9 guidelines for behavior, including 'social distancing'.⁴

10

11 While various media and health organizations have encouraged the practice of social distancing, there
12 appears not to be one unified definition for what social distancing entails.⁵⁻⁷ The CDC defined social
13 distancing as, "remaining out of congregate settings, avoiding mass gatherings, and maintaining
14 distance (approximately six feet or two meters) from others,"⁷ and the WHO instructed that people
15 should maintain, "at least one metre (three feet) distance between yourself and anyone who is coughing
16 or sneezing,"⁶ while the White House made no mention of physical distancing, instead encouraging
17 working from home and avoiding social gatherings in groups larger than ten people.⁵ The myriad of
18 definitions of social distancing can impact the way in which individuals apply these practices daily, which
19 has further implications on the potential spread of COVID-19.

20

21 In the United States, there are a variety of advanced educational programs for students who have an
22 interest in the healthcare field. These programs include Doctor of Medicine (MD), and Registered Nurse,
23 Physician Assistant, Physical Therapist, and Master and Doctorate of Public Health. Students in these
24 fields undergo two to four years of education related to public health, science, physiology, biology and/or
25 infectious diseases. Given their graduate level education on these topics, these students serve as a
26 subset of individuals who have an above average understanding of human diseases. Therefore, they
27 are individuals who have advanced training, which helps them to better understand and appreciate the
28 nuances of the COVID-19 pandemic. As such, they are an important subgroup of interest to evaluate
29 how the lack of unified response to the pandemic has influenced behavior, as they hypothetically
30 understand the risks of the disease more so than the general public. The objective of this study was to
31 determine students in the healthcare field's awareness of the various definitions of social distancing,
32 their adherence to social distancing guidelines, and their understanding of importance of various social
33 distancing activities.

34

35 METHODS

36 Setting and Participants

37 An anonymous internet-based survey was administered from April 17, 2020 to May 3, 2020 to 2,453
38 students in health care related programs at Emory University, specifically, students enrolled in on-
39 campus education at one of the three following schools: The Emory University School of Medicine
40 (n=833), the Woodruff School of Nursing (n=794), and the Rollins School of Public Health (n=776). All

1 schools are located on Emory University's main campus in Atlanta, Georgia. Within the School of
2 Medicine, students from the medical doctorate, physician assistant and physical therapy programs were
3 invited to respond; the programs within the Schools of Medicine were selected by convenience
4 sampling. All students in the nursing school and public health school were invited to respond. The study
5 was exempted from review by the Emory University Institutional Review Board. Informed consent was
6 obtained from all survey participants; research conformed to the principles embodied in the Declaration
7 of Helsinki.⁸

9 **Survey**

10 The 15-question survey was created on SurveyMonkey™ through author collaboration and distributed
11 via email. The survey contained demographic questions, as well as questions that assessed (1)
12 students' awareness of organization's definitions of social distancing, (2) which social distancing
13 guidelines students most closely followed, (3) the frequency of which students were abiding by these
14 guidelines, (4) relative importance of recommendations and examples of social distancing practices, (5)
15 whether the students experienced symptoms of COVID-19, and (6) whether students believed others
16 were abiding by social distancing guidelines. The definitions of social distancing were from the Centers
17 for Disease Control and Prevention (CDC) and the WHO; guidelines for social distancing practices were
18 from the CDC, WHO, and President Trump's Coronavirus Guidelines for America.⁵⁻⁷ Survey questions
19 were multiple choice questions, with the exception of one question asking students to elaborate on
20 whether they believed others were abiding by social distancing guidelines in a free text format. All
21 multiple choice questions offered a selection option of "prefer not to say."

22
23 All multiple choice questions allowed for one answer except for the question instructing respondents to
24 mark which of the definitions of "social distancing" they were familiar with. This question allowed for
25 multiple answer choices, including the CDC's definition, the WHO's definition, uncertain, none of the
26 above, and prefer not to say. The survey question relating to the frequency of which students practiced
27 social distancing was assessed on a Likert scale with options including always (100% of the time),
28 frequently (75%-99% of the time), occasionally (50-74% of the time), rarely (25-49% of the time), very
29 rarely (1-24%) of the time, or never (0% of the time). The survey questions assessing the importance
30 of 19 different actions or practices as they pertain to social distancing had participants rank each action
31 or practice on a 5-point Likert scale: very important (5), important (4), moderately important (3), slightly
32 important (2), and not important (1).

34 **Analysis**

35 Statistical analysis was conducted using SAS Version 9.4. Descriptive statistics for each variable were
36 reported. For results in Table 1, frequencies and their percentages were shown for categorical variables;
37 Chi-square test or Fisher's exact test was employed if appropriate. For numerical covariates displayed
38 in Table 2, the mean and standard deviation were calculated and presented; one-way ANOVA tests
39 were performed if appropriate. In order to evaluate if students' identification of one definition of social
40 distancing was responsible for a significant difference in results, Tukey's test for post-hoc analysis was

1 conducted. Paired sample t-test was used for comparing “six” and “three” feet for those who said that
2 they followed WHO guidelines. The significance level was set at 0.05. Free responses were
3 independently coded by two medical students (D.L.B. and K.W.R.); discrepancies in qualitative coding
4 were resolved by consensus. Themes and representative quotes were presented. Missing data were
5 excluded from calculations.

7 **RESULTS**

8 Of the 2,453 recipients of the survey, 415 students responded (16.9% response rate). The majority of
9 respondents were female (n=304 75.1%). The medical doctorate program was the program with the
10 most respondents (n=225, 55.6%, Table 1). Students most commonly noted that they “frequently” or
11 “always” practiced social distancing, defined as practicing social distancing 75-100% of the time (n=357,
12 96.7%, Table 1). Respondents were most familiar with the CDC’s definition of social distancing (n=276,
13 74.8%; Table 1). 96 respondents (26.0%) were uncertain or not familiar with either the CDC’s or the
14 WHO’s definition of social distancing.

15
16 There were statistically significant differences in students’ assessment of importance of three examples
17 of social distancing when grouping students by the social distancing definition (either WHO, CDC, Both,
18 Neither, or Uncertain) that they were aware of. These three examples included “increasing physical
19 space between workers at worksite[s],” “stay[ing] at least six feet” and “at least three feet away from
20 other people” (Table 2, $P < 0.05$ for each). Specifically, the “uncertain” group was significantly different
21 from the CDC only group. Similarly, when grouping students by the social distancing definition that they
22 most closely followed, there were significant differences in the assigned importance of 12 of 19 social
23 distancing examples (Table 2). Finally, when grouping students based on the school that they attend
24 there were significant differences in mean ranked importance in seven of 19 examples of social
25 distancing practices (Table 2). There was no association between respondents’ awareness of social
26 distancing definitions and the guidelines that they said they followed. Students who identified as
27 following WHO guidelines felt it was more important to remain six feet from other people as opposed to
28 three feet (mean (SD): 4.8 (0.4), 4.3 (1.0), respectively; $p = 0.017$).

29
30 Respondents (69.7%) felt that people other than themselves were abiding by social distancing
31 practices, though many expressed doubts of adherence (n=257, 69.7%, Table 1). Table 3 shows key
32 themes of respondents’ views on social distancing practices of others. Notably, 13 respondents felt that
33 those who were not abiding by social distancing practices were acting as a result of misinformation
34 (Table 3).

36 **DISCUSSION**

37 The results of this study demonstrate that different social distancing definitions influence the importance
38 with which respondents rank specific social distancing practices. There were significant differences
39 between how important “Increasing physical space between workers at worksite” was depending on
40 which definition of social distancing the student was aware of (CDC, WHO, White House, own

1 definition). This study also highlights the impact of misinformation and uncertainty on social distancing
2 practices: 25.5% of students' felt that they practiced their own understanding of social distancing and
3 an additional 7.3% were uncertain of which guidelines they were following. Regardless of which
4 guidelines the respondents followed, 96.7% of respondents felt that they practiced some form of social
5 distancing 75-100% of the time. This is a slightly higher percentage than previously reported data, which
6 suggested that Americans' "always" or "very often" complied with social distancing guidelines 93% of
7 the time.⁹

8
9 As demonstrated in this study, the varied and changing definitions of the term 'social distancing' and
10 social distancing guidelines can create a confusion amongst individuals regarding proper practices to
11 abide by, even across students in professional healthcare programs. Further exemplifying this
12 confusion is that students abiding by WHO guidelines felt it more important to remain six feet away from
13 other people as opposed to three feet, the key difference between the two guidelines.

14
15 Within the field of healthcare, unclear definitions can make it challenging to understand disease
16 prevalence and trends,¹⁰ lead to biases in assessments of conditions,¹¹ and present challenges in
17 assessing the effectiveness of policy outcomes.^{12,13} Leaving policy criteria subject to interpretation, or
18 having conflicting criteria, is ultimately detrimental to the success of a policy.¹³ Given that local and state
19 governments utilize federal guidance to inform their social distancing planning efforts,¹⁴ unclear social
20 distancing definitions and guidelines can be particularly problematic. This is most clearly seen by past
21 attempts at social distancing during prior viral outbreaks, where there was varied implementation of
22 social distancing practices due to variation between and within international, federal, and state
23 policies.^{15,16} Furthermore, inconsistent and unclear messaging in the COVID-19 public health response
24 has led to notable differences in self-reported knowledge, attitudes, and behavior related to COVID-
25 19.¹⁷

26
27 Studies have shown that relaxing social distancing guidelines without instituting compensatory
28 practices, like case-detection, isolation and contact-tracing, may result in a resurgence of COVID-19
29 disease activity.¹⁸ Other studies call for prolonged and intermittent social distancing into 2022 as
30 resurgences could result in potentially more deadly subsequent waves of disease.¹⁹ With the potential
31 of disease resurgence, the importance of clarification of definition of social distancing and promoting a
32 unified set of guidelines for physical distancing is paramount.

33
34 Limitations included convenience sampling, response bias and a small sample size in this single-center
35 study. Respondents were mostly from the medical school, despite the majority of survey recipients
36 being enrolled at either the Public Health school or the Nursing School; however, the survey was
37 conducted in the midst of the COVID-19 pandemic, with each school implementing different educational
38 restrictions. Emory's proximity and association with the CDC could have impacted respondents'
39 awareness of national guidelines. Finally, the survey was not validated. Future research includes
40 conducting follow-up surveys across different timepoints to improve understanding of changes in

1 perception of social distancing practices. Broadening the distribution of the survey amongst non-health
2 care students across a diverse geographic location could improve the study generalizability and
3 highlight geographic variability in social distancing practices.

4

5 **CONCLUSION**

6 A survey of healthcare students identified significant differences in the mean importance of various
7 social distancing practices based on the definition of social distancing that they were aware of. The
8 results of this study can help inform the larger public health community on understanding what social
9 distancing means to a group of students receiving professional level education in the healthcare sector
10 and underscores the importance of having a uniformed definition and guidelines for practicing social
11 distancing during the COVID-19 pandemic.

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1 References

- 2 1. World Health Organization. WHO Director-General's opening remarks at the media briefing on
3 COVID-19, 11 March 2020. Available from: [https://www.who.int/dg/speeches/detail/who-](https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020)
4 [director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020](https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020). Last
5 updated March 11, 2020; cited February 18, 2021.
- 6 2. Shim E, Tariq A, Choi W, Lee Y, Chowell G. Transmission potential and severity of COVID-19
7 in South Korea. *Int J Infect Dis*. 2020 Mar 22;93:339-44.
- 8 3. Cao W, Fang Z, Hou G, et al. The psychological impact of the COVID-19 epidemic on college
9 students in China. *Psychiatry Res*. 2020 Apr 2;287:112934.
- 10 4. Mahase E. Covid-19: UK starts social distancing after new model points to 260 000 potential
11 deaths. *BMJ*. 2020 Mar 19;368:m1089.
- 12 5. Ritschl PV, Nevermann N, Wiering L, et al. Solid organ transplantation programs facing lack of
13 empiric evidence in the COVID-19 pandemic: A By-proxy Society Recommendation Consensus
14 approach. *Am J Transplant*. 2020 Apr 24;20(7):1826-36.
- 15 6. World Health Organization. Coronavirus disease (COVID-19) advice for the public. Available
16 from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>.
17 Last updated February 16, 2021. Cited February 18, 2021.
- 18 7. Centers for Disease Control and Prevention. Interim US Guidance for Risk Assessment and
19 Public Health Management of Persons with Potential Coronavirus Disease 2019 (COVID-19)
20 Exposures: Geographic Risk and Contacts of Laboratory-confirmed Cases. Available from:
21 <https://www.cdc.gov/coronavirus/2019-ncov/php/risk-assessment.html>. Last updated February
22 2, 2021. Cited February 18, 2021.
- 23 8. General Assembly of the World Medical Association. World Medical Association Declaration of
24 Helsinki: ethical principles for medical research involving human subjects. *J Am Coll Dent*. 2014
25 May 9;81(3):14-18.
- 26 9. Gallup. Americans Still Social Distancing, but Less Vigilant. Available from:
27 <https://news.gallup.com/poll/309611/americans-social-distancing-less-vigilant.aspx>. Last
28 updated April 30, 2020. Cited May 22, 2020.
- 29 10. Fruhbeck G. Childhood obesity: time for action, not complacency. Definitions are unclear, but
30 effective interventions exist. *BMJ*. 2000 Feb 5;320(7231):328-329.
- 31 11. Nord E. Disability weights in the Global Burden of Disease 2010: unclear meaning and
32 overstatement of international agreement. *Health Policy*. 2013 Apr 24;111(1):99-104.
- 33 12. Rodziewicz TL, Houseman B, Hipskind JE. Medical Error Prevention. In: StatPearls [Internet].
34 Treasure Island (FL): StatPearls Publishing; 2020.
- 35 13. Pollack Porter KM, Rutkow L, McGinty EE. The Importance of Policy Change for Addressing
36 Public Health Problems. *Public Health Rep*. 2018 Nov 15;133(1_suppl):9S-14S.
- 37 14. Uscher-Pines L, Schwartz HL, Ahmed F, et al. School practices to promote social distancing in
38 K-12 schools: review of influenza pandemic policies and practices. *BMC Public Health*. 2018
39 Mar 29;18(1):406.

- 1 15. Katz R, Vaught A, Simmens SJ. Local Decision Making for Implementing Social Distancing in
2 Response to Outbreaks. *Public Health Rep.* 2019 Jan 19;134(2):150-154.
- 3 16. Kraemer JD, Siedner MJ, Stoto MA. Analyzing Variability in Ebola-Related Controls Applied to
4 Returned Travelers in the United States. *Health Secur.* 2015 Sep 9;13(5):295-306.
- 5 17. Wolf MS, Serper M, Opsasnick L, O'Connor RM, Curtis L, Benavente JY, et al. Awareness,
6 Attitudes, and Actions Related to COVID-19 Among Adults With Chronic Conditions at the
7 Onset of the U.S. Outbreak: A Cross-sectional Survey. *Ann Intern Med.* 2020 Jul 21;173(2):100-
8 109.
- 9 18. Tuite AR, Greer AL, De Keninck S, Fisman DN. Risk for COVID-19 Resurgence Related to
10 Duration and Effectiveness of Physical Distancing in Ontario, Canada. *Ann Intern Med.* 2020
11 May 28;173(8):675-8.
- 12 19. Kissler SM, Tedijanto C, Goldstein E, Grad YH, Lipsitch M. Projecting the transmission
13 dynamics of SARS-CoV-2 through the postpandemic period. *Science.* 2020 May
14 22;368(6493):860-868.
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1 **Table 1.** Study Respondent Demographic information and Social Distancing Practices.

| Demographic characteristics | N (%) |
|---|--------------|
| N | 415 |
| Age, mean (SD), y | 25-29 (57.3) |
| Gender* | |
| Male | 100 (24.7) |
| Female | 304 (75.1) |
| Non-Binary | 1 (0.2) |
| Other/Missing | 10 |
| Race | |
| White or Caucasian | 283 (69.9) |
| Black or African American | 41 (10.1) |
| Asian or Asian American | 47 (11.6) |
| Two or More Races | 22 (5.4) |
| Other | 8 (2.0) |
| Prefer not to say | 4 (1.0) |
| Missing | 10 |
| Ethnicity | |
| Hispanic | 26 (6.4) |
| Non-Hispanic | 375 (92.6) |
| Prefer not to say | 4 (1.0) |
| Missing | 10 |
| Degree Program Enrollment | |
| Medical School – Medical Doctorate Program | 225 (55.6) |
| Medical School – Physician Assistant Program | 43 (10.6) |
| Medical School – Physical Therapy Program | 15 (3.7) |
| Nursing School | 45 (11.1) |
| Public Health School | 43 (10.6) |
| Other / Prefer not to say | 28 (6.9) |
| Not currently enrolled in degree program | 6 (1.5) |
| Missing | 10 |
| Which of the following organization’s definitions of “social distancing” are you familiar with? ^a (n=369) | |
| World Health Organization | 152 (41.2) |
| Center for Disease Control | 276 (74.8) |
| Uncertain | 83 (22.5) |
| None of the above | 13 (3.5) |
| Which of the following guidelines for “social distancing” do you most closely follow? (n=369) | |
| World Health Organization | 27 (7.3) |

| | |
|--|------------|
| Centers for Disease Control and Prevention | 215 (58.3) |
| President Trump's Coronavirus Guidelines for America | 4 (1.1) |
| My own understanding of 'social distancing' | 94 (25.5) |
| Uncertain | 27 (7.3) |
| None of the above | 2 (0.5) |
| Since March 1, 2020, how often have you practiced 'social distancing'? (n=369) | |
| Always | 96 (26.0) |
| Frequently | 261 (70.7) |
| Occasionally | 10 (2.7) |
| Rarely | 1 (0.3) |
| Very Rarely | 1 (0.3) |
| Never | 0 |
| In general, do you believe that people other than yourself are abiding by 'social distancing' practices? (n=369) | |
| Yes | 257 (69.7) |
| No | 110 (29.8) |
| Prefer not to say | 2 (0.5) |

1 *Multiple selection allowed

2

1 **Table 2.** Respondents' Ranking of Importance of Examples of Social Distancing as Provided on the
 2 Study Survey when Grouping Respondent's by Social Distancing (1) Definitions, (2) Guidelines they
 3 follow, and (3) Students' Program Enrollment.

| Examples of 'Social Distancing' | Students' Awareness of Social Distancing Definition(s), Mean (SD) | | | | |
|--|---|--------------------|--------------------------|--------------------|------------------|
| | CDC Only (n=125) | WHO Only (n=5) | Both (n=43) | Uncertain (n=75) | P-value |
| Work or engage in schooling from home whenever possible | 4.8 (0.45) | 4.82 (0.42) | 4.77 (0.58) | 4.73 (0.62) | 0.689 |
| Avoid social gatherings in groups of more than ten people | 4.6 (0.55) | 4.9 (0.45) | 4.86 (0.4) | 4.84 (0.55) | 0.479 |
| Avoid eating or drinking at bars, restaurants and food courts | 4.8 (0.45) | 4.77 (0.53) | 4.8 (0.45) | 4.75 (0.79) | 0.933 |
| Avoid non-essential shopping trips | 4.8 (0.45) | 4.72 (0.5) | 4.61 (0.64) | 4.51 (0.84) | 0.133 |
| Avoid visiting nursing homes and retirement communities | 4.8 (0.45) | 4.89 (0.46) | 4.91 (0.35) | 4.88 (0.43) | 0.904 |
| Avoid touching your face | 4.4 (0.55) | 4.42 (0.84) | 4.48 (0.73) | 4.2 (1.08) | 0.136 |
| Increase physical space between workers at worksite | 4.2 (0.84) | 4.74 (0.46) | 4.62 (0.54) | 4.44 (0.87) | 0.003 |
| Staggering work schedules | 3.4 (1.82) | 4.14 (0.97) | 3.94 (1) | 3.93 (1.02) | 0.168 |
| Limit in-person work related meetings | 4.4 (0.55) | 4.76 (0.5) | 4.76 (0.49) | 4.6 (0.84) | 0.128 |
| Avoid international travel | 4.6 (0.55) | 4.79 (0.64) | 4.77 (0.59) | 4.81 (0.54) | 0.858 |
| Avoid domestic travel | 4.4 (0.89) | 4.39 (0.8) | 4.4 (0.76) | 4.2 (1.07) | 0.37 |
| Wear a face mask in public | 3.4 (1.52) | 3.89 (0.93) | 3.84 (0.92) | 3.53 (1.12) | 0.059 |
| Avoid outdoor exercise | 1.8 (1.3) | 1.7 (0.83) | 1.69 (0.91) | 1.79 (1.03) | 0.887 |
| Stay at least six feet away from other people | 4.6 (0.55) | 4.7 (0.54) | 4.66 (0.58) | 4.43 (0.93) | 0.030 |
| Stay at least three feet away from other people | 3.2 (1.79) | 4.46 (0.88) | 4.41 (0.86) | 4.08 (1.17) | 0.002 |
| Avoiding sharing things like towels and utensils | 3.8 (1.64) | 4 (1.13) | 4.13 (1.03) | 3.97 (1.23) | 0.685 |
| Stay at home | 4.4 (0.89) | 4.62 (0.55) | 4.59 (0.71) | 4.51 (0.79) | 0.621 |
| Avoid having visitors to your home | 4.4 (0.55) | 4.62 (0.59) | 4.54 (0.65) | 4.48 (0.83) | 0.456 |
| Limit social circle | 3.6 (1.67) | 4.26 (1.28) | 4.29 (1.1) | 4.04 (1.43) | 0.331 |
| | Social Distancing Guidelines Students' Abide By, Mean (SD) | | | | |
| Examples of 'Social Distancing' | CDC (n=215) | WHO (n=27) | Own Understanding (n=94) | Other (n=33) | P-value |
| Work or engage in schooling from home whenever possible | 4.84 (0.45) | 4.89 (0.32) | 4.73 (0.53) | 4.42 (0.9) | <0.001 |

| | | | | | |
|--|-------------------------------|------------------------------|----------------------------|------------------------------------|------------------|
| Avoid social gatherings in groups of more than ten people | 4.9 (0.33) | 4.85 (0.36) | 4.86 (0.52) | 4.67 (0.82) | 0.047 |
| Avoid eating or drinking at bars, restaurants and food courts | 4.77 (0.51) | 4.81 (0.4) | 4.88 (0.35) | 4.42 (1.12) | <0.001 |
| Avoid non-essential shopping trips | 4.67 (0.57) | 4.63 (0.69) | 4.62 (0.67) | 4.24 (1) | 0.008 |
| Avoid visiting nursing homes and retirement communities | 4.92 (0.37) | 4.93 (0.27) | 4.95 (0.27) | 4.58 (0.79) | <0.001 |
| Avoid touching your face | 4.49 (0.74) | 4.48 (0.64) | 4.24 (1.01) | 4.18 (1.16) | 0.051 |
| Increase physical space between workers at worksite | 4.69 (0.49) | 4.74 (0.53) | 4.5 (0.74) | 4.3 (0.95) | 0.001 |
| Staggering work schedules | 4.07 (1) | 3.85 (1.03) | 4.11 (1.01) | 3.55 (0.97) | 0.027 |
| Limit in-person work related meetings | 4.79 (0.47) | 4.78 (0.51) | 4.67 (0.63) | 4.27 (0.98) | <0.001 |
| Avoid international travel | 4.8 (0.56) | 4.74 (0.53) | 4.79 (0.58) | 4.58 (0.83) | 0.23 |
| Avoid domestic travel | 4.39 (0.8) | 4.37 (0.84) | 4.33 (0.92) | 4.03 (1.1) | 0.18 |
| Wear a face mask in public | 3.91 (0.86) | 3.96 (0.92) | 3.5 (1.16) | 3.33 (1.24) | <0.001 |
| Avoid outdoor exercise | 1.68 (0.83) | 1.78 (0.89) | 1.73 (1.05) | 1.79 (1.05) | 0.89 |
| Stay at least six feet away from other people | 4.69 (0.57) | 4.77 (0.43) | 4.47 (0.77) | 4.39 (0.93) | 0.005 |
| Stay at least three feet away from other people | 4.48 (0.82) | 4.26 (1.02) | 4.03 (1.2) | 4.12 (1.08) | 0.001 |
| Avoiding sharing things like towels and utensils | 4.03 (1.11) | 4.19 (1.11) | 4.1 (1.15) | 3.76 (1.28) | 0.44 |
| Stay at home | 4.6 (0.61) | 4.81 (0.48) | 4.61 (0.66) | 4.15 (1.03) | <0.001 |
| Avoid having visitors to your home | 4.6 (0.58) | 4.56 (0.51) | 4.53 (0.84) | 4.36 (0.93) | 0.31 |
| Limit social circle | 4.37 (1.11) | 4.15 (1.35) | 4.03 (1.39) | 3.94 (1.48) | 0.075 |
| Students' Program Enrollment, Mean (SD) | | | | | |
| Examples of 'Social Distancing' | Medical School (n=225) | Nursing School (n=45) | PT/PA School (n=58) | Public Health School (n=43) | P-value* |
| Work or engage in schooling from home whenever possible | 4.81 (0.44) | 4.68 (0.8) | 4.7 (0.7) | 4.75 (0.44) | 0.387 |
| Avoid social gatherings in groups of more than ten people | 4.96 (0.21) | 4.73 (0.73) | 4.64 (0.71) | 4.9 (0.3) | <0.001 |
| Avoid eating or drinking at bars, restaurants and food courts | 4.85 (0.42) | 4.68 (0.77) | 4.51 (0.82) | 4.83 (0.5) | <0.001 |
| Avoid non-essential shopping trips | 4.67 (0.58) | 4.41 (0.95) | 4.42 (0.82) | 4.78 (0.42) | 0.006 |

| | | | | | |
|---|--------------------|--------------------|--------------------|--------------------|--------------|
| Avoid visiting nursing homes and retirement communities | 4.9 (0.37) | 4.91 (0.29) | 4.91 (0.45) | 4.9 (0.3) | 0.996 |
| Avoid touching your face | 4.32 (0.85) | 4.68 (0.6) | 4.4 (0.95) | 4.25 (1.0) | 0.068 |
| Increase physical space between workers at worksite | 4.6 (0.6) | 4.5 (0.7) | 4.51 (0.82) | 4.8 (0.41) | 0.11 |
| Staggering work schedules | 4.05 (0.92) | 3.6 (1.24) | 3.92 (1.11) | 4.2 (0.79) | 0.024 |
| Limit in-person work related meetings | 4.73 (0.55) | 4.75 (0.53) | 4.55 (0.82) | 4.7 (0.56) | 0.232 |
| Avoid international travel | 4.78 (0.56) | 4.68 (0.74) | 4.7 (0.67) | 4.95 (0.22) | 0.126 |
| Avoid domestic travel | 4.36 (0.82) | 4.2 (1.07) | 4.02 (0.95) | 4.63 (0.54) | 0.005 |
| Wear a face mask in public | 3.76 (0.98) | 3.8 (1.07) | 3.43 (1.17) | 3.95 (0.85) | 0.082 |
| Avoid outdoor exercise | 1.72 (0.91) | 2.05 (1.16) | 1.38 (0.63) | 1.73 (0.78) | 0.004 |
| Stay at least six feet away from other people | 4.59 (0.63) | 4.55 (0.82) | 4.55 (0.8) | 4.82 (0.39) | 0.183 |
| Stay at least three feet away from other people | 4.3 (0.99) | 4.34 (1.01) | 4.17 (1.07) | 4.63 (0.54) | 0.147 |
| Avoiding sharing things like towels and utensils | 3.95 (1.17) | 4.32 (0.98) | 3.89 (1.27) | 4.13 (0.99) | 0.185 |
| Stay at home | 4.59 (0.58) | 4.48 (0.790) | 4.42 (0.91) | 4.73 (0.51) | 0.107 |
| Avoid having visitors to your home | 4.62 (0.64) | 4.48 (0.76) | 4.28 (0.84) | 4.63 (0.59) | 0.011 |
| Limit social circle | 4.25 (1.29) | 4.18 (1.17) | 4.21 (1.26) | 4.05 (1.2) | 0.839 |

1 Abbreviations: PT, Physical Therapy; PA, Physician's Assistant; CDC, Centers for Disease Control and
 2 Prevention; WHO, World Health Organization.

3 *P-value calculated by ANOVA

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1 **Table 3.** Key themes of Survey Respondents' Views on Social Distancing Practices of Others with
 2 Representative Quotes of these themes from Respondents on the Study Survey.
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| Themes | Number of Responses; Representative quotes |
|---|--|
| The respondent states agreement that they and/or others do practice social distancing | 142; "I believe that the vast majority of people are doing the best they can as they see it to socially distance." |
| Acknowledgement of people ignoring or not abiding by social distancing recommendations (non-specific) | 51; "I don't have the impression that the broader public is abiding by the practices I am following." |
| Changes in road congestion | 16; "Everything outside is empty and there is no traffic." |
| Mention of maintaining physical distance between individuals as an example of social distancing | 58; "When I go to the grocery store, many people are less concerned about maintaining a buffer of space between them and other people." |
| Mention of changes to work and school related practices due to social distancing policy | 16; "People in my neighborhood are mostly working from home." |
| Use of masks and personal protective equipment | 27; "In the grocery stores, only 30% [of people] or so wear masks." |
| Group gatherings as seen in person, on the news, or social media | 71; "I have also seen other people blatantly breaking social distancing recommendations on social media." |
| Social distancing practices influenced by policies on business and venue closures / opening | 18; "Most non-essential businesses are closed; people don't have much of a choice." |
| Changes in essential trip frequency | 23; "I watch others be intentional about not going out into the community more than necessary." |
| Lack of access to credible information or misinformation influencing social distancing practices | 13; "I also see the rampant spread of misinformation and just pure blind ignorance prevalent in society today, so I wonder if the number of people following the guidelines is as high as I hope." |
| Social Distancing practices vary based on geographic location | 10; "My family is in California so there is a shelter in place there right now." |
| Social Distancing practices are a violation of freedom and human rights | 9; "There are many who believe that the measures being imposed are in some way violating their freedom and therefore are against it." |
| Emotions and fears dictating social distancing practices | 6; "Others may not see COVID-19 as a threat to them so they choose to not make any changes to protect themselves." |

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