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Examining Teachers College Student Perceptions of Their Personal Wellness During the COVID-19 Pandemic

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Abstract: The purpose of this paper is to examine how college students perceived their personal wellness and identified their sources of support while enrolled as a college student in a teacher's college during the COVID-19 pandemic. College education students were asked to provide responses for five different wellness measures. Quantitative data analysis was used to examine overall wellness, well-being, self-efficacy, food insecurity, and sources of support. Females had significantly lower wellness scores than males. Undergraduates had noticeably lower wellness scores than graduate students, and undergraduates had significantly higher Food Insecurity scores than graduate students did. Professors and administrators were scored significantly above average as a source of support for college students, whereas Campus Medical Service and Campus Mental Health scored as below average as a source of support. Utilizing wellness data about a variety of factors can help college mental health professionals implement specific sources of support to address mental health for college students.

Keywords: wellness; self-efficacy; food insecurity; college students; education; COVID-19

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1. Introduction

Designing wellness resources and materials that meet student needs due to the COVID-19 pandemic is a challenge for higher education, specifically mental health concerns facing college students that are pre-service and in-service teachers.

> The fact that the COVID-19 pandemic affects collegiate mental health underscores the urgent need to understand these challenges and concerns in order to inform the development of courses of action and public health messaging that can better support college students in crisis. [1]. (para. 1)

COVID-19 has led to many changes in college student life, such as online-only instruction, hybrid learning, changes in student teaching options (virtual learning instead of face-to-face), lack of employment, health concerns, and lack of social interactions. When 172 university leaders were surveyed by Hanover Research for Inside Higher Ed, college presidents identified student mental health as their number one concern during COVID-19 restrictions [2,3]. At the same time, only eighteen percent of college presidents identified that they had invested additional funds into mental or physical health resources for college students and less than half anticipated that they would in the future [3]. Lederman identified that the lack of funding for mental and physical health resources may be due to large financial investments in mental health prior to COVID-19.

During the COVID-19 pandemic, many students either were not able to or did not seek support for their mental health [4,5]. According to Pinkey [4] and Wagner and colleagues [5], some reasons for students not seeking services from their college mental health services were due to lack of knowledge of service options (i.e., types of services offered and where they could access services), cost, long wait times, and potential stigma for requesting services. For those students that did use services during the COVID-19

pandemic, many turned to telehealth services. TimelyCare, a telehealth app, reported that during 2021, "40% of its virtual mental-health check-ins with students. . .took place outside of typical business hours" [6] (para. 1). Furthermore, "visit numbers for the platform, which is used by more than 130 colleges and university, quadrupled between August and October [2021]" [6] (para. 2). The Association for University and College Counseling Center Directors 2020 annual survey also reported an increase of 6811% in telehealth mental health service video sessions [1164.8 sessions] between 16 March 2020 and 30 June 2020 compared to approximately 17.1 video sessions in the previous eight and half months [7]. Thus, students' dramatically increased need for counseling and psychological services indicates that the COVID-19 pandemic caused significant mental health distress both during and in the months following the peak of the pandemic.

In the present study, enrolled undergraduate and graduate students were invited to complete pre- and post-survey measures at the beginning and end of the 2020–2021 academic school year. We wanted to explore college students from a teacher's college because many of these students were currently in or were preparing for a career in the PK-12 education field. The COVID-19 pandemic has impacted the mental health of PK-12 students and the mental health of their caregivers [8]. Research has indicated a need to address the mental health needs of educators to support their personal mental health and the mental health of their students [8,9]. The information from this research has the potential to contribute to the evidence base for teachers and students on the importance of wellness and ongoing initiatives on college student mental health during and post COVID-19, and implications for those currently in and preparing to enter the PK-12 education field.

Information on the mental health of those in and entering the education field is important, because "nearly half (44 percent) of public schools currently report full- or part-time teaching vacancies" [10] (para. 1). Future educators will be entering a chronically under-staffed field; therefore, they need and deserve to have reliable wellness and mental health resources and information to deal with the stresses of teacher life. This study also has implications about sources of support that students utilize during college and the use of on-campus services for support with mental health and wellness.

College Student Wellness

Wellness needs, such as personal well-being, self-efficacy, finances, and food insecurity (FI), are a few areas that continuously impact the lives of college students. In this manuscript, we refer to many wellness factors, such as well-being, self-efficacy, mental health, finances, and food insecurities, that impact college students as wellness needs; we will refer to the specific factors by name when they have been referenced using the terminology in the literature or in reference to a specific measurement tool. The Healthy Minds Network and the American College Health Association shared data in 2020 that examined how the COVID-19 pandemic impacted the well-being of college students from 14 college campuses across the United States (U.S.) between March and May of 2020. They reported that the pandemic had an impact on the financial stress of two-thirds of students [11]. Access to mental health care was another area that students identified as being more of a challenge due to the pandemic. "Students report lower levels of psychological wellbeing post-pandemic relative to Fall 2019" [11] (p. 2). Thus, relevant findings indicate that mental health continues to be an area of concern for college students. However, there are some indications of positive student well-being, such as increased stress-coping abilities (The studies we cite in this paper use the terms "resilience/y" to describe a commonly agreed upon psychometric measure of an individual's generalized ability to cope with stress and persist in the face of adversity. However, we choose to refrain from using this term in our study. We have made this decision based on the disquieting trends of positivist and hyper-individualistic epistemologies, which weaponize "resilience/y" to shift the blame for adversity onto individuals [12], thereby abdicating institutions' responsibility to address societal oppression and inequities [13]. As a member of and an ally to communities who have directly born the brunt of this weaponization [14], we will abstain from participating

in the validation of a term that has been used to justify their continued subjugation.) [11]. In addition, most students felt that they were supported by their colleges during the pandemic, with an emphasis on support provided by their professors [11].

Lanza and colleagues [15] conducted a longitudinal study that began in November of 2019 to examine college student health and well-being that coincided with the COVID-19 pandemic. Data were drawn from online pre- and post-survey measures from 1004 first- and second-year college students at a public university in the Northeastern part of the United States. "Mental health problems increased, whereas substance use, sexual behavior, physical inactivity, and food insecurity decreased" [15] (p. 1). Their findings suggest that while some aspects that negatively impact students' health and well-being decreased, mental health problems still increased for students. This might be explained in light of the social distancing and isolation that was commonplace at the time of data collection. While social distancing protocols may have caused decreases in risk factors such as drug and alcohol use, they may also have been responsible for increases in college students' mental health issues due to resulting loneliness, restlessness, isolation from loved ones, and more.

Recently, college student wellness during the COVID-19 pandemic has been examined in a variety of countries, such as Australia [16], India [17], and the United Kingdom [18], as well as with pre-service teachers in Ireland [19]. Dodd and colleagues (2021) identified that a large majority of college students reported that COVID-19 had greatly impacted their studies. COVID-19 has been a challenge for students, and students' stress-coping abilities impact their psychological well-being [17]. O'Brien and colleagues [19] found that higher-education students had lower well-being in comparison to a normative sample of the population. A possible contributing factor could be less consistent access to food and nutrition services. It is estimated that compared to the general population, college students in the U.S. are at a greater risk of facing FI [20,21], which can negatively impact well-being, academic success, and student health [22]. Nikolaus and colleagues note that "addressing FI [food insecurity] among college students is imperative to ensure health, wellbeing, and professional success in the next generation" [21] (p. 346). The range of student wellness factors, including FI, provided the justification for examining college students' perceptions during the COVID-19 pandemic.

An additional justification for this research was to examine the impact of COVID-19 on social relationships for college students that can impact wellness. The social relationships that college students form with their peers and university faculty are an example of sociocultural theory in higher education. Sociocultural theory [23] emphasizes collaboration and the importance of interactions with others to generate and create new ideas and meaning together. With the shift to virtual learning during the COVID-19 pandemic, college students had to shift their interactions with peers, friends, and faculty in higher education to a virtual space. Social relationships have been shown to benefit college students prior to the COVID-19 pandemic, such as relationships between higher education faculty and college students and peer-to-peer relationships [24]. Prior to COVID-19, college students with positive relationships with faculty indicated improved well-being after their graduation from college [25]. This research aims to unpack how social relationships for college students during the COVID-19 pandemic may have impacted their perceived wellness.

The purpose of this research study was to examine how college students perceive their personal wellness and identify their sources of support while enrolled as a college student in a teacher's college during the COVID-19 pandemic. The research questions for this study are as follows: (a) what is the overall wellness of college students in the education field?; (b) what is the perceived self-efficacy of college students in the education field?; (c) what is the extent and prevalence of food insecurities among college students in the education field during the COVID-19 pandemic?; and (d) who are those providing the most support for college students in the education field?

We hypothesized that well-being scores would (a) be below average given the social isolation, financial strain and uncertainty of the pandemic, and (b) be negatively associated with student level of food insecurity. We also hypothesized that demographic

differences in well-being and food insecurity would make themselves evident throughout the school year; specifically, we suspected that differences in family caregiving responsibilities may negatively affect women more than men [26] and that enrollment status (graduate/undergraduate) would be significantly associated with differences in food insecurity [27].

2. Materials and Methods

2.1. Participants and Setting

Participants were enrolled students (undergraduate, masters, and doctoral) aged 18 years or older in a large Teachers College in the Southwestern United States during the 2020–2021 academic school year. All students enrolled in a course in the Teachers College during the start of the fall 2020 semester were invited to participate in the pre survey, and all students enrolled during spring 2021 were invited to complete the post survey at the end of the semester. A pre- and post-survey approach was used for this research in hopes of making comparisons with student participant experiences during one academic year and for students to have opportunities to participate in university wellness offerings. All students were emailed a recruitment letter explaining the study and a reminder email two weeks after the initial request. Student participants used a link to Qualtrics, a secure online web service, where the study information was presented, and they indicated their consent to participate prior to being provided access to the virtual surveys. After completing the surveys, student participants could use another weblink to Qualtrics to enter their name and email address for one of eight USD 25.00 Amazon gift cards for compensation for their participation. During the 2020–2021 (fall, spring) academic year, the Teachers College had 9412 students enrolled in undergraduate, graduate, and doctoral courses. Of the 9412 students, 3473 students enrolled in face-to-face courses and 5952 students enrolled in online courses.

Participants in the pre survey consisted of 342 undergraduates and 245 graduate students. Of the pre-survey participants, 508 students identified as female, 69 as male, 8 as transgender, and 2 as other. In total, 161 students were unemployed, 425 were employed, and 1 did not disclose. Post-survey participants consisted of 229 undergraduates and 276 graduate students. Of the post-survey participants, 66 were male, 430 were female, 2 were transgender, and 7 marked other. Overall, 99 were unemployed, 397 were employed, and 9 did not disclose.

2.2. Human Participants

This research study (IRB ID: STUDY 00012319) was approved by the Internal Review Board at Arizona State University.

2.3. Wellness Offerings

The Teachers College employed one Wellness Coach and three Student Wellness Ambassadors to design and facilitate wellness events (i.e., Mindful Mondays, Wellness Wednesdays, and Class Wellness Support) for students in the college. Virtual Wellness Wednesday sessions were offered most Wednesdays for one hour during the academic school year. In addition, there were a variety of Mindful Monday sessions, each 30 min, during the spring semester. Students in the Teachers College could attend each session for free and participate in a range of wellness topics, such as self-care, yoga, and journaling. Teachers in the Teachers College could all request a virtual wellness program for their students with the Wellness Coach.

2.4. Measures

Student participants were invited to complete wellness survey measures (Likert and open-ended response questions, as well as validated survey measures) at the beginning of the fall 2020 semester and at the end of the spring 2021 school year. The following measures were used for the pre and post surveys: (1) demographic measures, (2) open-

ended response questions about their experience and wellness needs/ideas, (3) the WHO (Five) Well-Being Index [28], (4) the New General Self-Efficacy Scale [29], and (5) the Food Security Scale [30].

2.4.1. Demographic Measure

To obtain a general sense of who our participants were, we asked a series of demographic questions, including race, gender, age, academic enrollment level (undergraduate or graduate student), employment status, and first-generation status. This measure was completed for both the pre and post surveys.

2.4.2. Overall Wellness Metric

One of the primary goals of this study was to assess and compare the general wellness of education students at two different points of the COVID-19 pandemic—the fall semester of 2020 (August–December) and the spring semester of 2021 (January–May). We asked students to provide responses for three different measures of wellness—overall well-being using the WHO (Five) Well-being Index [28], self-efficacy using the New General Self-Efficacy Scale [29], and Food Insecurity using the Guide to Measuring Household Food Security [30]. The measures were chosen because they all had been previously validated in other studies, and each measured a different component of wellness.

2.4.3. WHO (Five) Well-Being Index

While there are many interpretations of the term 'well-being', in this study we are referring specifically to students' self-reported mood and energy level during the past two weeks. The WHO Well-being Index uses terms such as 'cheerful', 'active', and 'rested,' which are left to the interpretation of each individual participant.

To assess participants' general well-being, we used the WHO-5 Well-being Index, a five-item scale designed and previously validated in 1998 by the World Health Organization that assesses personal well-being [28]. Each of the items includes a 6-point Likert-type statement about emotional/mental well-being and asks participants to rate their frequency of agreement with said statement from 0 (at no time) to 5 (all the time). With Cronbach's Alpha inter-item reliability values of 0.858 and 0.887 in the fall and spring surveys, respectively, the WHO-5 scale proved to be a highly reliable measure of our participants' well-being. Thus, we felt it prudent to calculate participants' total well-being score by adding all five item scores, yielding a score ranging from a possible minimum of 0 to a possible maximum of 25. For this measure, a score of 13 or lower is considered poor well-being [31], as the expected average score is 12.5.

2.4.4. New General Self-Efficacy Scale

By self-efficacy, we refer to participants' belief and security that they can achieve success in a variety of contexts and self-esteem with respect to their ability to meet goals [29]. For measuring participants' self-efficacy, we used the New-General Self-Efficacy Scale, an eight-item Likert scale designed and previously validated in 2001 by Chen, Gully, and Eden. Each of the items includes a 5-point Likert-type statement about participants perceived self-efficacy and asks them to rate their agreement with said statement from 'strongly disagree' (rated by the authors as 1) to 'strongly agree' (rated by the authors as 5). With Cronbach's Alpha values of 0.934 and 0.949 in the fall and spring surveys, respectively, the New General Self-Efficacy Scale proved to be an extremely reliable measure of our participants' well-being. Thus, we calculated participants' total self-efficacy score by adding all eight item scores, yielding a total score ranging from a possible minimum of 8 to a possible maximum of 40, with an expected average score of 24.

2.4.5. Food Insecurity

We define food insecurity to mean hardship in obtaining and/or securing sufficient food to avoid hunger and to ensure day-to-day functioning [27]. Questions to assess food

insecurity were taken from the Guide to Measuring Household Food Security by Bickel, Nord, Price, Hamilton, and Cook [30]. The scale consisted of six yes or no questions, which were scored as dummy variables valued at either 0 (no) or 1 (yes). Despite not using the entire scale as outlined by Bickel and colleagues [30], the scale yielded a very reassuring Cronbach's Alpha value of 0.905 in both the pre and post surveys. We therefore calculated a Total Food Insecurity score by adding the values of the six individual items, resulting in a score ranging from a possible minimum of 0 to a possible maximum of 6.

2.5. Sources of Support

Participants were additionally asked about the perceived level of support they received from several university-affiliated entities, including college or university administration, professors, Campus Mental Health, and Campus Medical Services. These questions are from the National College Health Assessment II COVID-19 Items Codebook [32]. For each of these entities, participants were asked to either rate the level of support they received on a 5-point Likert scale from very unsupportive (1) to very supportive (5) or to disclose whether they did not think of or were not aware of the source of support (rated by us as 0). The questions for this item were placed at the end of both the pre and post surveys. Unfortunately, due to the position of these questions in the survey, fewer participants completed this section of the questionnaire (fall n = 215, spring n = 178); however, the number of participants who answered was still large enough to be able to make meaningful mean comparisons.

2.6. Open Response

Open-response questions were designed by the first author and were used to inform college level offerings to support student wellness. These questions included a combination of yes and no questions and short answer responses to expand upon a previous response. Examples of questions included in this section are as follows: (1) what type/s of wellness session did you attend?, (2) were there any strategies that you learned in a wellness session that you have continued using?, (3) if you did not attend a wellness session, what made you decide not to attend?, and (4) if you did not attend a wellness session, what would make you likely to attend one in the future?

2.7. Data Analysis

As a first step, we embarked on a preliminary analysis of demographic and other categorical differences both within and between our pre-survey and post-survey samples. Our pre survey, distributed in the fall semester of 2020, was completed by 587 participants while the post survey, distributed in the spring semester of 2021, was completed by 505 participants. While we initially intended to make a pre/post comparison, our sample size for repeating participants was relatively small (n = 44), so we will be discussing the pre-survey and post-survey samples separately. In order to assess the comparability of the two groups, we ran independent sample t-tests to identify any significant differences in demographic variables between the fall and spring surveys.

The Well-being and Self-Efficacy scales were both 5-point Likert scales with answers ranging from Strongly Disagree to Strongly Agree. To allow for numerical analysis such as mean comparisons, we converted these categorical answers to interval values ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Similarly, we converted the dichotomous Yes/No answers from the six food insecurity items to numerical dummy variables valued at 0 (No) and 1 (Yes). To test the precision of the Well-being, Self-Efficacy, and Food Insecurity scales, we then performed Inter-item reliability tests for all three score sets in both the fall and spring surveys. With Cronbach's alpha statistics over 0.85, all three scales had a high level of reliability on both the fall and spring surveys (Self-Efficacy fall CA = 0.934, Well-being fall CA = 0.858, Food Insecurity fall CA = 0.905; Self-Efficacy spring CA = 0.949, Well-being spring CA = 0.887, Food Insecurity spring CA = 0.905), leading to our decisions to calculate each participant's total Well-being score, total Self-Efficacy

score, and total Food Insecurity in each semester by adding the scores of the x, y, and z items, respectively. This allowed for more straightforward comparisons of scores between participants of different categorical groups. We additionally conducted bivariate correlation analyses between participants' Well-being, Self-Efficacy and Food Insecurity scores, which confirmed the existence of weak yet significant associations between all three measures (fall survey: Well-being × Self-Efficacy, r = 0.288, $p < 0.001$; Well-being × Food Insecurity, r = −0.211, $p < 0.001$; Food Insecurity × Self-Efficacy, r = −0.18, $p < 0.001$. Spring survey: Well-being × Self-Efficacy, r = 0.327, $p < 0.001$; Well-being × Food Insecurity: r = −0.262, $p < 0.001$; Food Insecurity × Self-Efficacy, r = −0.117, $p = 0.02$).

Open coding was used to analyze the open-response questions to identify themes of student responses on areas such as wellness needs, interest in attending college led wellness events, and reasons why students did not attend college wellness events.

3. Results

3.1. Demographics

Tables 1 and 2 provide an overview of the demographic characteristics of the 587 fall survey respondents and 505 spring survey respondents, respectively.

Table 1. Fall survey participant demographics.

Demographic Characteristic	*n*	%
Gender		
Female	508	86.5
Male	69	11.8
Transgender	8	1.4
Other	2	0.3
Enrollment		
Undergraduate	342	58.3
Graduate	245	41.7
Employed		
Yes	425	72.4
No	161	27.4
No Answer	1	0.2
Age		
18–23	273	46.5
24–29	171	29.1
30–39	91	15.5
40–49	38	6.5
50–59	12	2.0
60–69	2	0.3
Race		
African American or Black	26	4.4
Asian	30	5.1
Hispanic, Latino or Spanish	110	18.7
Middle Eastern or North African	4	0.7
Multiracial	64	10.9
Other	4	0.7

Table 1. *Cont.*

Demographic Characteristic	*n*	%
Native American or Alaskan Native	6	1.0
Native Hawaiian or Pacific Islander	4	0.7
White or Caucasian	338	57.6
First Generation ('First Generation' refers to students whose parents, grandparents, etc. did not attend a four-year college or university.)		
Yes	248	42.2
No	338	57.6
No Answer	1	0.2

Table 2. Spring survey participant demographics.

Demographic Characteristic	*n*	%
Gender		
Female	430	84.3
Male	66	12.9
Transgender	7	1.4
Other	2	0.4
Enrollment		
Undergraduate	229	45.3
Graduate	267	52.9
No Answer	9	1.8
Employed		
Yes	397	78.6
No	99	19.6
No Answer	9	1.8
Age		
18–23	187	37.0
24–29	146	28.9
30–39	109	21.6
40–49	45	8.9
50–59	15	3.0
60–69	3	0.6
Race		
African American or Black	16	3.2
Asian	27	5.3
Hispanic, Latino or Spanish	97	19.2
Middle Eastern or North African	3	0.6
Multiracial	43	8.5
Other	1	0.2
Native American or Alaskan Native	6	1.2
Native Hawaiian or Pacific Islander	1	0.2
White or Caucasian	311	61.6
No Answer	1	0.2
First Generation		
Yes	205	40.6
No	299	59.2
No Answer	1	0.2

Demographic Differences Between Fall and Spring Surveys

To examine whether our two participant pools were significantly different from each other, we conducted a series of independent sample *t*-tests. The two participant pools were generally similar, save significant differences in employment status and academic enrollment level. The proportion of undergraduate students in the fall survey was significantly higher than that of the spring survey (t = 4.261, $p = 0.00001$), and the proportion of employed participants was lower in the fall survey than the spring survey (t = −2.372, $p = 0.009$). No other significant differences between the two groups were found.

3.2. Overall Wellness Scores

Tables 3 and 4 show the mean scores for each measure in the fall and spring surveys, respectively. In both surveys, Well-being scores were significantly higher than the expected average of 12.5 (fall survey: t(565) = 3.073, $p = 0.001$; spring survey: t(405) = 3.090, $p = 0.001$) and Self-Efficacy scores were significantly above the expected average of 24 (fall survey: t(555) = 29.259, $p = 0$; spring survey: t(399) = 22.164, $p = 0$). Neither the Well-being nor Self-efficacy scores were significantly different between the two surveys. These are good indications that, in general, our participants felt reasonably well and able to complete tasks.

Table 3. Means for overall wellness measures—fall survey.

Measure	Valid *n*	Mean
Total Well-being Score	566	13.104
Total Self-Efficacy Score	556	31.243
Total Food Insecurity Score	584	1.526

Table 4. Means for overall wellness measures—spring survey.

Measure	Valid *n*	Mean
Total Well-being Score	406	13.296
Total Self-Efficacy Score	400	31.138
Total Food Insecurity Score	458	1.262

However, Food Insecurity scores tell a different story. While the average expected Food Insecurity score in our measure would be 3, when measured up against the presumably *desired* score of 0, both fall and spring survey respondents displayed significant levels of food insecurity (fall survey: t = 17.224, $p = 0$; spring survey: t = 13.497, $p = 0$). Additionally, fall survey respondents had significantly higher Food Insecurity scores than their spring survey counterparts (t(1008.653) = 2.050, $p = 0.020$).

3.3. Wellness Metrics Correlations

In both the fall and spring surveys, all three metrics (Total Well-being, Total Self-Efficacy, Total Food Insecurity) were weakly yet significantly associated pairwise. As might be expected, students with higher food insecurity scores were significantly likely to score lower in Well-being and Self-Efficacy measures, while students with higher well-being scores were significantly more likely to have higher Self-Efficacy scores (See Tables 5 and 6).

Table 5. Correlation matrix for fall survey metrics.

	Total Well-Being Score	Total Self-Efficacy Score	Total Food Insecurity Score
Total Well-being Score	-		
Total Self-Efficacy Score	0.288 *	-	
Total Food Insecurity Score	−0.211 *	−0.180 *	-

* $p < 0.001$.

Table 6. Correlation matrix for spring survey metrics.

	Total Well-Being Score	Total Self-Efficacy Score	Total Food Insecurity Score
Total Well-being Score	-		
Total Self-Efficacy Score	0.327 **	-	
Total Food Insecurity Score	−0.262 **	−0.117 *	-

* $p < 0.05$. ** $p < 0.001$.

3.4. Wellness Differences Between Demographic Groups

Of particular interest to us was examining the possible differences in overall wellness metrics between different demographic groups. We ran independent samples *t*-tests (for each survey separately) based on demographic characteristics. Notable results for scale scores are described below.

In both surveys, women had significantly lower wellness scores than men did (fall survey, t = −2.098, $p = 0.036$; spring survey, t = −2.492, $p = 0.013$). While no wellness questions specifically addressed gender roles and participants' relationship with said roles, evidence from literature reviews suggests that societal differences in expectations of familial caretaking must be considered as possible contributors to lower wellness scores for women [25]. Unfortunately, sample sizes for transgender and other individuals were too small to conduct sound mean comparisons.

In both surveys, undergraduates had significantly lower wellness scores than graduate students did (fall survey, t = −2.26, $p = 0.024$; spring survey, t = −2.941, $p = 0.003$). However, once again, our survey did not ask wellness questions specific to enrollment as an undergraduate or graduate student; typically occurring differences in age, proximity to family, and life/career trajectory between the two groups could certainly contribute to undergraduates' lower rating of well-being.

In both surveys, undergraduates had significantly higher Food Insecurity scores than graduate students did (fall survey, t = 5.44, $p < 0.001$; spring survey, t = 2.717, $p = 0.007$; see Tables 7 and 8). These results echo findings by Soldavini, Berner, and Da Silva [26], who found that undergraduate students at UNC Chapel Hill were more likely than their graduate counterparts to experience food insecurity. Possible explanations for these observed differences include but are not limited to graduate students' increased earning potential and higher likelihood of being married/living in two-income households and having children [26]).

Table 7. *T*-tests on Total Food Insecurity scores by enrollment, fall survey.

	t	*df*	Significance	Mean Difference
Undergraduate/Graduate	5.440	579.562	<0.001	0.941

Table 8. *T*-tests on Total Food Insecurity scores by enrollment, spring survey.

	t	*df*	Significance	Mean Difference
Undergraduate/Graduate	2.717	402.649	0.007	0.515

3.5. Sources of Support

When comparing the mean support scores for each source of support to the expected average score of 2.5, Professors and Administration were scored significantly above average in both surveys, and Campus Medical Service and Campus Mental Health were scored significantly below average on both surveys.

The fall and spring surveys had the same ordinal pattern of effective sources of support, with professors being significantly more supportive than administration (fall survey: t(214) = 5.019, $p < 0.001$; spring survey: t(176) = 6.41, $p < 0.001$), administration being significantly more supportive than Campus Medical Services (fall survey: t(214) = 5.767,

$p < 0.001$; spring survey: t(176) = 5.44, $p < 0.001$), and Campus Medical Service and Campus Mental Health exhibiting no significant difference in support rating.

3.6. Open-Response Questions

For the post survey, 78.49% of students identified that they did not attend any wellness sessions. Of the students who identified that they did attend a wellness session, virtual live sessions were attended the most (12.63%), followed by virtual recorded sessions (4.03%), face-to-face (3.23%), and other (1.61%). Forty-two students identified that they learned a strategy, such as mindfulness, breathing, and meditation, in a wellness session that they have continued using. The number one response for why students identified they did not attend a wellness session was due to time. For example, one student responded, "I have to work to survive. I don't have time for school wellness sessions". The second most popular response for not attending was that the student was unaware of the wellness sessions. Students who identified that they did not attend a wellness session were also invited to share what would make them more likely to attend in the future. Most responses were focused on the modality for the sessions, such as virtual live offerings and recorded sessions that they could watch at a later date and time. The second most popular response focused on the topic of the sessions, with students only wanting to attend if it was a topic of interest to them.

4. Discussion

This research examines how college students perceived their personal wellness during the COVID-19 pandemic, while also sharing how validated survey measures can be used to examine college student wellness. Females had significantly lower wellness scores than males did (fall survey, t = −2.098, $p = 0.036$; spring survey, t = −2.492, $p = 0.013$). This is consistent with data from the American College Health Association [33] that found that female students reported higher incidences of mental health issues that impacted their academics, such as feeling lonely and overwhelmed, than male students reported. In addition, undergraduates had noticeably lower wellness scores than graduate students (fall survey, t = −2.26, $p = 0.024$; spring survey, t = −2.941, $p = 0.003$). This difference in wellness scores may be connected to graduate students having more individualized interactions with faculty members, due to small class sizes and more opportunities to work with faculty through additional projects, such as a thesis, dissertation, or research. Graduate students may report higher wellness scores because they feel like they have a more personal connection with faculty and are able to make more meaningful connections with faculty than undergraduates. Additionally, undergraduates had significantly higher Food Insecurity scores than graduate students did (fall survey, t = 5.44, $p < 0.001$; spring survey, t = 2.717, $p = 0.007$). These data are similar to other pieces of research that found that food insecurity continues to be an area of concern for college students [22]. Lower wellness scores for undergraduates are consistent with well-being research conducted with college students in Australia [16].

This study also examined sources of support identified by college students during the COVID-19 pandemic. Professors were identified as being significantly more supportive than administration (fall survey: t(214) = 5.019, $p < 0.001$; spring survey: t(176) = 6.41, $p < 0.001$), and administration as being significantly more supportive than Campus Medical Services (fall survey: t(214) = 5.767, $p < 0.001$; spring survey: t(176) = 5.44, $p < 0.001$), while Campus Medical Service and Campus Mental Health exhibited no significant difference in support rating. These findings are consistent with a recent survey about the responsibility of professors in supporting student metal health and struggles. Flaherty stated the following:

> Professors are the No. 1 group on campus that students overall say have a responsibility to help them ease their stress. This puts professors ahead of even campus counsellors, advisers, peers, administrators, and others, with 42 percent of students overall (n = 3000) saying professors have this responsibility [33]. (para. 5)

It is important to note that university professors/faculty were a consistent presence for many college students during the COVID-19 pandemic due to virtual weekly class sessions. Faculty members were able to facilitate communication amongst students and share connections with their students as they too were experiencing the effects of the COVID-19 pandemic. Evans [34] encouraged college faculty to lead with empathy during the COVID-19 pandemic by being flexible, showing compassion, and staying connected with students through email and virtual office hours.

The open-response questions revealed that many students were unaware of the wellness events and resources offered by the college. This is similar to findings that indicated that many college students were unaware of how to access mental health services at their university [5]. In addition, many students that were aware of the wellness events and resources said they did not attend because they did not have time for wellness due to school, work, and personal priorities during the school year. Finding time to add something else, such as a wellness event, was perceived by some as an additional stressor with an already busy schedule. This relates to findings on the increase in telehealth appointments by college students and the increase in telehealth appointments after typical business hours [6]. Student participants identified a solution to the time concern of attending a wellness session by offering a range of modalities, such as virtual live sessions and recorded sessions that they could view at a time and date that aligned with their schedule. While most programming has returned to face-to-face contact, these data provide insights into the time constraints that many college students face in prioritizing time for their own personal wellness and mental health due to work and school. Providing a range of modalities and times for support, such as evening sessions, for students to engage with wellness resources and mental health supports is important to consider when designing wellness and mental health support to meet the range of needs and interests of college students.

Wellness concerns continue to exist after the COVID-19 pandemic for college students. The following are implications for university employees and mental health professionals to support college student wellness. The first recommendation is to address findings about mental health/wellness offerings in higher education by increasing on campus virtual and in-person offerings from trained professionals about topics regarding mental health and wellness, such as mindfulness. In addition, providing peer training to support peer-to-peer offerings and virtual content and resources to address additional mental health and wellness topics. Second, provide basic training for higher education faculty and staff on mental health awareness and resources available at the university. In addition, promoting and providing students with information about on campus clubs and organizations can be one way to promote community building and positive well-being [35]. Lastly, to address food insecurity, the recommendation is to consider providing food directly to students with the highest need, create food pantries for students, increase awareness of existing food pantries, and connect students with national food support programs [36]. These are some practical implications that higher education faculty and staff should consider when addressing the continued wellness needs of university students.

5. Conclusions

This research has the potential to inform college mental health professionals, staff, and faculty on college student wellness and the impact of the COVID-19 pandemic on perceived student wellness and professors as a source of support. Some limitations of the current study are the low response rate to open-ended questions, as well as the potential lack of generalizations across international populations and different higher education programs, such as ones with different demographic population of students and population sizes. Findings are relevant for identifying areas of college student wellness that need to be examined in greater detail, such as food insecurities, to better design meaningful wellness resources and mental health supports for college students based on areas of stress and how wellness events and resources can be designed to support student stress-coping abilities. Future research should address specific factors, such as food insecurities, access to wellness

resources, gender, and age, that impact college student wellness in different international higher education contexts. While much of the research on the existing food insecurities among college students is focused on the U.S., the literature does support food insecurities for college students outside of the U.S. [37]. In addition, future research should examine the long-term effects of the pandemic on college students' wellness to inform wellness supports and resources in higher education. It is also important to begin to provide more communication about resources for mental health and wellness for college professors, since they are often identified as the number one source of support by college students, so that they can share and connect students with college mental health resources, services, professionals. College mental health professionals are the ones that are best served to support the range of mental health and wellness needs of college students. College faculty can be a great partner for college mental health professionals by supporting students and sharing information about campus level mental health resources and services.

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