Pharmacy Student Stress and Time Use in Pre-Clinical and Clinical Students

By

Hannah Bensky

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UNC Eshelman School of Pharmacy
University of North Carolina at Chapel Hill

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Approved:
Jacqueline M. Zeeman, PharmD, March 8, 2022
(Name), Faculty Mentor

Abstract

Objective: Literature has identified high levels of stress in pharmacy students; however, more information is needed to understand how student stress relates to time use. This study explored causes of stress and its relationship to time use in pre-clinical and clinical pharmacy students, which were compared, as previous literature has found differences in time management and stress in these groups.

Methods: In this observational, mixed methods study, participants completed a baseline and final stress assessment, recorded daily time use and stress levels for one week, and participated in a semi-structured focus group. Pre-determined time use categories were used to collect and analyze time use data. Inductive coding was used to determine themes from focus group transcripts.

Results: Pre-clinical students were found to have overall higher baseline and final stress scores and spent more time on stress inducing activities (ie, academics) than clinical students. Both groups reported spending more time on activities related to pharmacy school during the week, and increased time on activities of daily life and discretionary activities during the weekend. Common sources of stress for both groups included academics, co-curriculars, and ineffective stress management techniques.

Conclusions: Our findings support the hypothesis that time use and stress are linked. Pharmacy students acknowledged having many responsibilities and too little time to participate in stress relieving activities. Understanding sources of student stress, including demands on students' time, and the relationship between the two is needed to support student stress management and academic success of both pre-clinical and clinical pharmacy students.

Introduction

Among health professions students, stress is commonly observed.[1,2,3,4] Research has found that students in medical, dental, nursing, and pharmacy programs experience a variety of academic and personal stressors.[2] A study conducted with medical students found perceived stress was the strongest predictor of emotional exhaustion and lack of accomplishment, suggesting improvement in student stress may lead to better quality of life and increased accomplishment.[5] Specific to pharmacy, studies have found students present with higher stress levels and lower quality of life scores in their P1-P3 years compared to the United States age-adjusted norms for non-pharmacy students.[1] Pharmacy students' health-related quality of life scores are also at risk of major depression or dysthymia.[1] Further, research has shown pharmacy students today experience significantly more stress than students did 20 years ago.[2]

Time is a finite resource. As more efforts are employed to promote student wellness, it is important to understand if and how time use relates to stress so student stress can be managed effectively within the existing constraints. Prior research exploring pharmacy student time use has focused on academics, which is only one component of student's time use, and thus creates an incomplete picture of other potential stressors. Congdon et al utilized a survey to examine student time use in which students were asked each week how much daily time they spent on academic tasks including class attendance, course-related activities, school-sponsored activities, and work.[8] A limitation of the study design was students completed the survey weekly, and were thus less likely to accurately remember the amount of time spent on each activity each day. One strategy to combat this limitation was used by Plant et al, who used daily paper time logs for one week to record student time use to assess how student study habits correlated with academic performance.[9] While the methodology of using a daily time log is likely to improve the reliability of time use data, the study did not utilize predefined categories which limited the generalizable conclusions that were drawn. Zeeman et al conducted a time use exercise prompting students to log daily time spent on predefined activities.[10] While this approach advanced prior efforts, it did not explore the relationship between student time use and stress.

Minshew and colleagues addressed this literature gap by exploring the relationship between student stress and time use in health professions students.[11] The study found that second only to activities of daily living (eg, sleeping, eating), health professions students spend most of their day on activities associated with school (eg, class time, coursework, studying, co-curriculars), which were identified as a leading cause of stress for students (Minshew et al., under review). This left little time for discretionary activities that were described as stress relieving, and thus wellness promoting, by students (eg, social activities, exercise, personal hobbies) (Minshew et al., under review).

Previous studies also explored differences in stress based on year in pharmacy school. However, limited work exists directly comparing stressors and time use in students based on their exposure to clinical activities.[6,7] Sansgiry et al investigated time management and other academic outcomes (eg, test anxiety, strategic studying) in pharmacy students and found fourth year students in their experiential year to demonstrate statistically significant better time management skills than students in other years.[6] These findings may indicate more experience and exposure to clinical settings may improve student time management skills. Sliva et al evaluated stress, anxiety, depression, happiness, and academic satisfaction in pharmacy students, finding PY1 and PY2 students presented with lower levels of stress and depression than PY3 and PY4 students.[7]

A gap in the research exists regarding how time use and stress relate and whether clinical experience has an impact on stress or time use for students. The purpose of this exploratory study was to investigate and describe the relationship between pharmacy student stress and time use in pre-clinical students compared to those with prior clinical experience using mixed methods.

Methods

This study used a mixed-methods approach, combining time logging, stress questionnaires, and semi-structured focus groups. A convenience sample of student volunteers in the first, second, and third (PY1-PY3) years of a Doctor of Pharmacy (PharmD) program who were completing didactic course work in August - September 2020 participated in the study. Students on experiential rotations (ie, not enrolled in didactic courses) were excluded, as it was hypothesized student time use and stress may vary between

these learning environments. Study participants engaged in five distinct activities: (1) baseline stress assessment, (2) daily time logging, (3) daily stress assessment, (4) final stress assessment, and (5) focus groups.

Students completed a baseline stress assessment using a modified version of the Perceived Stress Scale (PSS10) at the beginning of the time logging week.[12] The PSS10 survey is used to assess stress and includes 10 questions regarding common feelings of stress, such as feeling upset, out of control, irritated, and overwhelmed over the last month.[12] Respondents rank how often they felt this way over the last month using the following scale: 0 (Never), 1 (Almost Never), 2 (Sometimes), 3 (Fairly Often), 4 (Very Often).[12] For the purposes of this study, this survey was modified to assess a respondent's stress over the last week rather than the past month.

Participants then completed a one-week time log where they tracked how they spent their time daily in 30-minute intervals using a provided logging instrument. The instrument included 10 predetermined time use categories: sleeping, commute to school, conducting activities of daily living, attending class, studying or completing coursework, participating in co-curriculars, exercising, engaging in social activities, viewing media or social media, and working for pay. Predefined categories of time logging were included to provide a more consistent method for students to log their time.[10]

During the time logging week, students completed three questions daily to evaluate their stress. Students reported how often they felt stressed that day using the PSS10 scale, 0 (Never) to 4 (Very Often). Students were also asked to provide 1-3 examples of things that caused them stress and 1-3 things that alleviated their stress that day. At the end of the time logging week, students completed a final modified PSS10 stress assessment.

Subsequently, students participated in a 60-minute semi-structured focus group discussing their time use, stress, and the relationship between the two. A semi-structured focus group script probed for insights on stress and academic time, social time, co-curricular time, and time spent working for pay, as these were common stress triggers and alleviators reported on the daily stress questionnaires and aligned with the time use categories adopted from Zeeman et al that students used in their time logging.[10] Focus

groups were organized by program year (ie, PY1, PY2, PY3) to explore experiences that may be specific to those cohorts. Focus groups were audio recorded and transcribed via Zoom, and transcripts were de-identified prior to analysis.

For the purposes of this study, data from PY1 and PY2 students were combined into the "pre-clinical" group, as these students had not yet participated in program-required clinical experiences. PY3 students were analyzed separately as the "clinical" group, as they had completed two program-required clinical experiences. These groupings were intentional as prior studies found students with clinical experience to have improved time management skills while upperclassmen students in the pharmacy program experienced increased stress. [6,7] Thus, it was hypothesized that there may be differences in stress and/or time use based on existing clinical experience. This study was reviewed by the University of North Carolina at Chapel Hill institutional review board (IRB #20-0872).

Data Analysis

The 10 predetermined time use categories students used to define their time use were organized into three categories: (1) activities required for daily life, (2) activities directly related to pharmacy school, and (3) discretionary activities chosen by the students. Activities required for daily life included sleeping, commuting, and conducting other activities of daily living. Activities directly associated with pharmacy school included attending class, studying or completing coursework, and participating in co-curriculars. Discretionary activities chosen by the students in their remaining free time included exercising, viewing media or social media, engaging in social activities, and working for pay. Time log data were excluded from analysis if the student failed to complete 90% of time logging activity for that day; data were included if the student errantly marked more than one activity per 30-minute period. As prior work has noted that student time use varied from weekdays to weekend-days, descriptive statistics were used to analyze time log data for each type of day.[10]

The modified PSS10 baseline and final stress assessments were scored and analyzed according to PSS10 guidelines on a 41-point scale, where 0-13 represents low stress, 14-26 represents moderate stress, and 27-41 represents high stress.[12] Daily stress assessments were analyzed by frequencies of student

responses to the question “How often did you feel stressed today?” using the PSS10 survey scale, 0 (Never) to 4 (Very Often). An iterative process of deductive and inductive coding was used to analyze the two open response questions on the daily causes and alleviators of student stress.

Focus group transcripts were analyzed via inductive coding and condensing of the codes into broad themes by the research team.[13] Initial coding and codebook generation was conducted by the lead author. Co-authors then applied the created codebook to focus group transcripts individually. For each focus group transcript, the team then met as a group, discussed the application of the codebook, newly created codes, and resolved any discrepancies that existed between coders. Inter-coder agreement for the entire data set was found to be above the accepted 80% threshold for qualitative data.[13] Code frequencies were utilized to develop summary documents, with the most common codes for each time use category probed during the focus group (ie, academic time, social time, co-curricular time, and time spent working for pay) as well as student responses related to effective and ineffective stress coping methods. Microsoft Excel Version 16.16.17 was used to conduct all analyses.

Results

Sixteen students participated in the study: five pre-clinical (ie, PY1/PY2s) and 11 clinical (ie, PY3s) students. Mean time use from the daily time logging activity was found to be comparable across pre-clinical and clinical students for both weekday and weekend-day time use (Table 1). Overall, students spent the majority of their time on activities of daily life, which represented 45% of pre-clinical students’ weekday time use (10.9 hours/weekday) and 51% of their weekend time use (12.3 hours/weekend-day). Clinical students were similar, spending 43% of their weekday (10.4 hours/weekday) and 48% weekend time use (11.6 hours/weekend-day) on activities of daily living (Table 1). Pre-clinical and clinical students both reported spending 7.8 hours/weekday and 8.7 hours/weekend day sleeping. While pre-clinical students reported spending 3.1 hours/weekday conducting all other activities of daily living compared to clinical students 2.6 hours/weekday, time spent on these activities was similar during the weekend for both groups (3.3 hours/weekend-day and 2.6 hours/weekend-day respectively). Activities directly associated with academics represented 41% of pre-clinical students’ weekday time use and 24%

of their weekend-day time use, compared to 36% and 19% of clinical students time use respectively. Specifically, pre-clinical and clinical students reported spending 4.0 hours/weekday and 3.4 hours/weekday, and 4.9 hours/weekend-day and 3.8 hours/weekend-day on studying or coursework respectively. Finally, discretionary activities accounted for the least amount of weekday time use for both pre-clinical and clinical students, representing 13% of pre-clinical students' weekday (3.2 hours/weekday) compared to 20% of clinical students' weekday (5.0 hours/weekday). Time spent on discretionary activities increased over the weekend, representing 25% of pre-clinical students (6.1 hours/weekend-day) time use compared to 33% of clinical students weekend (8.0 hours/weekend-day) time use (Table 1).

Students reported moderate stress on the baseline and final PSS10 stress questionnaire (Table 2). Pre-clinical students scored higher on the PSS10 compared to clinical students on both the baseline (19.2 vs. 17.3 respectively) and final (20.6 vs. 17.3 respectively) stress assessment (Table 2), however the differences between groups for baseline of final stress were not statistically significant ($p = 0.60$ and 0.28 respectively). The differences in stress scores between baseline and final PSS10 scores within pre-clinical and clinical groups were not found to be statistically significant ($p = 0.52$ and $p = 1.00$ respectively). Clinical students more frequently reported feeling stressed "Often" or "Very Often" on weekdays compared to pre-clinical students, while pre-clinical students more frequently reported increased stress on weekend-days compared to clinical students (Table 3). Both groups reported feeling more frequent stress on weekdays compared to weekend-days.

Responses to the daily stress questionnaire regarding activities that increased and alleviated stress were similar for pre-clinical and clinical students. Pre-clinical students reported that academic time use, attending meetings, and having too little time to conduct activities of daily living like sleeping most frequently contributed to their stress, while clinical students listed academic time use and having too little time to complete everything they needed to as their most common sources of daily stress. Student responses regarding what alleviated their stress were also similar across groups. Pre-clinical students engaged in social time use, spent time outside, and participated in activities of daily living including

caring for pets, while clinical students participated in activities of daily living including napping and caring for pets, social time use, and physical activity to alleviate stress.

Focus group data revealed similarities between pre-clinical (Table 4) and clinical (Table 5) student stress. Both groups associated increased stress with a feeling of having too little time to complete all the things they needed to in a day. However, pre-clinical students more commonly cited difficulty with prioritization of activities, with one pre-clinical student sharing, *"Maybe I should be doing something else with my time…is it really worth it to do X, Y and Z if in the end I'm ultimately still spending an excessive amount of time reviewing and feeling like I lost so much time."* Both cohorts reported that having more things to do, whether they were related to school, co-curriculars, or working for pay, increased their stress levels, and prevented them from participating in activities that may decrease their stress. One clinical student shared, "*I know things that help with stress in my life. I like exercise. I also like to meditate…but sometimes they're harder for me to schedule in my life when I have other things on my to do list."*

Academic and co-curricular time were reported by both cohorts (Tables 4-5) as significant activities that increased their stress. One clinical student shared, "*I definitely think academics are my number one stressor in my life*" and a pre-clinical student stated, *"You're so focused on learning, but also there is a high pressure on doing well on the exams and getting good grades."* Another clinical student felt co-curricular was the most stressful, saying *"My co-curricular is all my stress combined, every day, every week,"* while a pre-clinical student shared, *"If I don't set myself a limit for the amount of time [spent on co-curriculars], then it will take up my whole day…it relates to stress in that I lose so much time."* Working for pay was also noted to primarily increase stress in clinical students, with one clinical student commenting "*I would say work is a pretty big stressor."* Pre-clinical students spoke about working for pay leading to both increased and decreased stress, with one student who worked as an exercise instructor saying, *"It's honestly great because I get paid to do the thing that makes me less stressed."*

Social time was most commonly associated with decreased stress for both cohorts (Tables 4-5) with one clinical student saying, *"when I have the chance to be social, my stress immediately flies out the*

door" while a pre-clinical student commented *"Hanging out with my roommate at night after I'm done with homework [is my] social time… And like when I get to do that I definitely feel better."* However, several students in both cohorts also indicated that spending too much time on social activities increased their stress because it meant they had too little time to do other things. One clinical student shared, *"With social time, I try to take breaks and it's fun in the moment, but I also feel like I have this guilt sometimes for taking that time…and it just feels like I'm procrastinating, which then becomes a stressor instead of a stress relief."*

Unprompted, the COVID-19 pandemic was mentioned as a source of stress for both cohorts (Tables 4-5). Clinical students discussed how the virtual learning environment, due to COVID-19, impacted their stress levels related to academic and co-curricular time use, indicating that virtual learning made it more difficult to take breaks from school. One clinical student stated, "*I think the virtual environment has made it very easy to sit at your desk all day long and only do school."* Students across both cohorts noted that COVID-19 made it more difficult for them to participate in stress relieving social activities. One pre-clinical student commented "*My only social life is the fact that I live with two other pharmacy students at this point, especially I think with COVID…society is frowning upon doing social activities together"* while one clinical student said, *"I didn't realize how much [social time] helped me until this COVID stuff…I think I took it for granted before."*

When asked about their current stress coping methods, students across pre-clinical (Table 4) and clinical (Table 5) cohorts reported not having effective methods to cope with stress. One clinical student stated *"I realized quite recently, in the last few months, I don't have a way to cope with stress. I just kind of let it drown me."* While some students from both cohorts did report effective stress relief methods including physical activity and engaging in personal hobbies, it was also noted that it was difficult to find time to do these things with so many other coexisting responsibilities. For instance, one pre-clinical student shared, *"I take on so much that I just literally don't have any time, and I don't have any techniques to deal with stress in short periods of time."*

Discussion

This study is one of the first to explore the relationship between stress and time use in pharmacy students using mixed methods. Baseline and final stress levels were found to be moderate for pre-clinical and clinical students, suggesting the week studied was representative of an average week for the participants rather than a week containing particularly stressful events (eg, midterm or final exams). In focus groups, pre-clinical and clinical students reported increased stress associated with academic and co-curricular time use, and decreased stress associated with social time. Students reported an overall sentiment of having too little time to complete everything in a day, leading to increased stress and an inability to engage in activities that may help them cope with that stress.

Specific to weekdays, students reported spending most of their day on activities required for daily life (ie, sleeping, commuting, and conducting other activities of daily living) and activities directly related to academics (ie, attending class, studying or completing coursework, participating in co-curriculars), resulting in little time to spend on activities they chose (ie, exercising, engaging in social activities, viewing media or social media, working for pay) that could promote wellbeing. While time use differences in these groups were not statistically significant, it was noted that clinical students tended to spend more time on discretionary activities and less time on academic activities on weekdays and weekend-days compared to pre-clinical students, with both groups spending more time on discretionary activities on weekend-days. Daily stress questionnaire averages were higher on weekdays than on weekend-days for both pre-clinical and clinical groups, signaling more stress could be attributed to less time spent on discretionary activities that promote wellness and decrease stress.

Building upon prior work,[6,7] this study begins to merge and explore the relationship of student time use and stress in pharmacy education. Similar to Sliva et al's[7] determination that upperclassmen had higher levels of stress and depression compared to underclassmen, this study found clinical students (upperclassmen) to have higher stress levels compared to pre-clinical students on weekdays, but less stress overall in both the baseline and final PSS10 surveys.

The data collected from time logging, surveys, and focus groups support the idea that time use and stress are inextricably linked. In focus groups, many students explained that they felt they had too

little time in the day to complete everything they needed to and still engage in stress relieving activities. In other words, students felt they could only complete one at the expense of the other. While no statistically significant differences were noted in how pre-clinical and clinical students spent their time, the fact that clinical students indicated generally spending more time on discretionary activities and less time on activities associated with pharmacy school may indicate improved time management skills in this group, supporting the conclusions of Sansgiry et al,[6] which found upperclassmen to have significantly better time management skills. Further, PSS10 scores were lower in this group compared to pre-clinical students, suggesting a relationship between time spent on academic activities and increased stress.

Although this study was designed prior to the COVID-19 pandemic, all data were collected during Fall 2020, a time when all students were engaging in coursework and co-curricular activities remotely and social distancing was being highly encouraged. It is possible that more clinical students reported increased stress related to academic time use and COVID-19 because the cohort had not experienced the virtual learning environment prior to the Fall 2020 semester, as their Spring didactic semester had concluded prior to the local onset of the pandemic. Students in the pre-clinical cohort had previously encountered virtual learning. Students across both cohorts shared the negative impact that COVID-19 had on their ability to spend time with friends and family, which likely led to increased stress, as they were not able to participate in the stress relieving activity of social interaction as easily as they were prior to the start of the pandemic.

A few limitations are associated with this initial exploratory study. First, data collection occurred at a single school of pharmacy with a small sample size of student volunteers enrolled in didactic coursework. Students participating in clinical rotations were excluded from the study, as it was hypothesized that time use and stress would vary between learning environments. Further, some participants did not complete all aspects of the study, which limited analyses that could be conducted at the participant-level. Given these considerations, future research is needed to investigate the generalizability of these findings and future studies may explore time use and stress in students on clinical

rotations, as these rotations are also an integral part of the health professions and pharmacy student training.

Conclusions

Health professions schools, including pharmacy, are continually striving to graduate well-rounded professionals who conduct patient care at a high level. To do this, students must be in a positive place mentally, physically, and academically. Increasing stress levels among students in all years of curriculum is a concerning trend that affects students' mental health and may limit their ability to perform to their greatest potential. Exploring student time use and stress, it was observed that clinical students experienced overall less stress compared to preclinical students and spent more time in stress alleviating activities (ie, discretionary activities) and slightly less time in stress inducing activities (ie, academic activities). It was also observed that on weekend-days both pre-clinical and clinical students reported feeling less frequent stress and spent more time on stress alleviating activities (ie, discretionary activities) and less time on stress inducing activities (ie, academic activities) compared to weekdays. These findings suggest investing even slightly more in discretionary activities may have a positive impact on pharmacy student stress. Better understanding the relationship between time use and stress is critical to improve the quality of life of students in health professions school.

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Table 1. Student Time Use During Weekdays and Weekend-Days

Time Use Category	Pre-Clinical Weekday Hours[a] Mean (SD)	Clinical Weekday Hours[a] Mean (SD)	Pre-Clinical Weekend-Day Hours[a] Mean (SD)	Clinical Weekend-Day Hours[a] Mean (SD)
Activities of Daily Life	10.9 (3.4)	10.4 (3.4)	12.3 (3.9)	11.6 (3.8)
Sleeping	7.8 (1.6)	7.8 (1.2)	8.8 (1.0)	8.7 (1.6)
Commute to School[b]	0.0 (0.0)	0.0 (0.2)	0.2 (0.5)	0.3 (0.6)
Conducting Other ADL	3.1 (1.1)	2.6 (1.4)	3.3 (2.1)	2.6 (1.5)
Pharmacy School Activities	9.9 (2.6)	8.7 (2.2)	5.8 (2.8)	4.5 (2.4)
Attending Class	4.2 (2.5)	3.4 (1.8)	0.0 (0.0)	0.0 (0.0)
Studying or Coursework	4.0 (2.2)	3.4 (2.4)	4.9 (3.0)	3.8 (2.8)
Participating in Co-Curriculars	1.7 (2.5)	1.9 (2.2)	0.9 (1.5)	0.7 (1.3)
Discretionary Activities	3.2 (1.4)	5.0 (1.8)	6.1 (2.9)	8.0 (2.7)
Exercising	0.4 (0.6)	0.4 (0.5)	0.3 (0.5)	0.6 (0.9)
Engaging in Social Activities	1.3 (2.0)	1.8 (2.3)	2.4 (3.2)	2.1 (2.4)
Viewing Media or Social Media	1.2 (1.4)	2.1 (1.8)	0.8 (1.0)	2.2 (1.6)
Working for Pay	0.3 (1.0)	0.7 (1.5)	2.6 (4.4)	3.1 (4.2)

[a] Time logs were included in calculations if ≥90% complete, including students who incorrectly filled out two time use categories for one 30-minute period thus mean hours may not add up to 24.0

[b] All classes during the study period were conducted virtually due to the COVID-19 pandemic

Table 2. PSS10 Score Averages

	Pre-Clinical Mean (SD)	**Clinical Mean (SD)**
Baseline PSS10[a]	19.2 (4.1)	17.3 (7.5)
Final PSS10[a]	20.6 (1.3)	17.3 (6.5)

[a] Modified PSS10 scored on 0-41 point scale, where 0-13=low stress 14-26=moderate stress, 27-41=high stress

Table 3. Frequency Distribution of Students' Reported Daily Student Stress

	Pre-Clinical Weekday n (%)	**Clinical Weekday n (%)**	**Pre-Clinical Weekend-Day n (%)**	**Clinical Weekend-Day n (%)**
Student Reported Stress Frequency[a]				
Never	4 (16.7%)	8 (13.8%)	3 (50%)	8 (34.8%)
Sometimes	11 (45.8%)	23 (39.7%)	1 (16.7%)	13 (56.5%)
Often	9 (37.5%)	26 (46.6%)	2 (33.3%)	2 (8.7%)

[a] Daily stress questionnaire evaluating "How often did you feel stressed today?" 0 (Never), 1 (Almost Never), 2 (Sometimes), 3 (Fairly Often), 4 (Very Often). Data summarized as Often (4-Very Often, 3-Fairly Often), Sometimes (2-Sometimes), and Never (1-Almost Never, 0-Never).

Table 4. Pre-Clinical Focus Group Codes, Rank-Ordered

Theme	Example Quote
Academic Time Use	
1. Increased Stress	*"You're so focused on learning, but also there is a high pressure on doing well on the exams and getting good grades."*
2. Decreased Stress	*"I think when I have more time to spend on school, I'm less stressed…if I have a big chunk of time during the day to work on school, I feel better."*
3. Prioritization	*"Now I'm thinking maybe I should be doing something else with my time during class hours if I have to go back and re-watch lectures…I'm still trying to figure out, is it really worth it to do X, Y and Z if in the end I'm ultimately still spending an excessive amount of time reviewing and feeling like I lost so much time"*
Co-Curricular Time	
1. Increased Stress	*"If I don't set myself a limit for the amount of time [spent on co-curriculars], then it will take up my whole day…it relates to stress in that I lose so much time."*
2. COVID-19	*"I am recruitment chair for my organization, and that has been difficult because of trying to do it with COVID."*
3. Decreased Stress	*"I value everything I'm doing and how I spend that [co-curricular] time…I like it and I feel like I'm learning something."*
Work for Pay	
1. Decreased Stress	*"I just teach group fitness classes for Campus Rec…And since it's exercising it's honestly like great because I get paid to do the thing that makes me less stressed, and I always feel better after I do it."*
2. Increased Stress	*"I work way too much, um, I think it was, that's killing me…Like if I'm working like all day. The day before an exam that really stresses me out."*
Social Time	
1. COVID-19	*"My only social life is the fact that I live with two other pharmacy students at this point, especially I think with COVID, it's a little bit different, like there isn't like as much of a drive and, you know, society is frowning upon like doing like social activities together."*
2. Decreased Stress	*"Hanging out with my roommate at night after I'm done with homework [is my] social time…And like when I get to do that I definitely feel better."*
3. Increased Stress	*"I'd say I'm more of an introvert, so I don't naturally spend a lot of time socializing. I find it's definitely de-stressing if it's with the right people, but it's also very tiring."*
3. School and Life Overlap	*"My social life feels like completely intertwined with school, which is like very for me that's very stressful… You just can't walk away from it, or at least I can't."*
Effective Coping	
1. Decreased Stress	*"I usually put that exercise decreased my stress [on the daily stress questionnaire]"*
2. Personal Hobbies	*"I definitely try to take time for myself. Sometimes I think I do a little too much self-care like playing too much golf, but sometimes you just gotta do what you gotta do."*
3. Stress Management Strategies	*"I feel like I don't have the best techniques to cope with stress"*
Ineffective Coping	
1. Increased Stress	*"[Doing things other than school] is still not effective in handling any stress or anxiety because I'm just thinking, well, if I can get something done somewhere else in my life then that can help relieve some of the things that like are making me feel anxious, but I think that my focus is usually just on trying to like get something done somewhere else, as opposed to just like doing that step away"*
2. Contributing Personality Trait	*"I was feeling like as I was filling out the survey that like I'm probably someone, as probably a lot of people in pharmacy school are, that has fairly high baseline stress levels so like I think that kind of just indicates in general, [my stress techniques are] not the most effective"*
3. Prioritization	*"I need to do something to help me figure out better how to prioritize what should I actually be stressing about right now, instead of just always being like, I'm stressed out."*

Table 5. Clinical Focus Group Codes, Rank-Ordered

Theme	Example Quote
Academic Time Use	
1. Increased Stress	*"When you have like three exams within a two-week block that, that's where I feel like the stress starts to play in because you have to actually sit down and focus."*
2. Decreased Stress	*"I feel like the more I spend studying the less stress I feel."*
3. Virtual Learning/COVID-19	*"I think the virtual environment has made it very easy to sit at your desk all day long and only do school."*
Co-Curricular Time	
1. Increased Stress	*"Sometimes I get overwhelmed, thinking about, like, wow, I have like four hours of meetings today. That's a lot. How am I going to fit everything in outside of that time."*
2. Decreased Stress	*"When I'm actually in the meeting. I find that I'm really enjoying it. And it's not stressful. It's actually almost a stress reliever."*
3. COVID-19	*"And also just COVID, I mean, no one thought that was going to happen when we were running for these positions. And so it's a lot of added burden that we, I think most of us who ran for positions for this year didn't think we'd have to be dealing with."*
Work for Pay	
1. Increased Stress	*"Yeah I would say work is a pretty big stressor."*
2. Too Little Time	*"I work a stupid amount I work about 25 hours a week, I have three jobs and so balancing all of those is very challenging"*
3. Decreased Stress	*"The financial aspect alleviates stress for me, too, because not having any income for three years would stress me out big time."*
Social Time	
1. Decreased Stress	*"When I have the chance to be social, my stress like immediately flies out the door."*
2. Increased Stress	*"With social time I try to take breaks and it's fun in the moment, but I also feel like I have this guilt sometimes for taking that time, especially if I feel like maybe it's more than I need to. And it just feels like I'm procrastinating, which then it becomes a stressor instead of a stress relief."*
3. COVID-19	*"I don't think I realized how much it helped me until like with this COVID stuff. You couldn't go see people but like in semesters past…So like I think is more like I took it for granted before and didn't realize how much helped me."*
Effective Coping	
1. Decreased Stress	*"Cooking dinner was more helpful than ordering takeout. I don't know if it's because the break was longer or it was because the break was more productive because I was physically doing something."*
2. Physical Activity	*"I would say for me like exercise is like the biggest stress reliever that I use and I feel like I can like notice a difference throughout the day."*
3. Lack of Effective Stress Relief	*"But when I get actually overwhelmed or stressed out. I like don't have a good coping method. And I think that's really highlighted this week."*
3. COVID-19	*"[Over the study week] I didn't really get a chance to exercise and think part of that right now is COVID, I'm not actually going to the gym I just do things outside or in my apartment when I get the chance. So that kind of also limits the activities you can do."*
Ineffective Coping	
1. Increased Stress	*"It kind of gets in this cycle of like you're stressed and like there's so much to do and you can't get it done. So you like need to take a break, but your mind can't take a break and just this thing of like you push it off a little bit. You take like a mini break but that doesn't really help. So then you just get stressed again"*
2. Interaction with Media	*"Twitter definitely gets me I'll like take a break to look at it and it'll distract me and I'll look back start studying again and then it's like, Oh, I can't focus. I'm just gonna look back at Twitter. It's just like a cycle going back and forth. And then just causes more stress."*
3. Too Little Time	*"I will, as you'll see, just stay up ungodly late and so I have the mentality of if it doesn't get done today. It's not going to get done and I don't like going to bed with things that are unfinished."*

Report Addendum

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