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Connectedness and Faith as Keys to Thriving: A Mixed Methods Study of Doctoral Students in an Online Learning Environment during COVID-19

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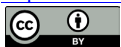
Abstract

Thriving in academic settings has been extensively studied in multiple settings, but the COVID-19 pandemic changed life inside and outside the classroom. This mixed method study was designed to measure doctoral students' level of thriving in an online learning environment in the midst of the pandemic and to determine the factors that contributed to thriving. The purposive sample of 88 doctoral students at a Christian university in the southeast region of the United States completed the Graduate Thriving Questionnaire (Schreiner, 2015) in November 2021 to address the research questions. Analysis of the survey results revealed that students at the university were thriving despite the struggles introduced by COVID-19 restrictions. From the survey respondents, 16 students were randomly chosen to be interviewed regarding the factors that contributed to their thriving during the pandemic. The interview transcripts were analyzed qualitatively to determine the primary factors contributing to positive levels of thriving. Two primary themes emerged from the data analyses: 1) The level of connectedness students felt to one another in their cohorts and the doctoral faculty during the crisis and 2) The importance of personal faith when facing the uncertainty and fear generated during the pandemic.

Keywords

Doctoral Students, Thriving, Faith Traditions, Peer Connections, Faculty Connections, Pandemic

1. Introduction

Thriving is a holistic perspective of the student's success in an intellectual, psychological, and social reality that transcends grades and graduation metrics of

success (Schreiner, 2010). By illustrating the manifestation of thriving, or lack thereof, in a classroom, educational personnel have opportunities to connect and engage with students on a meaningful level. Thriving can manifest through a person's ability to fully engage with the social framework because the intellectual, psychological, and social needs are met.

This study explored thriving among doctoral students during the COVID-19 pandemic in a single Christian institution of higher education. The doctoral students were either currently completing their coursework, writing their dissertation, or had recently defended their dissertation. Although the COVID-19 pandemic began in 2019, the effects of the pandemic in the United States did not materialize until March 2020. This study focused on doctoral students' thriving during the COVID-19 pandemic. Survey data were collected in December 2021, and interviews were conducted in January and February of 2022.

2. Literature Review

Seligman, the author of seminal work on positive psychology (Pennock, 2021), stated, "[The] goal of positive psychology is to increase flourishing" (Seligman, 2011: p. 13). Seligman spent years studying ways to develop positive interventions to help individuals flourish. According to Pennock (2021), Seligman preferred to focus on positive elements rather than negative elements in individuals. Seligman (2011) developed a theory of well-being called PERMA based on five measurable elements of well-being: positive emotion, engagement, positive relationships, meaning, and accomplishment or achievement.

Seligman (2011) wrote that positive emotion was the cornerstone of the well-being theory, which was derived from pleasure, happiness, and life satisfaction. Seligman further described engagement as the experience of a person's becoming so involved in a task that time stops and the individual loses self-consciousness in the process. PERMA (Seligman, 2011) stressed the importance of relationships when he said, "Very little that is positive is solitary" (p. 20). The fourth element of Seligman's well-being theory is meaning; according to Seligman, meaning is enhanced by belonging to or serving something bigger than oneself. Achievement or accomplishment for the sake of accomplishment is the final element, describing an individual's ability to utilize their greatest strengths to meet life's biggest challenges. This theory undergirds the current study of thriving among doctoral students during the adverse circumstances during COVID-19.

COVID-19 became a pandemic in 2020 as virus spread globally. The effects of COVID-19 were far-reaching as most of the world shut down the social aspects of day-to-day living. People were not able to gather together as they traditionally gathered. These lockdowns included institutes of higher education and face-to-face classes (Aristovnik et al., 2020). Doctoral students were affected by societal shutdowns, affecting their progress and wellbeing.

Mustika et al. (2021) conducted a study to determine whether online learning

environments were associated with medical students' well-being during the COVID-19 pandemic. Basing their hypothesis on Seligman's (2011) well-being theory, the researchers suspected that online coursework during the COVID-19 pandemic would make establishing and building relationships more difficult for students and faculty members. In the fall of 2020, Mustika et al. (2021) administered the Online Learning Environment Scale (OLES) to 274 Indonesian and international undergraduate medical students. The OLES uses a 5-point Likert scale to measure electronic device usage, teacher support, and student interaction and collaboration. Mean scores on the OLES scale indicated that the respondents viewed online learning with a moderate to high positive perception. The respondents also rated their course work and learning on metrics: personal relevance, authentic learning, and enjoyment. In addition, the respondents completed the *Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment* (PERMA) profile, which has a 10-point Likert scale to rate items related to positive emotion, engagement, relationships, meaning, and accomplishment. On the PERMA profiler, the respondents scored the well-being elements of engagement ($M = 7.81$; $SD = 1.55$) and meaning ($M = 7.65$; $SD = 1.55$) the highest. To gain additional data, Mustika and colleagues administered measures of physical health, loneliness, and negative emotions; the respondents rated their physical health the lowest ($M = 7.11$; $SD = 1.69$). Although the students viewed online learning with a moderate to high positive perception, they rated their negative emotions of loneliness, anxiety, anger, and sadness as moderate during the pandemic.

Mustika et al. (2021) used a correlation analysis and multiple linear regression to measure the strength of the relationship between the respondents' rating of the online learning environment and their overall well-being. The relationship between OLES scores and the students' well-being was highly significant, $p < .001$, but the effect size was weak to moderate. The elements of the online learning environment had a small to medium strength association with students' well-being. The online learning scale of personal relevance was most associated with well-being, $r = .37$; $p = .02$, indicating that students wanted the learning experiences to be relevant to their personal situations. Therefore, although the students enjoyed the online learning, the data indicated that online learning activities should directly relate to both the subject matter and the students' personal experiences (Mustika et al., 2021).

Seligman (2011) pursued his work with the goal of understanding individual recovery from traumas such as the restrictions imposed upon students by the COVID-19 pandemic. He introduced PERMA, five elements that allow researchers to measure the well-being of subjects. Derrico et al. (2015) expanded upon his work examining graduate students at Christian universities to identify factors that contributed to individual thriving. Relationships with others and their faith contributed to thriving of the students in this study. Mustika et al. (2021) examined the effects of the online learning environment finding that

work that is relatable to the students and their academic pursuits supported thriving. Building on this work, this study examined the doctoral students at a Christian university to determine the level of the students' thriving and the factors that contributed to the level of thriving in an online learning environment.

3. Purpose Statement

The purpose of the mixed methods study was to determine whether doctoral students at a private Christian university thrived in an online learning environment during the COVID-19 pandemic. A second purpose of the study was to explore the elements that contributed to doctoral students' level of thriving in an online learning environment during the COVID-19 pandemic.

4. Research Questions

The quantitative inquiry of this study was guided by three research questions:

1) To what extent did doctoral students enrolled in a private Christian university thrive in an online learning environment during the COVID-19 pandemic?

2) Does the overall thriving quotient of doctoral students enrolled in a private Christian university during the COVID-19 pandemic differ from the national norm for graduate and doctoral students prior to the pandemic?

3) To what degree does the perceived level of the doctoral program's spiritual climate relate to student thriving during the COVID-19 pandemic?

A single research question guided the qualitative inquiry: What contributed to doctoral students' level of thriving in an online learning environment during the COVID-19 pandemic?

5. Methodology

Data Collection and Analyses

A sample of convenience was invited to participate in for the quantitative portion of the study. All doctoral students pursuing the Doctor of Education (EdD), the Doctor of Ministry (DMin), the Doctor of Strategic Leadership (DSL), and the Doctor of Philosophy (Ph.D.) at a private Christian university in southeastern United States during the semesters in which remote learning was mandated by COVID-19 protocols were invited to complete the Graduate Thriving Quotient (Schreiner, 2015) online. A total of 97 surveys were returned for a response rate of 40%. Nine respondents were removed due to incomplete responses; the final number of respondents was 88, indicating a final response rate of 35%. The final response set was 98.6% complete and the missing data (1.4%) were sufficiently random as determined by Little's test statistic. The GTQ data were analyzed using descriptive and inferential statistics to address the research questions.

6. Results

Internal Reliability

Cronbach's alpha was used to determine the internal reliability level of the GTQ responses among this sample of doctoral students. Because certain variables in the GTQ were negatively correlated with the overall composite score (Social Connectedness—SC): SC1, SC3, SC5, and SC6, those variables were reverse coded for internal reliability purposes. The results of the analyses revealed that the internal reliability of the GQT in this sample of doctoral students was .88), which can be considered approaching excellent (George & Mallery, 2020).

Descriptive statistics were used to provide an overall picture of the respondents to the GQT based on their demographic data. Table 1 provides a summary of findings for the descriptive statistical analyses of the study's demographic identifying information.

Table 1. Descriptive statistics summary table: study demography.

Demographic Variable	n	%	Cumulative %
Gender			
Female	43	48.86	48.86
Male	34	38.64	87.50
Missing	11	12.50	100.00
Ethnicity			
African American	10	11.36	11.36
American Indian	3	3.41	14.77
Caucasian	53	60.23	75.00
Hispanic	3	3.41	78.41
Multiethnic	1	1.14	79.55
Other	6	6.82	86.36
Missing	12	13.64	100.00
Age			
27 - 30	5	5.68	5.68
31 - 34	3	3.41	9.09
35 - 38	10	11.36	20.45
39 - 42	7	7.95	28.41
43 - 46	8	9.09	37.50
47 - 50	13	14.77	52.27
over 50	33	37.50	89.77
Missing	9	10.23	100.00
First Choice University			
No	19	21.59	21.59
Yes	59	67.05	88.64
Missing	10	11.36	100.00

The internal reliability level achieved in the study was considered approaching excellent (George and Mallery, 2020). The following variables were negatively correlated with the overall composite score: SC1, SC3, SC5, and SC6. These variables were reverse coded for internal reliability purposes. Table 2 contains a summary of the internal reliability for study participant response to survey items on the Thriving Quotient (TQ) inventory:

Inferential Results

To address Research question 1 related to doctoral students' level of thriving during the COVID-19 pandemic, a one-sample t-test was computed to compare the overall level of thriving to the null hypothesis of high levels of thriving vs low levels of thriving. The neutral value of 3.5 on the 6-point Likert scale from the GTQ was used for comparative purposes in the analysis. The respondents' mean score for perception of thriving ($M = 4.57$, $SD = .72$) was statistically significant with a very large magnitude of effect, $t(84) = 13.74$, $p < .001$, $d = 1.49$. Table 3 contains a summary of the results.

Research question 2 asked whether the overall thriving quotient of doctoral students enrolled in a private Christian university during the COVID-19 pandemic differed from the national norm for graduate and doctoral students. A t-test of independent means was conducted to compare mean scores at the target university on the GTQ to the overall mean score of GTQ norm. The national norm value of 4.39 was used for comparative purposes in the analysis; the research sample's mean GTQ score was 4.57 on a 6-point Likert scale. The results of the analysis revealed that the comparisons were significantly different ($t(84) = 2.28$; $p = .01$; $SD = .72$, $d = .25$). The doctoral students' thriving scores at the target university were significantly higher. The effect size can be described as small. Table 4 depicts the results of the results of the comparison to GTQ norms.

Table 2. Internal reliability summary table for Thriving Quotient (TQ).

Scale	No. of Items	α	Lower Bound	Upper Bound
Thriving Quotient	24	.88	.84	.91

Note. The lower and upper bounds of Cronbach's α were calculated using a 95.00% confidence interval.

Table 3. Perceptions of thriving during the pandemic.

Variable	M	SD	μ	$t(84)$	p	d
Thriving Quotient	4.57	.72	3.5	13.74	<.001	1.49

Table 4. Perceptions of thriving during the pandemic comparison with the national norm for thriving.

Variable	M	SD	μ	t	p	d
Thriving Quotient	4.57	.72	4.39	2.28	.01	.25

Note: Degrees of Freedom for the t-statistic = 84. d represents Cohen's d.

Research question 3 was designed to examine the relationships between the sample doctoral students' perceptions of the spiritual climate at the target university and their overall thriving during the COVID-19 pandemic. Simple linear regression was used to determine whether doctoral students' perceptions of spirituality at the target university were predictive of the students' perceptions of overall thriving during the pandemic. The results of the predictive analyses revealed that the model was statistically significant, $F(1, 82) = 11.22$, $p = .001$, R^2 = .12. Approximately 12.04% of the variance related to thriving was explained by the students' perceptions of spirituality present in their programs. In addition, perceptions of spirituality were statistically significant predictors of thriving, β = .17, $t(82) = 3.35$, $p = .001$. A summary of the results of the model used to predict perceptions of thriving by study participant perceptions of spirituality is presented in Table 5.

7. Qualitative Results

Whereas the Graduate TQ inventory focused on thriving in general for graduate students, the interview protocol focused on collecting data on thriving during the COVID-19 pandemic specifically (see **Appendix**). The interview protocol for the study was modified from the Derrico et al. (2015) study to reflect the changes related to the COVID-19 pandemic. For the qualitative portion of this study, 17 students were randomly selected from the survey completers to be interviewed. Participants were distributed evenly among the doctoral programs. One student dropped out of the study before completing their interview. After completing an informed consent, participants were interviewed via Zoom. All 16 interviews were video- and audio-recorded. Transcripts were validated by participants and minor adjustments were made per participants' requests. Transcripts were coded by all four members of the research team to ensure interrater reliability, and two themes emerged: Connections and Faith Traditions.

Connections

The recurring theme of connection to others emerged from every participant. Most participants referred to a sense of purpose and calling to characterize their connection to their doctoral pursuits at a spiritual level. Participant 4 summarized this idea succinctly saying, "It's what I've been called to." Participants specified family, friends, and coworkers as the meaningful connections outside of their academic programs during the pandemic. When asked about the persons who provided the most meaningful support, Participant 2 answered, "Family,

Table 5. Predicting perceptions of thriving by study participants' perceptions of spirituality.

Model	β	SE	95% CI	β	t	p
(Intercept)	3.45	.27	[2.92, 3.99]	.00	12.83	<.001
Spirituality	.17	.05	[.07, .26]	.35	3.35	.001

Note. CI = confidence interval.

definitely first." Within their academic programs, students identified their connection to their cohorts, faculty, and the program as an integral part of their ability to thrive.

The interview data supported three elements of family and friend relationships as contributing factors of thriving: receiving unconditional support, intentionally maintaining relationships, and acting as an encourager. The unconditional support of family and close friends was experienced by doctoral students as spouses' taking on extra responsibilities, allowing students' time to accomplish their academic work. Participant 6 detailed a recent conversation with her mother who prioritized academic work over her own needs saying, "She'll call and ask, 'Are you doing schoolwork?' And if I say yes, then she replies, 'Well, I gotta go. I'll call you back later.'" Participant 1 discussed a friend who "was always there to encourage and just simply be proud of what I was doing."

Several participants expressed the importance of intentionally maintaining relationships with family and friends during the pandemic in order to thrive. Several other participants claimed they had only a few close friends but expressed the importance of being "all in" for those relationships.

Spouses, parents, mentors, friends, and pastors were all important encouragers to the doctoral students. These people encouraged the participants to pursue God's path and to persevere when doubts or challenges arose. Participant 13 listed an extensive support network declaring, "I have a lot of support from my church and from my wife; I have a large social network of people who I can lean on." Participant 6 credited the faithfulness of her pastor by commenting on his prayers for her at 6 a.m. every morning. Participant 4 considered his parents as his primary encouragers. He stated, "I can't think of one time in my life where they have ever discouraged me from doing what they and I know God has called me to do."

All but one participant was working full-time in a career while pursuing doctoral studies. The relationships the participants formed at work contributed to thriving in ways similar to the relationships they experienced with friends and family. Participant 9 stated, "As for my coworkers, we are like family." Several participants recounted ways in which their colleagues were flexible in accommodating their academic pursuits; other participants spoke about the depth of the relationships with other believers in their workplace. Participant 17 articulated the depth of compassion from his boss, a school principal, displayed saying, "My principal is a very strong believer, and he's constantly checking on me."

A sense of connection in non-academic life provided a foundation for thriving. However, connection to their school, cohort, and the school's faculty were key facilitators to the level of thriving expressed by the doctoral students. All participants expressed an authentic connection to the target university, and many participants described a sense of pride in being associated with the institution. Participant 11 summarized this sentiment saying, "The staff and faculty at [the target institution] are just amazing. I'm really glad I didn't go anywhere else

for my doctoral degree." Participant 5 succinctly said of the school, "These are my people."

Participant 3 emphasized the role of the target university in fostering a sense of connection saying, "[The] program is really set up to develop and strengthen that cohort team spirit." Two participants expressed a preference to work independently, but the other participants cited their cohort as essential to thriving as a doctoral student. Participant 3 said, "I counted on my cohort." Participant 5 described the cohort as a "lifeline," and Participant 8 credited the cohort as "a big reason why I'm able to finish."

Beyond the support provided by the cohorts, several participants recognized their cohort as the primary means of bonding and building a sense of belonging with other students. Participant 4 spoke about the near-universal value of their cohort stating, "It would be hard for me to find someone that doesn't feel that sense of belonging." Participant 4 echoed the sentiments of many participants saying, "It's great to develop a bond with the professors, but for me, it was even more important to develop a bond with the cohort."

The relationships between students in the cohorts developed over time. Participant 11 described the developing relationships as "getting close and just encouraging each other. We've shared a lot of our personal struggles throughout the pandemic." The cohorts also provided a sense of accountability. Participant 12 shared, "I have reached out to those who either dropped out of the cohort or were noticeably absent from the cohort." The success of the cohort model, according to Participant 1, may rest on the fact that "people give themselves fully to the relationships they build in the cohort." Participant 9 expressed the benefit of the continuity through the program inherent in the cohort model saying, "Staying with the same people the whole time was amazing." Several participants indicated they built "lifelong relationships."

Participant 4 recognized that faculty members' commitment went beyond just teaching a class and stated, "They exhaust every means possible to ensure that [success] happens." Several students cited the feedback from professors as the primary means faculty used to help students find success. Participant 12 said, "She told us upfront—we were going to get a lot of feedback. And [we were] going to get it very quickly." Timeliness of faculty feedback and communication was echoed by many participants. Participant 9 considered feedback as a collaborative event and recounted, "The professor was with us the entire time."

The availability of professors outside of class was equally important. As Participant 7 affirmed, "We have access to many professors by phone." Participant 15 shared the proactive nature of faculty interaction and recalled that professors would "be in touch with the students two or three times a week, checking in, [asking] if they have any questions, being available to their students." Participant 12 considered the relationships with the faculty as the most important interactions at the university saying, "I could do this alone without the rest of the cohort as long as I have that interaction with the faculty."

Every participant described having meaningful relationships with faculty as an essential element in thriving beyond academic excellence. Participant 11 described meaningful relationships as "being that support for me as a human being, not necessarily like an instructor." Participant 11 further shared, "All of my instructors know me. They know my family." Participant 9 appreciated the shared faith with faculty by stating, "professors, they would pray for us, so it felt like they were with you even when they're not [physically]." Participants recognized that the professors' interest in their students transcended the academics. As Participant 4 expressed, "[The faculty want to] help us become more passionate Christians, to help us love Jesus more".

Faith Traditions

The doctoral students at the faith-based institution discussed ways their faith traditions contributed to thriving on and off campus. Some participants discussed their personal faith traditions, ways their faith contributed to overcoming challenges, and the external support from their community or church that promoted thriving.

Internal Faith Traditions

Some participants discussed ways their personal spiritual disciplines contributed to thriving. Participants 1 and 4 discussed keeping "the spiritual discipline" of prayer as a daily ritual by reading the Bible to stay focused continually on the Word of God. The internal faith traditions of the participants helped the participants to stay focused on God.

Another aspect of internal faith traditions that contributed to thriving during the doctoral program was the participants' personal faith and the way the personal faith was manifested. Participant 5 reported that he dealt with stress in his life through his "faith walk" as a "man of faith." Participants 3 and 6 discussed ways their faith was a foundational part of their well-being because they would be "lost without" their faith. They described their efforts to maintain their faith outlook through prayer. Discussing their personal faith, Participants 4 and 6 said that reading the Bible and spiritual practice were a daily commitment. Additionally, Participant 7 mentioned that personal faith was a blessing throughout the COVID-19 pandemic because it was personally spiritually nourishing. Some participants discussed ways their engaging in God's word as necessary for thriving. Participant 6 talked about "biblical principles" and digging "deeper in scripture."

Prayer was the final aspect of internal faith traditions that contributed to student thriving in the doctoral program during COVID-19. Several participants shared that prayer was part of their daily routine. Some participants considered prayer a time to ask for guidance during doctoral studies. Participant 8 described prayer as a "beautiful highlight" of the day that "changed things around." Some participants disclosed they had increased their prayer time and made prayer an essential part of their personal faith. As a group, participants conveyed that prayer was a representation of God's faithfulness.

External Faith Traditions

Participants' faith traditions were also manifested externally through church and community, God's control over the participants' life, and prayer support from others during the doctoral program. Participant 2 considered the faith traditions of the university as important factors when making the decision to attend the school. Participant 4 pointed to the university's church affiliation as aspects of external faith traditions. Participant 13 considered positive relationships and support from their community and God as important factors of thriving.

Many of the participants discussed the belief that God was in control of their lives and contributed to their ability to handle challenges and stress in the doctoral program and during the COVID-19 pandemic. Participants 5, 14, and 17 discussed their trust in God's sovereignty and ways He helped them overcome difficulties. Participant 5 affirmed that "the Lord knows what He's doing" when it comes to the stress and challenges to everyday life during the COVID-19 pandemic. A few participants expressed trust that God had a plan for their lives and a purpose for their future and that God had provided for His plan. Participant 6 reinforced the connection with God by stating, "God will equip us and help us handle the hard things in life."

The experience of others praying for the participant during the doctoral program and COVID-19 pandemic is the final aspect of the external manifestation of faith traditions revealed in the data. Participant 8 talked about their entire church, around 300 members, prayed for favor on the participant to finish the dissertation process. Other participants described how prayer was an intimate process and how the in-person meeting to pray was important to them. Participant 6 stated other's prayer for them was a "way out of difficult times" and asserted that without access to God through prayer, there was no hope. Participants 11 and 15 viewed external prayer, or prayer from others, as important to the body of Christ and as a path to thriving in the doctoral program.

8. Discussion

Quantitative Discussion

The findings achieved in the study's first two research questions are supported by the participants' notable thriving levels during the COVID-19 pandemic. The doctoral students at the target university reported significantly higher levels of thriving on the GTQ than the GTQ's norm group ($p < .001$). This finding appears remarkable when considering a report by the International Association of Universities and Marinoni et al. (2020) who reported that 98% of institutions of higher education reported that teaching and learning had been adversely affected by COVID-19, and that 7% of institutions of higher education reported that teaching had been canceled due to the pandemic. In the current investigation, the percentage of people participating in doctoral studies was greater than national terms (Marinoni et al., 2020). Temel et al. (2020) administered a positive perception scale to 136 academicians and found that academicians had higher

levels of positive perceptions than the general population. Temel et al. (2020) used a multivariate analysis of covariance and Pearson product-moment correlation and determined that positive perspectives and psychological vulnerability are inversely related.

As graduate students' perceptions of spiritual thriving increased, their perceptions of overall thriving increased at a noteworthy statistically significant level. The noteworthy levels of thriving achieved in the Temel et al. (2020) study in comparison to the scale value and the national norm could perhaps then be attributed to the demonstrated predictive relationship between study participant perceptions of spiritual thriving and its predictive relationship with overall perceptions of thriving during the pandemic.

Regarding the current study's findings, two ideas may explain the predictive relationship between spirituality and thriving. First, the doctoral students selected the university for the primary reason that their faith and practices aligned with the university's values and practices according to the university's mission statement. Evidence from the survey responses revealed that the doctoral students in this study achieved significantly higher levels of thriving in large part thanks to having thrived spiritually in their doctoral programs.

Second, once enrolled in the university, the students' individual interactions with faculty, staff, and cohort members were nurturing and supportive of spiritual growth, spiritual formation, and integration of faith in every activity. Avoiding stress during a doctoral program or during a pandemic is not necessarily possible (van Bavel et al., 2020). However, one's social connections and positive experiences can put stressors in perspective and reduce deleterious effects, even when people are not physically together. Moreover, van Bavel et al. (2020) posited that online communication can increase social connectedness.

9. Qualitative Discussion

Connections

Seligman (2011) and Schreiner et al. (2009) both cited connectedness and relationships as essential components of graduate student thriving. The interviewees' responses confirmed that the connections they formed with the school, faculty, and their cohorts were very important to their sense of thriving. Additionally, the connections and relationships they had with friends, family, and colleagues outside of the academic program provided the foundation for their success in their academic work. Tuason et al. (2021) considered these types of supportive social relationships as a critical factor in psychological well-being.

Twelve participants listed a spouse or family as the most important support during their academic pursuits. Participants recognized how helpful it was for their family to prioritize the participant's academic needs over their relational needs. Supportive relationships and deep social connections not only contributed to students' thriving but also enabled participants to focus time and energy on their academic work and relationships without worrying about neglecting

their friends and loved ones.

Although the connections to family, friends, and colleagues provided the foundation for the participants thriving in a general sense during the COVID-19 period, the connection they felt to the program, faculty, and their cohort had the greatest influence on their academic thriving. Several participants cited positive communication from the university during COVID-19 as important to their ability to continue the program, thus contributing to their thriving.

Developing meaningful relationships with the faculty at their institution was a priority for the participants. Most participants named multiple specific professors who had been instrumental in their thriving. Interactions with professors often centered around receiving personal, applicable feedback that indicated a level of knowing the student and caring about the success of the student, thus cultivating trusting relationships between the professors and the students.

The relationship that participants had with other students in their cohorts suggested that membership in the cohort not only contributed to their academic thriving, but also had implications for lifelong relationships and thriving. Though the cohort members initially connected through face to face courses and online discussion forums, the participants highlighted extra-institutional communication methods as being highly effective in deepening the bond between students during the pandemic. Facebook groups, the Band app, and the GroupMe app were all mentioned as methods used by the students to communicate with each other about academic matters as well as to share their personal lives.

Faith

Tuason et al. (2021) discussed the psychological variables of spirituality and emotional loneliness in their study on psychological well-being among people during the COVID-19 pandemic. Tuason et al. (2021) further explored ways that "spirituality as a regular routine" (p. 3) and as a part of a faith community can benefit psychological well-being. Considering that psychological well-being is an aspect of thriving, the relationship between Tuason and Boyd and the current study of thriving is notable. The interviewees integrated their faith traditions to both internal and external relationships navigating their psychological well-being.

The doctoral students who were interviewed discussed ways their personal faith contributed to thriving through informing their outlook. Six of the participants reported that reading their Bible daily contributed to their ability to thrive. Similarly, participants discussed ways connections to others through prayer contributed to their thriving. Participants explained that prayer helped them connect to a larger community. The connection developed by prayer, whether through personal prayers or through others who were praying for and with the interviewees, contributed to an emotional connection of support, which fostered the participants' ability to thrive through the pandemic.

The majority of participants mentioned that trusting God and His control over their lives contributed to thriving because they believed they were living within God's plan. Participant 7 declared, "God has control of my studies." With

God in control, the hardships and challenges the participants experienced during the COVID-19 pandemic and throughout their normal doctoral struggles were faced with peace. By having a sense of connection to God's plan, participants were able to look to God for support during times of struggles or hardships.

10. Ancillary Findings

Illness and Death due to COVID-19

In the current study, it is interesting to note that participants reported the physical consequences of COVID-19 as a threat to thriving, and the prospect of death was reported as the main challenge the students faced. However, the participants did not indicate that the illness or death of a relative or friend due to COVID-19 negatively affected their level of thriving. Students did reflect that they relied on their families, social and academic communities, and their faith to process the negative influences of COVID-19. These results corroborate the results of Mustika et al. (2021) who determined that the well-being of medical students had been influenced by COVID-19's health consequences. The participants in the current study were also affected by COVID-19 and its physical consequences, including personal illness, family illness, and the loss of relatives and friends.

11. Implications for Practice

As evidenced by the data in this study, connection to family and friends and a personal faith life were essential to a student's thriving during the doctoral program. The efficacy of these factors, however, may depend on their development and maintenance independently of academic pursuits. Many threats to thriving are likewise beyond the university's ability to control.

However, thriving as a doctoral student in an online environment is influenced by factors that the institution can influence, primarily through the faculty. The findings of the current study revealed that institutions that want to positively influence the level of thriving of its students should offer specific training to the faculty on the importance of intentional efforts to make authentic connections with students. This type of training might provide strategies the faculty can utilize to build connections The participants in the current study identified the following behaviors that influenced their connections to the faculty and their overall level of thriving: praying with and for students; proactively communicating with students; genuine interest in students' families and workplaces; personal belief in students' abilities to complete the program; frequent, meaningful and specific feedback to students; flexibility for students as needed; phone conferences as needed video meetings (e.g. Zoom) to address questions or concerns and to keep students accountable during the dissertation phase.

The subjects in this study reported that the cohort model of the program influenced their ability to thrive. Cohort relationships were further developed as the doctoral students shared ideas and discussed academic and personal issues.

Discussion forums both within and external to the university's online course delivery system were also critical components of thriving. The discussion forums served as the vehicle for ongoing collegial and collaborative conversations that advanced students' understanding of content and application of new learning. Many of the cohorts developed their own discussion groups using Facebook or GroupMe to maintain connections to the cohort. Faculty should encourage the use of various methods of communication outside the university among cohort members. This type of connectedness may be the catalyst to retain students in the program when they are challenged or struggling. All these programmatic elements worked together with the faculty and the university to create a climate in which doctoral students could thrive.

Although faith is primarily a personally developed contributor to thriving, several students indicated that the faith-based nature of the institution was a critical consideration when they were deciding which university to attend. Being able to write freely about their faith as well as connecting to their professors and classmates through prayer and shared beliefs was important to students. Faculty should continue including faith-related requirements in their rubrics as well as sharing their own faith openly with students.

To summarize, doctoral faculty play important roles in student thriving as do many programmatic processes and procedures. As faculty nurture deeper connections with their students over time and as cohort members become authentically connected, the threats to thriving are mediated. Offering flexibility to students in crisis, praying with students in need, and facilitating a welcoming environment to encourage students help offset the effects of the threats to thriving.

12. Recommendations for Future Research

Survey and interview responses from every participant indicated that the faculty had a profound influence on their ability to thrive in their doctoral studies during the COVID-19 pandemic. The influence was principally operationalized through connectedness the students felt with their professors and the cohort. Institutions of higher education must extend the skills of the faculty to engage in meaningful relationships with students. Future research may provide guidance to institutions of higher education on ways to support faculty on how to nurture student thriving. These types of studies may also require a greater understanding of typical doctoral faculty loads that may influence the faculty's ability to develop thriving relationships with students. Future research should explore the following: a descriptive study of typical faculty loads among doctoral faculty; a correlation study of level of doctoral faculty thriving based on overall faculty loads; a predictive study of the factors of thriving among doctoral faculty; a correlation study of level of doctoral faculty thriving and number of dissertations faculty typically chair and/or number of dissertation committees on which faculty serve; a study of the relationships between doctoral student thriving and doctoral faculty thriving.

13. Conclusion

This mixed methods study examined doctoral students' level of thriving in an online environment at a private Christian university during the COVID-19 pandemic. Eighty-eight doctoral students at the university completed the Graduate Thriving Quotient (Schreiner, 2015) during November, 2021. The doctoral students reported an overall a mean score of $M = 4.57$ on a 6-point Likert scale. When compared to the national norm of the GTQ, the mean scores of students at the target university were significantly higher ($p < .001$). A sample of 17 doctoral students was recruited from among GTQ completers and were interviewed (**Appendix**) to further discuss the factors leading to thriving. These factors included students' faith traditions and the connections made throughout the pandemic. One of the barriers to thriving was how students felt disconnected from their cohort or other social groups. The researchers recommend studying the relationships between graduate students and their professors.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Appendix

Interview Protocol

1) Tell me about yourself and how you came to be at this institution for your doctoral program.

2) During the COVID-19 period, how did your coursework go?

a) Potential probing question: What experiences do you think shaped the way you feel about how your coursework went during the COVID-19 period?

3) Think about your best class during the COVID-19 period. What made that class the best?

a) Potential probing question: What was it like? What made it so engaging for you?

b) Potential probing question if participant specifically mentions a faculty member: Tell me a little more about this instructor. What were some things they did that engaged you?

4) Think about some difficult academic moments during the COVID-19 period. What do you think contributed to those difficult moments?

a) Potential probing question: When you encountered a difficult course or assignment, what strategies did you implement to help yourself?

5) How would you describe your relationships with other people?

6) What relationships have been most important to you in getting the most out of your doctoral experience?

a) Potential probing question: Give me an example of a time when your relationship with someone made the difference in your staying in college or being successful?

7) Do you feel a sense of belonging to your program/cohort? What contributes to your feeling that way?

8) When you think about the support systems that have been helpful to you as a doctoral student, what comes to mind?

9) How would you describe your outlook on life during the COVID-19 period of your doctoral program?

10) What energizes you about your chosen area of study?

11) Tell me about an experience during the COVID-19 period that has been the most meaningful to you.

12) What is the most difficult problem you have experienced during the COVID-19 period?

a) Potential probing question: How did you cope with this problem?

b) Potential probing question: How did your faith tradition contribute to your ability to cope?

13) Thriving is being academically, socially, and psychologically engaged so that you are enjoying the college experience and succeeding. To what extent do you think you are thriving *this* semester? (Show them the 6-point scale on an index card.)

a) Probing question: What experiences do you think are contributing to that

thriving?

14) What advice would you give to the faculty and administrators of this university regarding what they could do that would make the biggest difference in a doctoral student's ability to get the most out of their program experience?

15) What else would you like to contribute?