The COVID-19 Effect: How Student Financial Well-Being, Needs Satisfaction, and College Persistence has Changed

Mia B. Russell1, Lorna Saboe-Wounded Head2, Kelli Wolfe-Enslow3, Jacqueline Holland4, and Nicholas Zimmerman5

Abstract
Millions of students experienced increased levels of stress and worries about their college pursuits as they were forced to abrupt pivot to online and hybrid learning due to the global pandemic. Drawing from the theory of human needs, this study examined the extent to which COVID-19 influenced the relationship between financial well-being, needs satisfaction, and college persistence among undergraduate college students. Findings suggest financial well-being and needs satisfaction predicted college persistence. We also found that as social belonging (group connection) and self-actualization (academic achievement) increase, college persistence decreases. Both needs satisfaction and financial well-being were important and of critical nature, pre-pandemic, and were amplified for students during the pandemic. Suggestions on how university administrators and faculty can support their students amid crises, such as COVID-19, are provided.

1Center for Leadership Education, Johns Hopkins University, Baltimore, MD, USA
2South Dakota State University, Sioux Falls, SD, USA
3Tri-County Regional Center for Education, Shelburne, Nova Scotia, CA, USA
4Morgan State University, Baltimore, MD, USA
5Virginia Family and Consumer Sciences, Shenandoah, VA, USA

Corresponding Author:
Mia B. Russell, Johns Hopkins University, Center for Leadership Education, Whiting School of Engineering, Baltimore, MD 21218, USA.
Email: mrusse29@jh.edu
Students embark on their college experience with optimism and hope, yet the COVID-19 global pandemic stalled postsecondary pursuits for many. As a result of the pandemic, the issue of college persistence—or the likelihood that a student will return to college the following year—gained increased attention as post-secondary institutions were forced to abruptly pivot to online and hybrid learning environments in the late spring of 2020 (Cornett & Fletcher, 2022). This change created chaos and confusion for students in general, and specifically, concerning where they live, how they learn, and how they interact with classmates and faculty (Haskett et al., 2022; Kuo, 2021; Sahu, 2020). These types of changes can understandably complicate a student’s ability to be academically successful.

While college students are not immune to adversity and stress (Johnson et al., 2021), living through a public health crisis was a new type of challenge. Many students were concerned about contracting COVID-19. Recent research shows that over 92 and 94 percent of college students and their family/close friends, respectively, experienced difficulties coping with stressors from COVID-19 and experienced stress from constant worry about the virus (Hotez et al., 2020). In the fall of 2020, the Trellis Student Financial Wellness Survey found that 92 percent of undergraduate students felt the pandemic added to their levels of stress, anxiety, and depression (Cornett & Fletcher, 2022). In addition to health concerns, students experienced financial instability and worries as well as a lack of academic motivation (Johnson et al., 2021; Latham & Braun, 2020; Son et al., 2020). Since the start of the pandemic, students have grown increasingly concerned about their financial future, employment opportunities, and the availability of internships and practicums. A recent survey found that students and their families worried about how the pandemic would affect their ability to manage money and afford college (Discover Student Loans, 2020).

Cornett and Fletcher (2022) found that 64 percent of undergraduate students reported an increased obligation to financially support their families and 71 percent described deterioration in their family’s finances since the onset of the pandemic. Understandably, students experienced challenges with academic transitions and motivation as they faced online learning, a lack of interaction with other students, an inability to effectively learn in an online format, distracting home environments, and lack of access to suitable study spaces (Daugherty, 2020). Simply put, getting and staying motivated was exceedingly difficult as the pandemic unfolded (Nell et al., 2020). Students who struggle to stay motivated and meet their basic needs experience increased difficulty forging a path to college completion (Fernandez et al., 2019). In this study, we investigate how the COVID-19 pandemic influenced financial
well-being, needs satisfaction, and college persistence among undergraduate college students.

**Background**

Without consideration of living through a pandemic, emerging adulthood is a distinct developmental period characterized by heightened instability and susceptibility to a range of challenges (Hotez et al., 2020). More than 40 percent of emerging adults aged 18–24 years are currently pursuing a college education (Greenlee et al., 2017) and have experienced transitions with health care, finances, living situations, and gaining independence. While most students reported concern about contracting COVID-19, they also reported financial challenges (Hotez et al., 2020). As students continue to navigate these challenges, we argue that understanding college persistence is crucial, especially during times of crisis.

**Needs Satisfaction**

Needs satisfaction is defined as the reduction in motivation and drive when a physical or psychological need is satisfied (Taormina & Gao, 2013). Needs, as described by Maslow (1943), are characterized as physiological, safety and security, social belonging, esteem, and self-actualization. Required for human living and well-being, needs can be understood from two perspectives: in its existence and without. The lack of a need helps to demonstrate its importance. In our current context, it makes sense that Zhai and Du (2020) found that stress during a pandemic may lead to unfavorable effects on needs satisfaction.

Needs are essential to maintaining academic motivation and contributing to success in higher education (Gillen-O’Neel, 2021). In a survey with over 22,000 U.S. undergraduate students that focused on students’ experiences as institutions across the country transitioned online due to the pandemic, researchers found a lack of motivation from obstacles including challenges with online learning, lack of interaction with other students, inability to effectively learn remotely, and ineffective study and home environments (Daugherty, 2020). Building on the challenges to motivation experienced since the onset of the pandemic, Nell et al. (2020) found significant barriers to academic motivation were lack of structure, change in environment, lack of communication, disorganization, and lack of in-person contact. It is clear that during the pandemic, college students around the country felt a low sense of academic motivation. For many, the college experience fuels academic motivation and overall well-being, yet virtual classes and remote instruction created confusion and information overload during the pandemic. From this perspective, needs drive human behavior, provide the motivation to achieve goals, and predict college persistence (Deci & Ryan, 2008; Graves et al., 2018).

Drawing from the hierarchy of needs theory, needs satisfaction results in intrinsic motivation (Mitchell et al., 2020). Or in other words, as our needs are satisfied, internal
and intrinsic motivation is developed. Most descriptions of intrinsic motivation relate to task motivation whereby engaging in the task itself, and the challenge that the task presents, brings satisfaction and pleasure (Hennessey et al., 2015). Extrinsic motivation can be engendered by many social–environmental factors, including expected reward, expected evaluation, competition, surveillance, time limits, and external control over task engagement (Amabile, 1996; Deci & Ryan, 1985). Propelled by intrinsic motivation, needs satisfaction is positively associated with building self-efficacy (Boyraz et al., 2016) as well as academic performance and college persistence (Graves et al., 2018; Turkdogan & Duru, 2012). Given the importance of motivation and college success, understanding the relationship between needs satisfaction and college persistence is paramount.

Financial Well-Being

Financial well-being is a state of being where a person can fully meet current and ongoing financial obligations, can feel secure in their financial future, and can make choices that allow them to enjoy life (Consumer Financial Protection Bureau [CFPB], 2015a). More specifically, an individual’s financial well-being corresponds to the extent to which the individual feels that they: (1) have control over day-to-day and month-to-month finances; (2) can absorb a financial shock; (3) are on track to meet his or her financial goals; and (4) have the financial freedom to make the choices that allow one to enjoy life (CFPB, 2015a). For students, according to iGrad (2022) financial well-being, or the capacity to live a happy life within one’s means, is developed through financial knowledge and ability.

Financial well-being has long been a concern for college students. One reason this is important: financial well-being and financial decision-making influence college student success (Setiyani & Solichatun, 2019). The 2016 National College Health Assessment (University of Iowa, n.d.) shows that 33.7 percent of respondents stated their finances had been traumatic or very difficult for them to handle within the past 12 months. Data from the CFPB (2015a) suggest that younger adults (those aged 18–34), and specifically the student subgroup, tend to have the lowest financial well-being.

For college students, personal finances can be stressful to manage. Widener (2017) found that financial concerns top the list for reported causes of stress-related health concerns. Additionally, St John et al. (2000) noted several key financial factors including financial aid, tuition, and other costs have strong explanatory power in the college persistence process. Further, Roksa and Kinsley (2019) found that financial support promotes academic success and Davidson and Beck (2019) asserted that juggling financial priorities has a direct effect on persistence. While life stages may make numerous financial factors more salient for college students (Montalto et al., 2019) and financial stress was rampant pre-pandemic, the financial considerations and relationship with college persistence require examination for better understanding.
College Persistence

For decades, postsecondary enrollment, persistence, and graduation data have been tracked and benchmarked in the United States (National Center for Educational Services [NCES], 2021). College persistence is measured as the percentage of students who return to college at any institution for their second year and is an important early success indicator. This indicator is important as Davidson and Beck (2019) suggest that students’ departure from school—or failure to graduate—is the “death of a dream” (p.4). The most recent U.S. data (based on the 2012 cohort) show a 43.7 percent graduation rate for first-time, full-time bachelor’s degree-seeking students at four-year postsecondary institutions (NCES, 2021). Moreover, college enrollment, immediately after high school, in the fall of 2020 declined by 21.7 percent (NCES, 2021). Given these data and the related uncertainties surrounding the pandemic, it is plausible that current college students may contemplate a delayed return or consider engaging in a gap year. When it comes to college persistence, Babineau (2018) states that students face the following barriers to college persistence: social/cultural, economic/financial, academic, and situational barriers.

Social and cultural barriers, including family support, are important factors and can be especially challenging for first-generation college students as parents and siblings may be unable to relate to college-related experiences. Economic and financial barriers have a significant impact on college persistence. Ginder et al. (2018) found that simply paying tuition can be a hindrance for some students. Over the past thirty years, college tuition has tripled in cost and the U.S. student loan debt has topped one trillion dollars. Non-tuition costs of college, including books, food, fees, cost of living, and other aspects also impact the ability of students to persist. This issue extends beyond financial costs. Hira (2012) states that college students are at a crucial transition in their life, with the impact of financial decisions having a far-reaching influence by affecting their long-term financial well-being. Students sometimes struggle with finances often because they neglect to take advantage of financial aid, fail to consider needs and wants, lack basic budgeting skills, misuse credit cards, and disregard today’s implications on their future (Western & Southern Financial Group, 2021).

Academic persistence refers to students as “college ready” if they have grades that exceed a B+ average. Cabrera et al. (1993) examined the role of finances on college persistence utilizing a causal model by linear structural equations, and their findings revealed a significant direct effect of financial aid on college GPA and a student’s intent to persist. NCES (2021) data show that 16 percent of first-year students claim they are unable to meet program requirements. Finally, situational barriers, which refer to family issues, extenuating personal circumstances, changes in family status, conflicts at home, as well as students’ socio-emotional and psychological well-being, are also related to college persistence and success. Researchers have long examined a range of factors that influence college persistence including attitudes and behaviors (Cabrera et al., 1993), financial stress (Hotez et al., 2020; Robb, 2017), motivation (Allen, 1999; Davidson & Beck, 2019), academic, psychosocial, noncognitive, and
other background factors (Elder, 2021; Stewart et al., 2015), as well as tangible factors including financial, food, and housing insecurity (Haskett et al., 2022; Hotez et al., 2020). Taken together, these barriers must be overcome to ensure students have the skills and support to persist to—and through—graduation.

**Theoretical Framework**

This study draws from the theory of human needs, often called the hierarchy of needs (Maslow, 1943), to examine the influence of needs satisfaction and financial well-being on college persistence within the context of the COVID-19 pandemic among undergraduate college students. The theory of human needs is a theory of motivation stating that five categories of human needs dictate an individual’s behavior. Those needs are physiological, safety, love and belonging, esteem, and self-actualization.

According to Maslow (1943), when a lower need is met, the next need on the hierarchy becomes the focus. Starting with the basic level, physiological needs such as food, water, shelter, and clothing are vital to basic survival. Maslow considered physiological needs to be the most essential of our needs (McLeod, 2020). If someone is lacking in more than one need, they are likely to need physiological needs first to equip them to progress further. Once physiological needs are met, needs for security and safety become a priority. Examples of security and safety needs include employment, financial security, health and wellness, and safety against accidents and injury. Fundamentally, these safety needs are about removing risk from life and helping maintain physiological needs into the future. Next, social belonging needs include love and acceptance. Humans are social beings and often have a strong need to connect with others. At this level, emotional relationships drive human behavior. Esteem needs, which encompass the need for appreciation and respect, begin to play a more prominent role in motivating behavior once the former hierarchy levels have been satisfied. Maslow classified esteem needs into two categories: esteem for oneself and the desire for reputation or respect from others (McLeod, 2020).

Individuals have a need to accomplish things and have their efforts recognized—both of which help to build confidence and self-efficacy. As such, self-actualization needs refer to the realization of a person’s potential and self-fulfillment. Maslow describes this level as the desire to accomplish everything that one can, to become the most that one can be. Individuals may perceive or focus on this need very specifically. In this way, college graduation, often seen as the ultimate pinnacle for college students, is self-actualization operationalized (Graves et al., 2018; (Masika & Jones, 2016; Turkdogan & Duru, 2012). Given the current context, Cerbara et al. (2020) suggest that Maslow’s theory of human needs adapts well to COVID-19 and assert that during a crisis or emergency, the human needs that rise to greatest importance are physiological as well as safety and security.

**Purpose of the Study**

College persistence challenges were only amplified during the pandemic, as we accumulated more evidence for the need to support college students. To understand how times of
crisis impact college students, the primary aim of this study was to evaluate the extent to which COVID-19 influenced college persistence among undergraduate college students as there exists a challenge to distinguish between and understand the influential factors of those who will and will not graduate (Davidson et al., 2009; Tinto, 2006). In this paper, we focus on two critical and relevant factors for students navigating college today and into the future: financial well-being and needs satisfaction. While pandemics are rare, there will be future crises that may be informed by our collective COVID-19 experiences.

Methodology

This cross-sectional, quantitative study of undergraduate college students \((n = 159)\) was conducted in Fall 2020, a period that has been documented in the literature as a time of high pandemic-related stress (Kracht et al., 2021). This study employed post-then pre-survey methodology using a self-report web-based questionnaire (QuestionPro, 2020). Participants were asked to respond to questions, in an online survey, based on what they remembered about their situation before March 2020, then were presented the same set of questions to respond based on their current situation (except for the college persistence scale). The final survey had 92 items, took approximately 15 min to complete, and remained open for five weeks, closing in November 2020. All responses were anonymous. To reduce self-selection bias, ten $25 gift cards were offered as a participation incentive. Before data collection, University of Maryland Eastern Shore Institutional Review Board approval was obtained (Approval #08-2020-005).

Study Subjects

The respondents were primarily recruited through the American Association of Family and Consumer Sciences (AAFCS) – with geographically dispersed (urban, suburban, and rural settings) student members that attend both predominantly white institutions and minority-serving institutions. All undergraduate students were eligible to participate and were not selected for any specific characteristics. Invitations to participate in the study were posted on the AAFCS member discussion forum and promoted through the AAFCS Student Unit. AAFCS members with faculty appointments were asked to share participation information with their students. Snowball sampling was also employed. As displayed in Table 1, the study sample was primarily female (76.1%), White/Caucasian (69.8%), enrolled full-time (94.3%), and single (84.6%). Participants were somewhat evenly distributed between ranks. A majority of the participants attended college in Southern (47.8%) and Midwestern (37.1%) states.

Measures

This study used three reliable and valid instruments: Needs Satisfaction Inventory (Lester, 1990), the Financial Well-being Scale (CFPB, 2015b), and the College Persistence Questionnaire (Graves et al., 2018).
The Needs Satisfaction Inventory (Lester, 1990) measures the degree to which needs are being met and consists of fifty items based on the five categories of Maslow’s hierarchy of needs with ten items for each need. An example of an

Table 1. Demographics of Survey Participants.

| Category                              | N   | %   |
|---------------------------------------|-----|-----|
| Gender                                |     |     |
| Female                                | 121 | 76.1|
| Male                                  | 37  | 23.3|
| Prefer not to answer                  | 1   | 0.6 |
| Race                                  |     |     |
| Black/African American                | 29  | 18.2|
| Asian American/Pacific Islander       | 5   | 3.1 |
| Native American/American Indian       | 4   | 2.5 |
| White/Caucasian                       | 111 | 69.8|
| Hispanic/Latino                       | 6   | 3.8 |
| 2 or more races                       | 3   | 1.9 |
| Prefer not to answer                  | 1   | 0.6 |
| Current Rank                          |     |     |
| Freshman                              | 39  | 24.5|
| Sophomore                             | 21  | 13.2|
| Junior                                | 37  | 23.3|
| Senior                                | 62  | 39.0|
| Enrollment                            |     |     |
| Full-time                             | 150 | 94.3|
| Part-time                             | 9   | 5.7 |
| Attend Minority Serving Institution¹  |     |     |
| Yes                                   | 23  | 14.5|
| No                                    | 136 | 85.5|
| Region of College Attendance²        |     |     |
| Northeast                             | 6   | 3.8 |
| Midwest                               | 59  | 37.1|
| South                                 | 76  | 47.8|
| West                                  | 15  | 9.4 |
| Other Country                         | 3   | 1.9 |
| Marital Status                        |     |     |
| Single/Never married                  | 135 | 84.6|
| Married                               | 10  | 6.3 |
| Separated/Divorced                    | 1   | 0.6 |
| Living with partner                   | 11  | 6.9 |
| Prefer not to answer                  | 2   | 1.3 |

Note: ¹Minority Serving Institutions are institutions of higher education that serve minority populations. ²U.S. Census Bureau designated regions

Needs Satisfaction. The Needs Satisfaction Inventory (Lester, 1990) measures the degree to which needs are being met and consists of fifty items based on the five categories of Maslow’s hierarchy of needs with ten items for each need. An example of an
item from the Needs Satisfaction Inventory is, “My life has meaning.” Responses were scored on a 6-point scale (ranging from strong disagreement (−3) to strong agreement (+3) resulting in a high and acceptable Cronbach alpha, according to Taber (2018), of .812 (March 2020) and .756 (October 2020).

**Financial Well-Being.** The 10-item Financial Well-Being Scale (CFPB, 2015b) assesses control over finances, capacity to absorb a financial shock, capability to meet financial goals, and ability to have the financial freedom to enjoy life. This scale uses both positive and negative phrasing. A sample scale item is “I could handle a major unexpected expense.” The financial well-being scale incorporates individuals’ perceptions of financial well-being to determine a single financial well-being score based on the elements previously mentioned. The Cronbach alpha, the measure that assesses the reliability and internal consistency, at .793 (March 2020) and .840 (October 2020) were fairly high and represented acceptability (Taber, 2018).

**College Persistence.** The 20-item College Persistence Questionnaire (Graves et al., 2018) measures students’ academic motivation and planned persistence. This shortened scale includes factors of degree commitment (5 items), institutional commitment (7 items), and academic motivation (8 items). A sample scale item is “In general, how enthused are you about doing academic tasks?” Each item was scored on a 5-point scale (ranging from a low (−2) to high level of college persistence (+2). The Cronbach alpha for this scale was adequate at .672 (Taber, 2018).

**Analysis**

We examined the effects of COVID-19 by asking participants to respond to the survey questions by recalling how they felt in March 2020 – before the global pandemic (denoted as before) and in October 2020 (denoted as after). To understand the differences between March and October 2020 perceptions, we conducted a paired sample t-test with responses from the Financial Well-being Scale and Needs Inventory subscales. Then we examined the relationship between financial well-being, needs satisfaction, and college persistence in March and October 2020 by computing a Pearson r correlation. Finally, we conducted a multiple regression to determine whether financial well-being and needs satisfaction predicted college persistence.

**Results**

The purpose of this study was to evaluate the extent to which COVID-19 influenced the relationship between financial well-being, needs satisfaction, and college persistence among undergraduate college students. The descriptive statistics, including mean scores, for financial well-being, needs satisfaction subscales, and college persistence can be found in Table 2. Item Response Theory (IRT) analysis was used to determine the financial well-being scale score. IRT provides a more accurate measure rather than just using a summary score (CFPB, 2015b). Using SPSS, variables for the financial well-being scale were coded in accordance with the CFPB financial well-being
scale guide. Using the “lookup” table, provided in the CFPB guide, the total value was converted to a CFPB Financial Well-Being Scale score. Scores are standardized and fall between 0 and 100 representing the respondent’s level of financial well-being. Table 2 shows the mean financial well-being scale score for March and October 2020 (56 and 49, respectively). These scores indicate a higher level of financial well-being; however, it is important to note there is no good or bad score. The scale is often used to establish a benchmark and then used in relationship with other financial data. The results show that the financial well-being scale score is lower for the October 2020, as compared to March, and suggest that participants did not feel as good about their financial situation seven months after the COVID-19 pandemic began.

March and October 2020 scores for each needs inventory subscale are also included. New variables were created to form subscales based on each need. Subscales were based on Lester’s (1990) research measuring the degree of satisfaction of Maslow’s basic needs. The mean score for each subscale shows the degree to which basic needs are being met in March (before) and October (after) 2020. The mean scores were lower in October than in March.

t-Test

As noted in Table 3, there was a significant difference in all mean scores across all constructs at both data points, March and October 2020. Negative mean scores indicate October scores were lower than March scores. On average, financial well-being scale scores representing October were 5.73 points lower than scores representing March. The needs inventory subscales have the same results (Phy ave. = 1.72; SS = 3.53; SB = 1.13; Est = 1.45; SA = 2.04). Financial well-being had a moderate and
Table 3. Mean Comparison of March 2020 (B) and October 2020 (A).

| Paired Differences          | M     | SD      | Std. Error | Mean  | 95% Confidence Interval of the Difference | t      | df | Sig. (2-tailed) |
|-----------------------------|-------|---------|------------|-------|------------------------------------------|--------|-----|----------------|
| Financial Well-being A – B | −7.83019 | 10.64930 | .84454     | −9.49824| −6.16213 | −9.271 | 158 | <.001          |
| Physiological A – B        | −1.71698 | 6.21669 | .49302     | −2.69073| −.74323 | −3.483 | 158 | .001          |
| Safety & Security A – B    | −3.53459 | 5.76522 | .45721     | −4.43763| −2.63156 | −7.731 | 158 | .000          |
| Social Belonging A – B     | −1.12579 | 5.31863 | .42180     | −1.95887| −.29270 | −2.669 | 158 | .008          |
| Esteem A – B               | −1.49686 | 5.64215 | .44745     | −2.28061| −.61310 | −3.345 | 158 | .001          |
| Self-Actualization A – B   | −2.04403 | 6.75835 | .53597     | −3.10262| −.98543 | −3.814 | 158 | .000          |
positive correlation ($r = .444$; Sig. <.001). The needs inventory subscales had a strong and positive correlation (Phy $r = .617$, Sig. <.001; SS $r = .621$, Sig. <.001; SB $r = .765$, Sig. <.001; Est $r = .787$, Sig. <.001; SA $r = .765$, Sig. <.001). Results of the paired t-test indicate participants’ financial well-being was not as strong six months after the start of the pandemic and that their needs were not being met.

**Correlation**

The Pearson correlation coefficient was computed to assess the relationship between perceived needs and college persistence in March 2020 (before) and October 2020 (after). Results are shown in Table 4. College persistence and financial well-being have a weak yet positive statistical significance (March $r = .185$, Sig = .019; October $r = .207$, Sig = .009). As financial well-being increases so does college persistence. Regarding needs, there is a weak, negative relationship between college persistence and social belonging (March $r = −.174$, Sig = .028; October $r = −.174$, Sig = .028) and self-actualization (March $r = −.263$, Sig = <.001; October $r = −.178$, Sig = .025). As the need for social belonging and self-actualization increases, college persistence decreases.

**Multiple Regression**

Multiple regression was run to predict the relationship between the dependent variable, college persistence, and financial well-being, needs satisfaction, race, and gender. Results from the March 2020 analysis, as displayed in the first section of Table 5, indicate a model that explains ten percent variability ($p = 0.010$; $R^2 = 0.103$). Financial well-being and needs satisfaction significantly predict college persistence ($F (6,152) = 2.913$, $p = .010$). There are also predictive and statistically significant relationships between financial well-being ($p = 0.049$) and self-actualization ($p = 0.020$).

The next section of Table 5 shows the results of the October 2020 analysis. This model explained 9 percent of the variability ($p = 0.027$; $R^2 = 0.089$) in the model, which is just slightly lower compared to the March analysis. Financial well-being

| Table 4. Correlation of Financial Well-being, Needs Satisfaction and College Persistence. |
|---------------------------------------------|-------------------------------|-----------------------------|
| College Persistence March | College Persistence October |
| Financial Well-being | .185* | .207** |
| Physiological | −.067 | .037 |
| Safety & Security | −.086 | −.041 |
| Social Belonging | −.174* | −.174* |
| Esteem | −.205** | −.083 |
| Self-Actualization | −.263** | −.178* |

Note: * indicates $p < .05$; ** indicates $p < .01$. 
was the sole predictor of college persistence even though college persistence remained statistically significant in predicting the independent variables (F (6, 152) = 2.464, p = .027).

Robb et al. (2012) suggested two key demographic characteristics—gender and race—impact college persistence. The third section of Table 5 shows the results of the regression analysis of gender and race as independent variables. The model explained 7 percent of the variability (p = 0.003; R^2 = 0.074). White and female participants added statistical significance to the predictive model.

### Table 5. Regression College Persistence and Needs – March and October 2020.

| Model             | Unstandardized Coefficients | Standardized Coefficients | 95.0% Confidence Interval for B |
|-------------------|-----------------------------|---------------------------|--------------------------------|
|                   | B                           | Std. Error                | Beta  | t      | Sig. | Lower Bound | Upper Bound |
| **March 2020**    |                             |                           |       |       |      |             |              |
| (Constant)        | 9.799                       | 2.551                     |       | 3.840 | .000 | 4.758       | 14.839       |
| Financial         | .193                        | .097                      | .160  | 1.988 | .049 | .001        | .385         |
| Well-being        |                             |                           |       |       |      |             |              |
| Physiological     | .005                        | .101                      | .005  | .053  | .958 | -.195       | .205         |
| Safety & Security | .043                        | .112                      | .038  | .388  | .699 | -.178       | .264         |
| Social Belonging  | -.059                       | .091                      | -.058 | -.656 | .513 | -.238       | .120         |
| Esteem            | .031                        | .097                      | .034  | .314  | .754 | -.161       | .222         |
| Self-Actualization| -.208                       | .088                      | -.265 | -2.353| .020 | -.382       | -.033        |
| **October 2020**  |                             |                           |       |       |      |             |              |
| (constant)        | 10.764                      | 1.819                     |       | 5.927 | .000 | 7.176       | 14.352       |
| Financial         | .190                        | .083                      | .186  | 2.285 | .024 | .026        | .354         |
| Well-being        |                             |                           |       |       |      |             |              |
| Physiological     | .087                        | .100                      | .075  | .868  | .387 | -.111       | .284         |
| Safety & Security | -.028                       | .121                      | -.021 | -.227 | .821 | -.267       | .212         |
| Social Belonging  | -.118                       | .088                      | -.114 | -1.345| .181 | -.293       | .056         |
| Esteem            | .059                        | .096                      | .062  | .671  | .538 | -.131       | .250         |
| Self-Actualization| -.153                       | .092                      | -.179 | -1.656| .100 | -.335       | .029         |
| **Race and Gender** |                           |                           |       |       |      |             |              |
| (constant)        | 10.637                      | 1.646                     |       | 6.462 | .000 | 7.386       | 13.889       |
| Gender Female     | 3.258                       | 1.452                     | .174  | 2.244 | .024 | .390        | 6.126        |
| Race-white        | 3.911                       | 1.345                     | .226  | 2.908 | .004 | 1.254       | 6.568        |

Note: Dependent Variable: College Persistence; * indicates p < .05; ** indicates p < .01.

(p = 0.024) was the sole predictor of college persistence even though college persistence remained statistically significant in predicting the independent variables (F (6,152) = 2.464, p = .027).

Robb et al. (2012) suggested two key demographic characteristics—gender and race—impact college persistence. The third section of Table 5 shows the results of the regression analysis of gender and race as independent variables. The model explained 7 percent of the variability (p = 0.003; R^2 = 0.074). White and female participants added statistical significance to the predictive model.

### Discussion

The purpose of this study was to investigate how influential the COVID-19 pandemic was on financial well-being, needs satisfaction, and college persistence among
undergraduate college students. We hypothesized that COVID-19 would influence the relationship between financial well-being, needs satisfaction, and persistence among college students. Study findings suggest student financial well-being and needs satisfaction was impacted by the global pandemic.

Before the pandemic, students worried about money matters, but concerns have been amplified given the health and financial crisis brought on by the global pandemic. It is surprising that this finding exists despite governmental support including stimulus checks, eviction moratoriums, enhanced unemployment benefits, and CARES Act funding targeted for college students. Financial well-being is an important aspect of student life and overall well-being and should be considered by university administration. In fact, many colleges and universities have instituted education financial education programming and centers on campus. Some of the services that can be offered through this type of programming include financial education workshop series, peer-to-peer support, financial coaching, financial emergency assistance, etc. While this many not address the full void as experienced by students, this type of programming contributes to the support students need.

This study makes clear that needs satisfaction is another important consideration. Faculty are positioned to build relationships with students and provide emotional and social support. Faculty can also integrate mindful practices and visualization exercises that help to reduce anxiety. University administration should consider enhancing green spaces and nature on campus. Engaging students in green spaces and parks have a positive effect on lowering anxiety caused by crisis, such as pandemics (Larson et al., 2022). It is logical to expect the college experience to be influenced by group connection (social belonging), and academic achievement (self-actualization). However, esteem needs, which represent confidence and self-efficacy – important aspects as a student pursues higher education, were not significant. While esteem needs are important in most endeavors, perhaps in times of crisis other needs are more critical.

Maslow (1954) identified belonging as a basic human need. Our findings reinforce that need. Given how the pandemic has changed many ways we function and interact, we expected to find that social belonging and self-actualization influence college persistence. The loss of social interaction during social isolation and quarantine may amplify the need for social belonging. In fact, this finding confirms the work of Hotez et al. (2020) that social belonging is essential to student well-being. Further, whether the social isolation provides opportunities to think and plan for your future or the health crisis raises concern about one’s mortality, it is not surprising that students might more clearly focus on ways to achieve their goals and fully self-actualize. Taken together, these findings are supported by recent research by Cerbara et al. (2020) that found basic needs aligned with Maslow’s hierarchy of needs given the COVID-19 global pandemic. There is no doubt that the changes to our society and typical social interactions, namely social and physical isolation, affect the human need for social belonging.

Universities and colleges seek to educate, empower, and encourage the ‘whole’ student in such a way that students’ experience a more full, meaningful life personally
and professionally. In light of these experiences by college students, higher education institutions can work to ensure students feel a sense of belonging to the university (Hotez et al., 2020). This can be accomplished through effective communication strategies that assist to involve students meaningfully and encouraging their engagement. In addition to belonging, showing empathy is a balm for students. In fact, Hotez et al. (2020) assert that empathy, belonging, and academic support are essential to student well-being, especially during the transition back to academic life post-COVID. Empathy communicates a partnership in coming alongside another to acknowledge emotions and to envision what they might be sensing. Faculty can practice empathy to better understand students’ unique identities, backgrounds and experiences – all of which help build meaningful connections with students. Strategies that faculty can employ include using student’s preferred name, being fully present and practicing active listening instead of interrupting and rushing to give advice, providing genuine recognition, and observing nonverbal signals (Chan et al., 2020; Hotez et al., 2020). An intentional approach to belonging and embracing empathy help to foster a supportive environment where students can thrive and flourish.

**Implications and Conclusion**

The college experience is typically full of important decisions and opportunities to explore interests, develop new knowledge and skills, build networks, and gain the education that supports career success, yet the COVID-19 global pandemic brought countless changes and challenges to the life of college students. This study examined the extent to which the COVID-19 pandemic influenced the relationship between financial well-being, needs satisfaction, and college persistence among undergraduate college students. Prior research suggests students have grown increasingly concerned about their finances. As such, we find significant relationships between financial well-being and college persistence. As for needs satisfaction analysis, we find statistically significant relationships and correlations. Social belonging, esteem, and self-actualization were negatively correlated with college persistence in March. In October, social belonging and self-actualization were negatively correlated with college persistence. The regression showed that self-actualization was the sole need that predicted college persistence across both time frames – only in March.

The needs satisfaction subscales were correlated with college persistence and self-actualization – or goal achievement and fulfillment – predicted college persistence, based on regression results of March 2020 data. The relationship between needs satisfaction and college persistence corroborates the work of Cerbara et al. (2020). For years, human needs research has shown that crises and challenges may require increased motivation to ensure goal achievement. In this context, college students enroll in college intending to graduate – or in other words, to achieve self-actualization.

This study can be used by faculty and university administrators to improve the experience for undergraduate college students during COVID-19 and in times of heightened changes and future crisis. Positive and welcoming experiences with
faculty and staff can help mitigate student worries about meeting financial obligations and affording tuition or feelings of social isolation and disappointment. University administrators might consider providing financial workshops to help build the financial capability of students or even develop a financial wellness center on campus. Faculty and university officials should intentionally focus on building positive relationships that help to foster social belonging – an important consideration as students return to the classroom and in-person academic life. University administrators could consider incorporating “rest and relaxation” or “no meeting” days throughout the term in which classes can be canceled for students and faculty. Further, university administration should consider ways to engender trust through communication especially during times of uncertainty and ambiguity. Institutions may consider town hall meetings to keep students informed. Fundamental to belonging, establishing and maintaining trust will help students feel valued and connected on campus as well as provide the encouragement that propels academic completion.

As we transition to an endemic status, it is likely that hybrid educational experiences and interactions will continue to occur for the near future. Faculty can support students, inclusively, by holding virtual office hours and making time to deliberately check-in with students throughout the semester. Virtual office hours help to democratize office hours and provide opportunities for students to engage with faculty in multiple ways. Likewise, deliberate check-ins regardless of the method or medium—virtual, hybrid, and in-person—help students to realize they matter and are valued. In the classroom, faculty can work to build community by including icebreakers and other team-building activities throughout the semester to facilitate student-to-student interaction and engagement. Faculty may also consider incorporating mindfulness activities in class and diversifying instruction to keep students engaged. Together, these activities help to propagate positive relationships, engender trust, and demonstrate care.

The campus community provides the foundation for positive student experiences. The essence of the meaning of community implies members are also recipients of the co-created experiences (Cheng, 2004). As students experience a sense of belonging, meaning they are cared for and affirmed, their well-being is positively enhanced. Experiencing the opposite can have adverse consequences (Cheng, 2004). Supporting students is integral to the success of each institution. Higher education was already changing, but COVID-19 pandemic accelerated the pace of change – and has changed higher education forever (Latham & Braun, 2020). Students will continue to need environments and learning communities that support social belonging and encourage goal achievement. This research may be helpful as colleges and universities develop and execute plans to support students now and in the future. Future research is needed to understand indicators of college persistence more fully in times of crisis and how these indicators may influence policies and practices that support students’ success. Additionally, future research may also explore the role of family support, familial social status, or parents’ financial well-being when assessing the financial well-being of college students.
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Data is available upon request.

Code Availability
N/A

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ORCID iD
Mia B. Russell https://orcid.org/0000-0003-4834-2467

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**Author Biographies**

**Mia B. Russell,** PhD, Lecturer at Johns Hopkins University.

**Lorna Saboe-Wounded Head,** PhD, Extension Field Specialist III Family Resource Management, South Dakota State University.

**Kelli Wolfe-Enslow,** Lead Co-Op & O2 Teacher Grades 10 to 12, Shelburne Regional High School.

**Jacqueline Holland,** EdD, Associate Professor; Chair, Family & Consumer Sciences, Morgan State University.

**Nicholas Zimmerman,** Family and Consumer Sciences Teacher at Shenandoah County Schools.