



The Cost of Success: Exploring the Impact of Textbook Costs at a Hispanic-Serving R1 Institution

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ABSTRACT

The cost of textbooks is a significant concern for undergraduate students, particularly at institutions serving marginalized populations. This study explores this issue at the University of New Mexico, a Hispanic-Serving R1 institution. A comprehensive survey was conducted among undergraduate students to understand their perceptions of textbook costs and its impact on their academic success. The survey covered aspects such as the perceived reasonableness of costs, budgeting practices, and strategies to manage expenses. The results revealed that high textbook costs significantly affect students' financial well-being and academic success. Many students perceive these costs as unreasonable, leading to financial strain. Students employ various strategies to manage these expenses, including purchasing from vendors other than the campus bookstore, renting, or sharing books with classmates. This study underscores the need for enhanced support and resources to alleviate the financial burden of textbook costs on students, contributing valuable insights to the literature on this subject.

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Between 1977 and 2015, the cost of purchasing college textbooks rose 1,041% or three times the rate of inflation (Open Markets Institute, 2019), which has impacted the affordability of higher education for students. Multiple studies have established that textbook costs can act as a barrier to student success (Florida Virtual Campus, 2022; Jenkins et al., 2020; Jhangiani and Jhangiani, 2017), and this becomes an issue of equity when marginalized groups are affected at a higher rate. This is of special concern at the University of New Mexico (UNM) given the demographics of the student population.

UNM consists of five campuses located in Albuquerque, Gallup, Los Alamos, Taos, and Valencia County. It is a publicly funded R1 institution that grants doctoral degrees. During the fall of 2021, more than 25,000 students enrolled at UNM. Of that number, more than 45% were Hispanic, almost 10% were American Indian, nearly 30% were white, and the remaining 15% of students were a mix of Black, Asian, and other races. As Latinx students are the most likely ethnic or racial group to identify as first-generation college students (Latino et al., 2020), it follows that a Hispanic-Serving Institution like UNM would have a significant first-generation population. Indeed, first generation college students make up nearly half of UNM's student body (First Gen Proud, 2022). UNM defines first generation college students as those who have parents with neither parent having education beyond high school or a student with neither parent receiving a four-year degree (First Gen Proud, 2022; Pratt et al., 2019). Additionally, Pratt et al. (2019) found that first generation college students disproportionately came from low income families, which negatively affects retention. Looking at the results of these studies, it appears students with demographic backgrounds similar to the ones at UNM experience a confluence of factors that can potentially disadvantage their academic progress.

This information highlights the need for wide-ranging support programs designed to help a diverse student body overcome any barriers they may face. The Pell Institute (2022) advocates for the equalization of public higher education by providing additional resources for groups who have been historically left out of higher education and by providing support for student persistence. One such program is UNM's nascent open educational resources (OER) initiative, which is currently gaining traction and institutional support.

As the university moves in the direction of equitable course materials, it is imperative to gauge how the cost of textbooks currently affects our student population to create a baseline of students' attitudes towards college and university textbooks to see if they are consistent with those across the country and to gauge students' perceptions as the UNM OER initiative grows. Knowing about the experiences of students can also help the university more adequately address the students' needs. Additionally, knowing more about the factors and behaviors of students related to textbooks can help to address issues of equity.

This research builds upon a 2017 study at Old Dominion University (Wittkower & Lo, 2019), which was in turn based on the 2016 state-wide study in Florida (Florida Virtual Campus, 2016). The current study aims to disaggregate student demographics and analyze the effect of textbook expenses on students from diverse backgrounds. The research questions are:

1. How do undergraduate students at an R1, Hispanic-Serving Institution (such as UNM) perceive the cost of course materials?
2. How does the cost of course materials influence undergraduate student success at UNM?
3. How do UNM undergraduate students engage with course materials?

LITERATURE REVIEW

The impact of OERs and commercial textbooks have been studied through the Cost, Outcome, Usage, and Perceptions (COUP) framework (Bliss et al., 2013). Through the criterion of perception, research has found that student perceptions of course materials can influence their decisions to purchase an assigned course textbook (Howard & Whitmore, 2020).

Students who do not have access to their textbooks are at an educational disadvantage (Florida Virtual Campus 2022; Jenkins et al., 2020). The 2022 Florida Student Survey found that 53% of the 13,000 students they surveyed did not purchase a required textbook for a course due to its

cost. Because of textbook costs, 43% of students in that survey took fewer courses, and 24% of students surveyed reported dropping out of a course (Florida Virtual Campus, 2022). Jhangiani and Jhangiani (2017) found that the cost of textbooks influenced students' course enrollment, persistence, registration for courses, and withdrawal from courses.

The Florida Textbook Analysis is the third in a sequence of surveys requesting student feedback on the impact of textbook costs, and it found that while there is a downward trend in the cost of student textbooks, the high cost of textbooks is problematic for many students (Florida Virtual Campus, 2022). In Virginia, students reported that the cost of required textbooks was unreasonable and that there were implications for their own success, including withdrawing from a course due to not having the materials (Wittkower and Lo, 2019). In Utah, a survey of nearly seven hundred students found that 66% of respondents said they did not purchase a textbook due to cost, and 47% of those students said it negatively affected their grade (Martin et al., 2017). In Minnesota, researchers found a majority of students they surveyed did not purchase a required textbook because they felt they could complete their coursework without buying the book (Kinskey et al., 2018).

From the angle of equity, Jenkins et al. (2020) analyzed the social justice implications of textbook cost along demographic lines like race, income, and first-generation college student status and found that the barriers created by high textbook costs were heightened among historically underserved college students, finding that stress related to the cost of textbooks adversely affected more Latinx students than their white counterparts. Conversely, Latino et al. (2020) found that financial support helps alleviate some adverse factors that underrepresented students experience in a post-secondary environment, and that financial aid helped to reduce achievement gaps in retention for first generation college students.

Within the literature, there is a gap in the research regarding how the price of textbooks has affected students in New Mexico, which could have implications for other states and regions, as well as the nation, as demographics evolve. For example, California's post-secondary student population bears a resemblance to the state of New Mexico's population in that both are majority-minority states (Funk and Lopez, 2022) and post-secondary institutions in both states serve high numbers of marginalized students (Martinez and Garcia, 2020; HACU, 2022). While previous reviews of the literature illustrate how the cost of textbooks can affect student success, more research is needed for how the cost of educational materials affect students at Hispanic-Serving Institutions (HSI). After all, according to the U.S. Department of Education's National Center for Education Statistics (2020a, 2020b), while 21.8% of undergraduate students in the U.S. in 2020 were Latinx, 54% of these students were enrolled in Hispanic-Serving Institutions, which means Latinx students are under-represented in the current body of literature.

METHODS

For this study, 30% of the total degree-seeking students were randomly selected to participate. Across all five UNM campuses, the researchers invited 5,500 degree-seeking bachelor and associate degree students to participate in a questionnaire that examined the impact of textbook expenses and explored the effect of textbook cost on student success. Three hundred and forty-one students returned the questionnaire.

SURVEY

The study used the survey developed by Wittkower and Lo for their 2017 study in Virginia (2019) as a model and modified it to meet local needs. The UNM Institutional Review Board (IRB) approved the study. The researchers administered the 22-question survey in fall 2022 (9/26/2022 – 10/10/2022). Refer to the appendix for the complete survey instrument.

The survey sample included only degree-seeking bachelor's and associate's degree students from the five UNM campuses. Over the past three fall semesters (2019, 2020, and 2021), degree-seeking undergraduate enrollment averaged 17,639 students (Office of Institutional Analytics, 2022). The recruitment email for the survey was sent out to a proportional representation of these students for a total of 5,500 invitees (See Table 1).

CAMPUS	UNDERGRADUATE ENROLLMENT	NUMBER OF INVITEES
Albuquerque	15,627	4,700
Gallup	1,403	425
Los Alamos	252	75
Taos	352	100
Valencia	573	200
Total	17,639	5,500

Table 1 Survey Recruitment Data.

To preserve student privacy and confidentiality, the UNM Office of Institutional Analytics generated a random sample of students from this population and sent a survey link via the Qualtrics platform to each invited student at their UNM email address. No other members of the research team had access to invitees' or respondents' directory information. Respondents' email addresses were stripped from the results dataset upon the conclusion of the survey before being shared with the research team.

RESULTS

DEMOGRAPHIC DATA

A total of 315 UNM undergraduate students participated in this study. The distribution of respondents across the university's campuses was as follows: Albuquerque main campus (n = 284), Gallup campus (n = 13), Los Alamos campus (n = 6), Valencia campus (n = 4), Health Sciences Rio Rancho campus (n = 2), and Taos campus (n = 6). In terms of class standing, the sample consisted of 73 seniors (27.14%), 69 juniors (25.65%), 39 sophomores (14.50%), and 83 freshmen (30.86%). A small percentage of respondents (n = 5, 1.86%) identified as "other."

The majority of respondents were from the College of Arts and Sciences (n = 93, 38.59%), followed by the School of Engineering (n = 36, 14.94%), and the College of Nursing (n = 19, 7.88%). Other colleges represented in the sample included the Anderson School of Management (n = 27, 11.20%), College of Education (n = 17, 7.05%), College of Fine Arts (n = 24, 9.96%), Honors College (n = 0, 0.00%), College of Pharmacy (n = 1, 0.41%), College of Population Health (n = 1, 0.41%), College of University Libraries & Learning Sciences (n = 1, 0.41%), School of Architecture and Planning (n = 3, 1.24%), University College (n = 11, 4.56%), College of Law (n = 1, 0.41%), and College of Medicine (n = 4, 1.66%).

In terms of race/ethnicity, the sample was comprised of 7 African American/Black respondents (2.63%), 18 Asian American/Asian respondents (6.77%), 97 Hispanic/Latino/a respondents (36.47%), 30 Native American/Alaskan Native respondents (11.28%), 1 Native Hawaiian/Other Pacific Islander respondent (0.38%), 98 white respondents (36.84%), and 15 "other" respondents (5.64%) (See [Figure 1](#)).

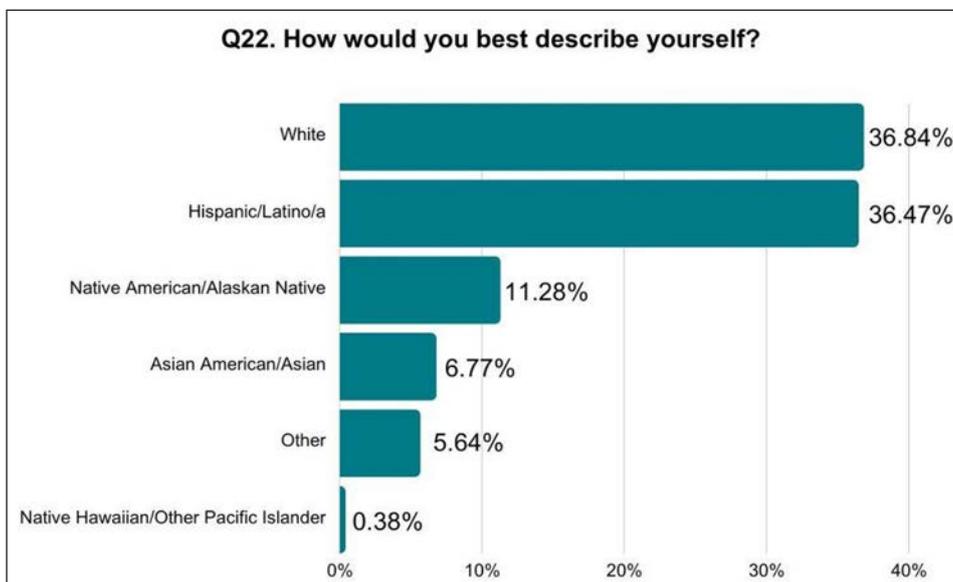


Figure 1 Race/Ethnicity Demographics of Survey Respondents.

The majority of respondents reported being involved in some form of financial assistance (n = 199, 60.4%) or work-study. A significant proportion of respondents were also employed, either through a work-study program (n = 35, 10.6%) and/or outside of it (n = 147, 44.6%). A majority of undergraduate students were employed while pursuing their studies. Out of the 168 respondents who reported working, 97 (57.7%) put in more than 20 hours per week. These findings suggest that a significant number of undergraduate students balance their studies with a significant workload, potentially affecting their academic performance and overall well-being.

Less than a third of the respondents identified themselves as first-generation college students (n = 93, 27.9%). Unfortunately, this low representation of first-generation students does not align with campus statistics cited by First Gen Proud (2022), which state that nearly half of the student population is a first-generation college student.

A significant proportion of undergraduate students were enrolled in a high number of courses, with the majority (64.65%) enrolled in 5 or more courses (See Figure 2). Additionally, more than 67% of respondents reported that three or more of their classes have required textbooks.

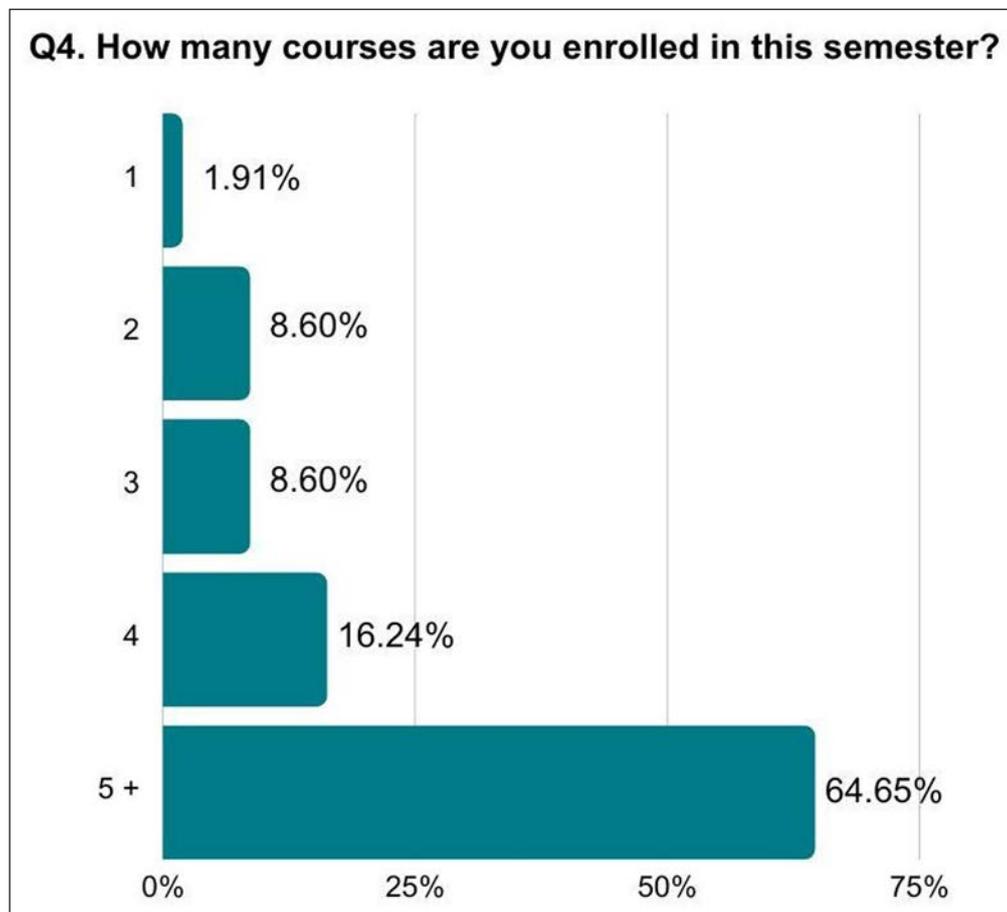


Figure 2 Survey Respondents' Number of Enrolled Courses.

These findings suggest that students might face a significant burden in terms of both course enrollment and the cost of required course materials. A majority of respondents are enrolled in a high number of courses, and a significant proportion of these courses have required textbooks, which can add significantly to the overall cost of their studies. A small percentage of respondents were not sure how many of their courses had required textbooks, indicating a potential lack of clarity or transparency regarding course materials.

RQ 1 HOW DO UNDERGRADUATE STUDENTS AT UNM PERCEIVE THE COST OF COURSE MATERIALS?

The students felt the burden of high costs for course materials, with a majority (70.02%) perceiving the amount spent as either somewhat or extremely unreasonable (See Figure 3). A significant number of students (73 respondents, 24.58%) estimated the cost of their course materials at \$201–300, while an additional 63 respondents (21.21%) estimated the cost at

\$301–400 (See Figure 4). These findings suggest that a significant number of students are facing a consequential financial burden in terms of the cost of course materials. A chi-square test was conducted to examine the relationship between student ethnicity (Hispanic, White, non-White non-Hispanic) and their perceptions of the reasonableness of the amount of money spent on course materials. The results revealed a significant association between ethnicity and perceptions of cost reasonableness, $\chi^2(8, N = 292) = 149.64, p < .001$. This suggests that perceptions of the reasonableness of course material costs vary significantly by ethnicity. Additionally, another chi-square test revealed a significant association between first-generation status and perceptions of cost reasonableness, $\chi^2(4, N = 292) = 142.41, p < .001$. This suggests that perceptions of the reasonableness of course material costs vary significantly between first-generation and non-first-generation students.

Figure 3 Student Perceptions of Reasonableness of Course Materials Costs.

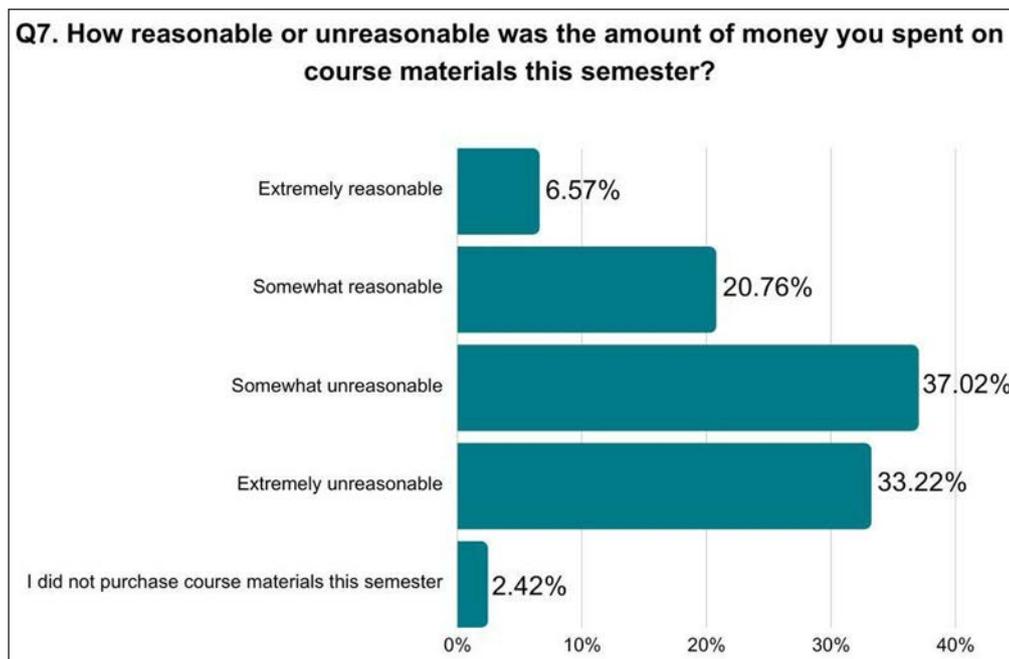
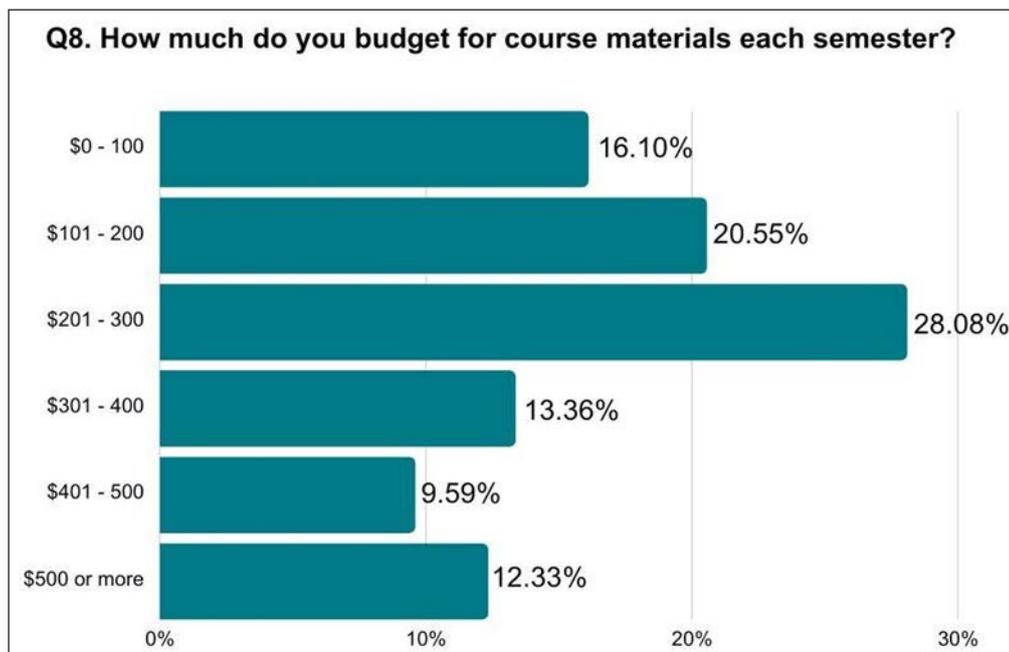


Figure 4 Students' Reported Course Materials Budget.



To prepare for these costs, a majority of students (82 respondents, 28.08%) budgeted \$201–300 for course materials each semester, while an additional 60 respondents (20.55%) budgeted \$101–200. A chi-square test was conducted to examine the relationship between student ethnicity (White, Hispanic, non-White non-Hispanic) and the amount they budget for textbooks per semester. The results revealed a significant association between ethnicity and textbook budget, $\chi^2(10, N = 292) = 275.71, p < .001$. This suggests that the amount students

budget for textbooks per semester varies significantly by ethnicity. Furthermore, The results revealed a significant association between first-generation status and textbook budget, $\chi^2(10, N = 292) = 275.80, p < .001$. This suggests that the amount students budget for textbooks per semester varies significantly between first-generation and non-first-generation students.

The estimated cost of books and supplies at UNM is \$1,253 per year (Office of Admissions, n.d.). This estimate includes both physical supplies such as book bags, notebooks, pens and pencils, paper, printers, and mobile devices, as well as virtual supplies like computer software, online apps, and subscriptions. However, when asked about their budget for textbooks each semester, the respondents' average budget was approximately \$273. This suggests a potential discrepancy between the estimated cost of books and supplies and the amount students are able to budget for these expenses.

RQ 2 HOW DOES THE COST OF COURSE MATERIALS INFLUENCE UNDERGRADUATE STUDENT SUCCESS AT THE UNM?

A significant proportion of the students reported that the cost of course materials has influenced their success at the university. For example, 38 respondents (9.92%) reported taking fewer courses due to the cost of materials, while 34 respondents (8.88%) did not register for a specific course because of the cost of textbooks. A total of 50 respondents (13.05%) reported earning a lower grade than expected in a course because they could not afford to buy the materials. Additionally, 93 respondents (24.28%) reported not purchasing the required textbook for a course, which could impact their ability to fully participate in the course and succeed (See Figure 5).

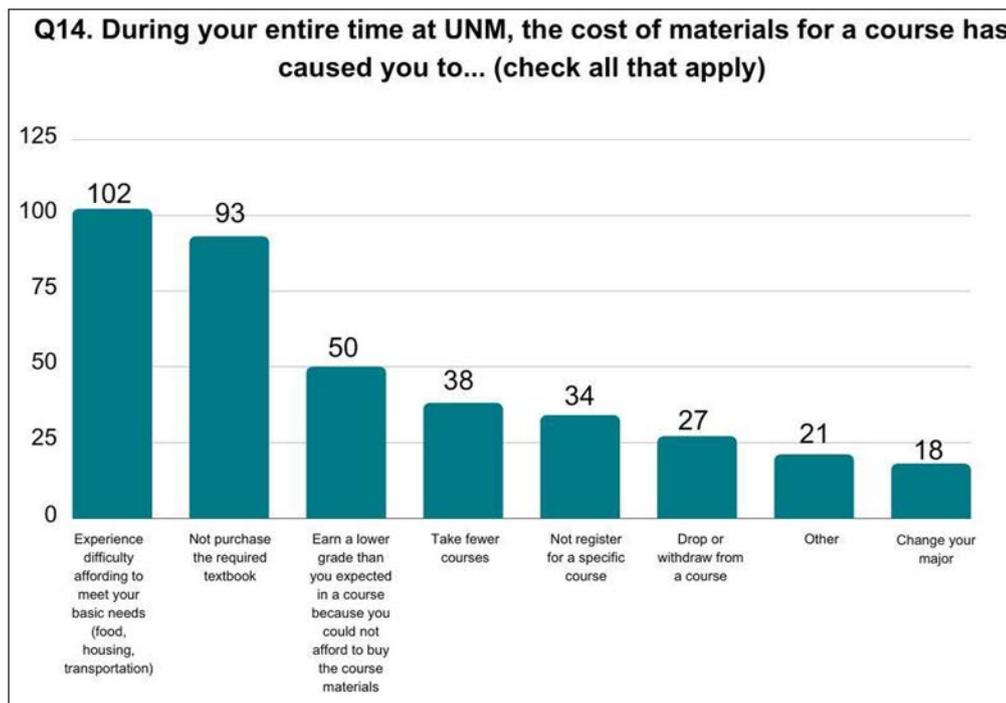


Figure 5 Impacts of Course Materials Costs on Students.

In terms of how students pay for their course materials, a majority reported using their own money earned from a work study or outside job (168 respondents, 45.90%) or non-loan awarded money such as Pell Grants or scholarships (103 respondents, 28.14%). A smaller proportion used student loans (32 respondents, 8.74%) or reported that their parents paid for their textbooks (41 respondents, 11.20%).

To reduce the costs of course materials, students reported taking various actions. For example, 149 respondents (24.03%) bought books from somewhere other than the campus bookstore, while 113 respondents (18.23%) rented digital textbooks. Some students also reported sharing books with classmates (62 respondents, 10.00%) or checking to see if UNM Libraries had the required textbook (51 respondents, 8.23%). Some students reported pirating materials or downloading free PDFs online, while others mentioned buying used books from sources such as Amazon or looking for PDFs online. Some students reported purchasing materials on different media, such as looking for older editions that are lower in cost (See Figure 6).

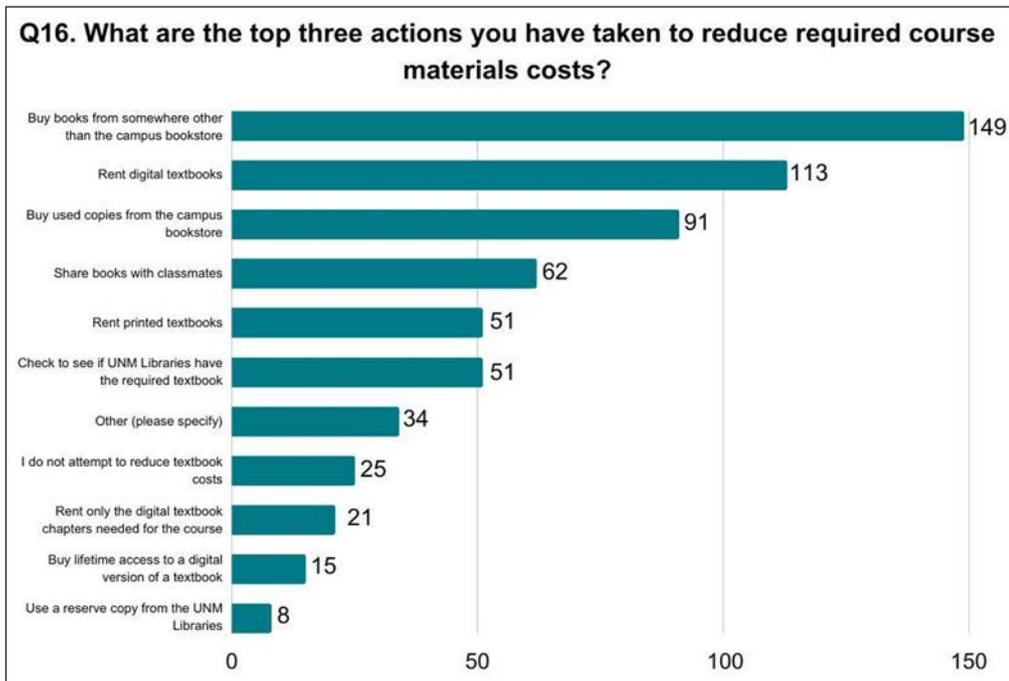


Figure 6 Student Actions in Response to Course Materials Costs.

These comments suggest that students are willing to go to great lengths to reduce the cost of course materials, including engaging in activities that may be considered unethical or illegal. This may be due to financial constraints or a desire to save money. One hundred and two respondents (32.38%) reported that the cost of textbooks interfered with their ability to meet their basic needs, including some students who mentioned eating as little as possible to keep food costs down. This finding is not uncommon; other researchers have reported similar findings (Broton et al., 2016). The comments also suggest that students are seeking out alternative sources for materials, with some students trying to find free PDFs online.

Overall, these findings highlight the impact that the cost of course materials has on student success. A significant number of students reported that the cost of materials has influenced their academic decisions and outcomes, including changing their major, indicating a need for support in this area.

RQ 3 HOW DO UNM UNDERGRADUATE STUDENTS ENGAGE WITH COURSE MATERIALS?

The students viewed the required textbook as essential for success in their courses, with a mean score of 1.78 on a scale of 1 to 4 (where 1 is “extremely necessary” and 4 is “extremely unnecessary”). A lower score on this scale indicates a higher level of perceived necessity. This suggests that students believe it is important to have the required textbook in order to succeed in a course. Similarly, students view the required textbook for a class in their major as necessary for success in a course, with a mean score of 1.59. This score is lower than the mean for the necessity of the required textbook for all courses, indicating that students view the required textbook for classes in their major as even more necessary for success (See Figure 7).

Students also view supplementary materials, such as online access codes or recommended/not required materials, as necessary for success in a course, with a mean score of 1.99. This score is higher than the mean for the necessity of the required textbook, indicating that students view supplementary materials as somewhat less necessary for success. Finally, students view supplementary materials for courses in their major as necessary for success in those courses, with a mean score of 1.95. This score is similar to the mean for the necessity of supplementary materials for all courses, indicating that students view these materials as equally necessary for courses in their major (See Figure 7).

Overall, these findings emphasize the importance that students placed on having access to the required textbook and supplementary materials in order to succeed in their courses. They view the required textbook as particularly necessary for success.

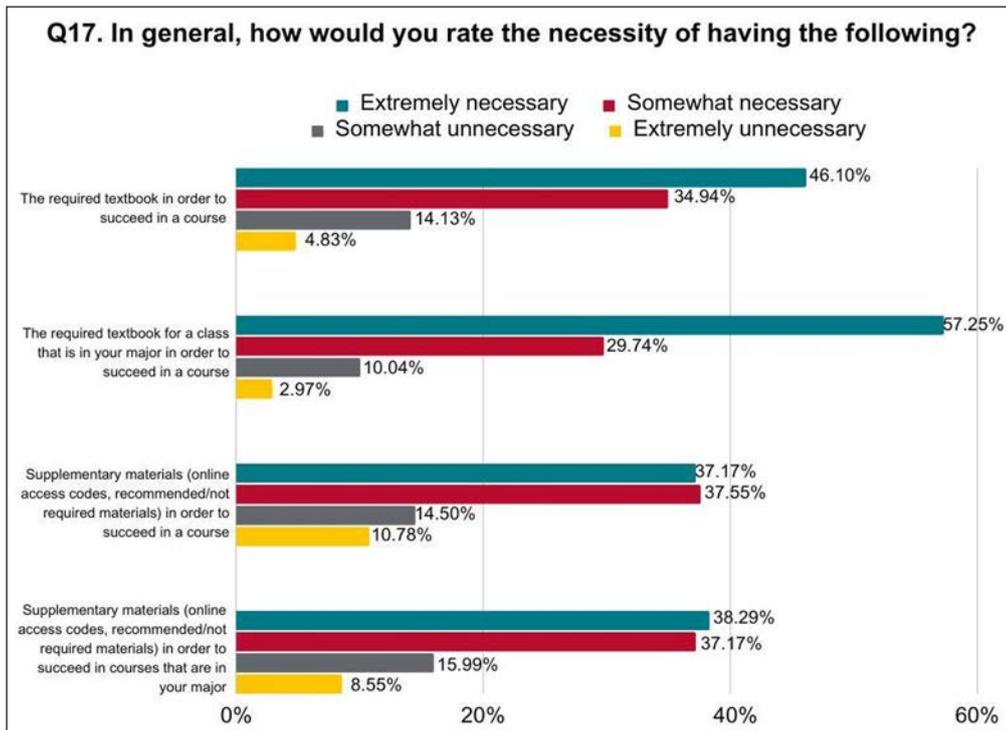


Figure 7 Student Perceptions of Necessity of Course Materials.

DISCUSSION

RQ 1 HOW DO UNDERGRADUATE STUDENTS AT UNM PERCEIVE THE COST OF COURSE MATERIALS?

The findings from this study provide valuable insights into how undergraduate students at UNM perceive the cost of course materials, with a particular focus on differences between first-generation and non-first-generation students, as well as among different ethnic groups.

The majority of students, irrespective of their first-generation status or ethnicity, perceive the cost of course materials as either somewhat or extremely unreasonable. This suggests that the high cost of course materials is a significant concern for students and may contribute to financial stress and other negative outcomes. These findings align with previous research indicating that high course material costs can negatively impact student well-being and academic success (Jenkins et al., 2020; Florida Virtual Campus, 2022).

Interestingly, the study found significant differences in perceptions of cost reasonableness and textbook budgeting practices between different ethnic groups and between first-generation and non-first-generation students. Hispanic students, for instance, were more likely to perceive the cost of course materials as unreasonable compared to their White and non-White non-Hispanic counterparts. Similarly, first-generation students were more likely to perceive these costs as unreasonable compared to non-first-generation students. These findings underscore the importance of considering diverse student experiences and backgrounds when addressing the issue of course material costs. They also suggest that certain groups of students, particularly those from underrepresented ethnic groups and first-generation students, may face additional barriers or challenges related to the cost of course materials.

Compared to the Old Dominion University (ODU) research used as a model for this study, the findings share many similarities. About 76% of ODU students and 70% of UNM students found the amount of money spent on course materials either somewhat or extremely unreasonable. The strategies employed by students to reduce the cost of textbooks in the UNM study align with those reported in the ODU study. In both studies, the most common strategy was to buy books from somewhere other than the campus bookstore, with 30% of participants in the ODU study and 24.03% in the UNM study employing this strategy. This suggests a shared understanding among students that alternative retailers may offer more competitive prices than campus bookstores. Interestingly, only a small percentage of students in both studies reported not attempting to reduce the cost of their assigned course materials: 3% in the ODU

study and 4.03% in the UNM study. (Wittkower and Lo, 2019). This suggests that the high cost of textbooks is a widespread concern among students, prompting the majority to seek cost-saving strategies.

The findings also indicate that students, regardless of their ethnicity or first-generation status, anticipate high costs for course materials and budget accordingly. However, the average budget for textbooks each semester among the respondents was approximately \$273, which is significantly lower than the estimated annual cost of \$1,253 (Office of Admissions, n.d.). This discrepancy suggests that students may be under-budgeting for their textbooks or may not be able to afford the estimated costs. This highlights the importance of providing support and resources to help students manage these costs. The university could consider offering digital versions of materials, which are frequently less expensive than print materials, or investigating rental options that would allow students to access materials at a lower cost. However, it's important to acknowledge the challenges associated with these strategies. Publishers often update their materials annually, sometimes with only marginal changes, and instructors may prefer to use the latest versions. This can limit the availability and viability of digital or rental options for these newer editions. Therefore, it may also be beneficial to explore collaborations with publishers to ensure affordable access to the most recent materials, or to encourage instructors to consider the cost implications of frequently updating course materials. Alternative resources, such as open-source materials, could also be explored.

Finally, the findings suggest that the cost of course materials is a major concern for UNM undergraduate students and can influence their course and program selection. This aligns with research by Jhangiani and Jhangiani (2017), who found that high course material costs can affect students' academic progress. The university should address this issue by providing alternative, more affordable course materials and working to reduce these costs for students.

Overall, these findings underscore the significant impact of course material costs on UNM undergraduate students, particularly among first-generation and minority students, and highlight the need for further research and policy development in this area. By understanding and addressing the financial barriers students face in accessing educational materials, we can work towards creating a more equitable and supportive learning environment.

RQ 2 HOW DOES THE COST OF COURSE MATERIALS INFLUENCE UNDERGRADUATE STUDENT SUCCESS AT UNM?

The high cost of course materials significantly impacts the academic success of UNM undergraduate students. A substantial proportion of students reported that the cost of course materials influenced their academic decisions and outcomes. For instance, 9.92% of students reported taking fewer courses due to material costs, while 8.88% did not register for a specific course because of the cost. Furthermore, 13.05% of students reported receiving a lower grade than expected in a course because they could not afford the required materials. This suggests that the high cost of course materials not only affects students' academic performance but also their ability to take the courses they desire.

These findings align with those from the ODU study, where 38% of participants indicated that they had chosen not to purchase required course materials due to cost and 20% indicated that they had received a lower grade than expected in a course because they could not afford to purchase the course materials (Wittkower and Lo, 2019). This further emphasizes the significant impact of course material costs on student success and academic outcomes.

In the broader context of the overall financial burden faced by students, the cost of course materials represents a significant additional expense. According to the estimated costs for full-time students at UNM (Office of Admissions, n.d.), tuition and fees for resident students amount to \$10,860, while non-resident students face costs of \$27,166. Room and board costs are estimated at \$10,916, and additional expenses for transportation and miscellaneous items amount to \$4,442. In this context, the estimated cost of books and supplies, which is \$1,253, is a considerable financial burden that students must manage.

The majority of students reported using their own money earned from work or scholarships and grants to pay for course materials. While fewer students used student loans or had their parents pay for their textbooks, these options may not be available to all students, particularly

those from low-income backgrounds. The findings also show that students take a variety of steps to reduce the cost of course materials, such as purchasing textbooks from alternative sources, renting digital textbooks, sharing books with classmates, and checking to see if UNM libraries have the required textbooks. However, some students engage in unethical or illegal behavior, such as pirating materials or downloading free PDFs from the internet. This demonstrates the lengths students will go to reduce the cost of course materials, indicating the financial constraints they face.

The impact of high course material cost on student success may have implications for student retention. Students who face financial barriers in obtaining course materials may struggle academically and are more likely to withdraw from courses (Fischer et al., 2015). They may also be more likely to take fewer courses (Fischer et al., 2015) or switch to less expensive courses, limiting their ability to fulfill degree requirements and potentially delaying graduation. These findings emphasize the importance of addressing the issue of high course material costs and finding ways to support students in this area so that they have the resources they need to succeed academically and complete their degrees.

RQ 3 HOW DO UNM UNDERGRADUATE STUDENTS ENGAGE WITH COURSE MATERIALS?

The findings present the university with both challenges and opportunities. On the one hand, students' perceptions of the importance of access to required textbooks and supplementary materials for academic success create a challenge for the university in ensuring that these materials are available to all students. Within this study, 24.28% of respondents reported not purchasing the required textbook for a course. On the other hand, this information, presents an opportunity for the university to fulfill its own goals of improving students' academic experiences (The University of New Mexico, 2022). By increasing access to course materials there is a likelihood of increased student persistence (Jhangiani and Jhangiani, 2017).

The students' perception of the required textbook as extremely important for course success, with a lower score indicating a higher level of perceived necessity, emphasizes the importance of providing students with access to these materials. To reduce the financial burden on students, the university can investigate alternative methods of promoting open educational resources. This could have an impact on the university's textbook adoption, pedagogy, and student engagement.

Furthermore, students' perceptions of supplementary materials as important for success provide insights into their engagement with course materials. In this context, 'supplementary materials' refers to resources provided in addition to the main textbook, such as study guides, online resources, additional readings, and other materials designed to enhance understanding of the course content. When students perceive these supplementary materials as important for their success, it suggests that they are actively engaging with the course materials beyond just the required textbook. This active engagement with course materials, which could include reading additional materials, using online resources, or studying with guides provided by the instructor, is often associated with deeper understanding and better academic performance. The university may consider implementing strategies such as online resources, study groups, or tutoring services to support and encourage students to engage with course materials. Students who are more engaged with their course materials are more likely to achieve better academic outcomes and are less likely to drop out, which could have a positive impact on student retention. However, it is important to interpret these findings in light of the limitations of self-report data, and to consider the interplay between course material costs and other factors that can influence student success.

LIMITATIONS

This study, while providing valuable insights into the perceptions and experiences of UNM undergraduate students regarding the cost of course materials, is subject to several limitations that should be considered when interpreting the findings.

Firstly, the reliance on self-reported data introduces the potential for response bias. The perceptions of students regarding the cost of course materials and their impact on academic

success may not accurately reflect their actual expenditure or academic outcomes. Future research could enhance the validity of findings by incorporating objective measures, such as actual expenditure on course materials and academic performance metrics.

Secondly, the generalizability of the findings may be limited due to the study's sample being confined to undergraduate students at UNM. The experiences and perceptions of students at other institutions or in different geographical contexts may differ. Therefore, caution should be exercised when extrapolating these findings to broader student populations.

Thirdly, the study did not delve into certain potentially significant factors related to the cost of course materials. These include the format of textbooks (printed versus digital), the implications of internet access and energy costs for digital resources, and the role of supplementary materials. Future research could provide a more comprehensive understanding by exploring these factors in greater detail.

Fourthly, the study did not investigate the impact of specific initiatives or interventions aimed at reducing the cost of course materials, such as the implementation of Open Educational Resources (OER) or textbook rental programs. Evaluating the effectiveness of such initiatives in reducing costs and improving student outcomes could be a valuable avenue for future research.

Lastly, the study did not examine the potential broader financial implications of high course material costs on other aspects of students' lives, such as their ability to afford other necessities like housing, food, and transportation. Future research could provide a more holistic understanding of the financial challenges faced by students by exploring these broader implications.

FUTURE RESEARCH DIRECTIONS

While this study provides valuable insights into the impact of course material costs on undergraduate students at UNM, it also highlights several areas for future research.

1. **Effectiveness of Cost-Reducing Initiatives:** Future studies could evaluate the effectiveness of specific initiatives aimed at reducing the cost of course materials, such as the implementation of Open Educational Resources (OER) and textbook rental programs. This could include examining student outcomes, such as academic performance and retention rates, before and after the implementation of these initiatives.
2. **Financial Implications:** Further research could explore the broader financial implications of high course material costs. This could involve investigating how these costs interact with other financial pressures faced by students, such as tuition fees, living expenses, and student loans.
3. **Equity and Access:** Further studies could delve deeper into issues of equity and access related to course material costs. This could involve exploring how these costs affect different groups of students, such as those from low-income backgrounds, first-generation students, and students from different ethnic groups.
4. **Faculty Perspectives:** While this study focused on student perspectives, future research could also explore faculty perspectives on course material costs. This could include investigating how faculty make decisions about course materials and what barriers they face in adopting lower-cost alternatives.

By continuing to explore these areas, we can gain a more comprehensive understanding of the issue of course material costs and develop more effective strategies to support student success.

CONCLUSION

The current study has analyzed the experiences of UNM undergraduate students in purchasing textbooks and the impact this has on their academic success, financial well-being, and degree trajectory. For students, the high cost of course materials can serve as a serious barrier to academic success. The study found that a majority of undergraduate students perceived the cost of course materials as unreasonable and reported having to make sacrifices in order

to pay for them. This includes forgoing purchasing required materials, using alternative and potentially inferior sources, or borrowing materials from friends or the library. This is problematic because barriers like these have been found to be more significantly impactful for historically underserved students (Jenkins et al., 2020).

Not having the required materials for a course can ultimately impact students' academic success and retention, leading to a greater risk of failing classes and not reaching their full academic potential (Colvard et al., 2018). The high cost of course materials can also have broader implications for students' financial well-being, affecting their ability to pay for other necessities such as housing, food, and transportation. Broton et al. (2016) found that students from low-income families who were unable to pay their college costs without experiencing financial difficulty chose options to make ends meet that inhibited their learning, for example, abstaining from eating and going homeless. This study found the same phenomenon, with students reporting that they did not have the means to afford textbooks and nutritious food.

For faculty, the high cost of course materials can also pose challenges. Traditional textbooks can be expensive and may not be updated regularly, which can impact the quality and relevance of course materials. OER and other alternative materials may be a more cost-effective and up-to-date option for faculty, allowing them to provide high-quality materials to their students without the financial burden, and can give faculty more flexibility and control over their course materials, allowing them to tailor them to the specific needs and goals of their students, courses, and pedagogy. With the autonomy afforded faculty through open materials, faculty can also center marginalized perspectives and diversify their curriculum (Seiferle-Valencia, 2020).

The adoption of OER and other alternative materials can also have implications for pedagogy. Open pedagogy, which refers to the use of OER and other open practices in teaching and learning, can provide numerous benefits for both faculty and students in ways that are not possible with traditionally copyrighted materials (Clinton-Lisell, 2021). For example, open pedagogy can allow for more collaboration and interaction among students, as they can access and contribute to shared resources and materials (Hegarty, 2015; Bali et al., 2020). This can foster a more collaborative and inclusive learning environment. Additionally, open pedagogy can allow for greater customization and personalization of course materials, allowing faculty to create materials that are tailored to the specific needs and goals of their courses and students (Hegarty, 2015; Bali et al., 2020).

For the university, addressing the high cost of course materials can have multiple benefits. Implementing initiatives like OER can help to improve academic success for all students, ultimately leading to a more educated and successful student body (Fischer et al., 2015). By reducing financial barriers to academic success, institutions can help to support the retention and success of all students, particularly those from disadvantaged backgrounds who may be more likely to forgo purchasing required materials or drop out due to financial constraints (Jenkins et al., 2020). Increasing student persistence, particularly for students who are more at risk, could result in more degrees earned, which would mean more funding for the university under the New Mexico Higher Education I&G Funding Formula (Higher Education Department Funding Staff, 2021).

Initiatives such as OER can help to promote equity and access to education for all students, regardless of their financial resources. By reducing the overall cost of education for students, institutions can help to create a more affordable, accessible, and successful education system for all students (McBride, 2021). This can support the university's mission of providing a high-quality and inclusive education for all students, promoting equity and inclusivity on campus (The University of New Mexico, 2022). An institution-wide effort to support OER can lead to cost savings for the university. It can also create improved reputation and visibility (UNESCO et al., 2015; Miyagawa, 2016).

For the state, addressing the high cost of course materials can also have broader implications. A well-educated and successful student body can lead to a more competitive and innovative workforce, ultimately benefiting the state's economy. Additionally, initiatives like OER can help to reduce the overall cost of education for students, which can lead to a more affordable and accessible education system for all residents of the state.

In conclusion, the high cost of course materials can have significant implications for students, faculty, the university, and the state. Institutions can consider implementing initiatives like OER and textbook rental programs in order to reduce the financial burden for students and promote equity and access to education. By addressing the high cost of course materials, institutions can support the retention and success of all students, ultimately benefiting the university and the state as a whole.

ADDITIONAL FILE

The additional file for this article can be found as follows:

- **Appendix A.** New Mexico Undergraduate Textbooks Survey. DOI: <https://doi.org/10.55982/openpraxis.15.2.554.s1>

COMPETING INTERESTS

The authors have no competing interests to declare.

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