The Impacts of Textbook Costs on North American College and University Students

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Abstract

The cost of higher education in North America is on the rise, and US college textbook prices have increased 35.5% in the last 10 years (U.S. Bureau of Labor Statistics, 2021). Meanwhile, North American students are facing growing financial insecurity amidst inflation and the continued COVID-19 pandemic. A resulting interest in textbook affordability solutions has arisen in higher education. In order to implement change in this arena, individual institutions have begun to research students' attitudes and experiences with textbook costs. This literature review explores the attitudes, financial impacts, and coping strategies among North American college and university students in relation to textbook costs. To do so, this literature review is divided into three parts. The first topic to be reviewed is the textbook-related attitudes, financial impacts, and coping strategies among North American college and university students. The next topic to be reviewed is whether the type of academic institution (public vs. private) impacts students' attitudes about textbook costs. The final topic to be reviewed is how students' attitudes, financial impacts, and coping strategies are impacted when the book is free due to a faculty intervention. Overall, the research indicates that college students have overwhelmingly negative attitudes about textbook costs. Furthermore, the impacts of those textbook costs are substantial, whether students are enrolled at a public or private institution. Additionally, the literature indicates that students appreciate the cost savings of free textbooks, and that there are both neutral and positive impacts to course completion and grades. This literature review concludes with recommendations for increasing its reach and impact.

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Introduction

The cost of higher education in North America is on the rise. Since 1985, the price of attending a public four-year university has more than doubled, and the cost of attending a public two-year college has increased by almost 60% (U.S. Department of Education, National Center for Education Statistics, 2021). Tuition is not the only cost increase that college and university students are seeing. US college textbook prices have increased 35.5% in the last 10 years (U.S. Bureau of Labor Statistics, 2021). These figures have been adjusted for inflation.

U.S. students' financial insecurity is also on the rise. In 2021, the *Hope Center for College, Community, and Justice* released results from the *#RealCollege* survey. Responses from 195,000 students at over 200 public and private colleges and universities in the United States showed that over 30% of college students surveyed lost their jobs, and over 20% were working with reduced hours or pay because of the COVID-19 pandemic. Overall, 34% of respondents reported food insecurity, 48% reported housing insecurity, and 14% reported homelessness in the past year. First-generation students, students of color, and Pell Grant recipients were more likely to experience these basic needs insecurities than their peers (The Hope Center for College, Community, and Justice, 2021).

This is not happening in a vacuum-- institutions worldwide are taking note and trying to find different ways to make learning materials more affordable to students. Responses range from worldwide movements to statewide initiatives, to programs that are led by individual colleges or universities. Worldwide, one of the most prominent movements that responds to the costs of commercial textbooks is the Open Educational Resources (OER) movement. The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines OER as "teaching, learning and research materials in any medium – digital or otherwise – that reside in the public

domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions" (UNESCO, 2021). In essence, the OER movement supports the creation of learning materials that were created to be free to all. The OER movement is decentralized, and its materials exist in virtually all languages, subjects, and academic levels.

Across North America, many state-level and province-level initiatives exist that promote OER and free resources for academic uses. These include the Florida Virtual Campus, a consortium of 40 public colleges and universities in Florida that supports a shared library system, hosts a statewide repository of free e-resources, and is known and cited worldwide for its groundbreaking student textbook surveys (Florida Virtual Campus, 2019). It also includes *Open Oregon*, an initiative that encourages (and compensates) faculty at the state's public colleges and universities to learn about and adopt OER and implement "Z degrees" (Higher Education Coordination Commission: Office of Community Colleges and Workforce Development, 2022). In Canada, British Columbia's *Ministry of Advanced Education and Skills Training* manages *BC Campus*, which includes a province-wide open-textbook initiative that publishes OER and encourages faculty to adopt and create it as well (BCcampus, n.d.).

In California, several statewide initiatives have been launched in the state's public universities and colleges. The CSU's Affordable Learning Solutions encourages faculty to consider using library resources, OER, and low-cost course materials (California State University, Office of the Chancellor. (n.d.). The California Community Colleges (CCC's) Open Educational Resources Initiative (OERI) supports the creation and adoption of openly-licensed free textbooks for students across the system's 116 public colleges (Academic Senate for the California Community Colleges Open Educational Resources Initiative, 2020). In July 2021,

California's governor, Gavin Newsom signed AB 132, which is slated to designate $115,000,000 to creating ZTC (Zero Textbook Cost) and OER (Open Educational Resource) programs at CCC's (Office of Governor Gavin Newsom, 2021), likely providing a more centralized textbook affordability structure as seen in other states and provinces.

As they publish textbooks and set the prices, North American commercial textbook publishers have had an obvious hand in the rise of textbook costs. However, in reaction to movements toward OER and affordable learning materials, they have argued that they have an interest in saving students money by promoting new sales models that claim to lower textbook costs. These new sales models include e-textbooks (which typically retail for slightly less than physical books), online e-textbook rentals (eBooks with limited access period and a lower cost than purchased e-textbooks), and strategies such as automatic textbook billing (billed by publishers as "inclusive access"). Automatic textbook billing is a sales strategy where faculty make an agreement with the campus bookstore, and students' (slightly reduced as part of the deal) textbook costs for participating classes are added to their tuition fees (Scholarly Publishing and Academic Resources Coalition, 2021). A more encompassing version of "inclusive access" is being billed as "equitable access," where an academic institution makes a deal with the bookstore and automatically bills all students a set fee for student access to their e-textbooks every semester or quarter (Ruckman, 2020). These latter two trends in sales models can sound attractive, but it's important to note that students still ultimately pay for textbooks-- the cost is simply shifted to their student fees.

Textbook costs are on the rise and given recent data on college and university students' basic needs, these costs are undoubtedly impacting students. The purpose of this study is to review the literature on the attitudes, financial impacts, and coping strategies among North

American college and university students in relation to textbook costs. I will analyze the research that has been done in this area--and also identify where gaps in the research currently exist.

This literature review will address the following questions:

1. *What are the textbook-related attitudes, financial impacts, and coping strategies among North American college and university Students?*
2. *Does the type of academic institution (public vs. private) impact students' attitudes about textbook costs?*
3. *How are students' attitudes, financial impacts, and coping strategies impacted when the book is free due to faculty intervention?*

Higher education has reached a pivotal point with textbook costs. As the commercial textbook industry experiments with different business models to remain relevant and profitable, North American higher education institutions are grappling with different ways to make learning materials more affordable to students. Textbook affordability movements (such as OER and ZTC) are gaining steam. Institutions of higher education need to transition from "gaining steam" to "full steam," and to do so will require the data to justify and fund the institutional change.

This review collects and combines the literature on the *attitudes, financial impacts, and coping strategies among North American College and University Students in relation to textbook costs* into an encompassing narrative. This review both describes the research on this that has been conducted at North American colleges and universities-- and also identifies current gaps. In recent years, nationwide surveys have been conducted about students' basic needs (The Hope Center for College, Community, and Justice, 2021; Nagle & Vitez, 2021). Additionally, literature reviews have been conducted about perceptions and efficacy of OER up to 2018 (Hilton, 2016; Hilton, 2019). This literature review builds on the spirit of those previous works but diverges in

the sense that it is specifically about students and textbooks costs. While this literature review is inclusive of *Open Educational Resources*, it is not *contingent* on them. Rather, it exists as a document that governments, academic institutions, and other educational stakeholders will be able to use to justify the funding they need to implement a variety of textbook affordability programs in their areas, whatever their shape may be.

Literature Review

The purpose of this study is to review the literature on the attitudes, financial impacts, and coping strategies among North American college and university students in relation to textbook costs. It will investigate whether the type of institution students attend impacts their attitudes about textbook costs, and it will also explore whether these attitudes, financial impacts, and coping strategies change when the book is free. The literature review will analyze the research that has been done in these areas--and will also identify where gaps in the research currently exist. The scope of this literature review is students at colleges and universities in North America. I will first discuss research that has explored students' Attitudes, financial impacts, and coping strategies around commercial textbook costs-- first at public colleges and universities, and next and private colleges and universities. That exploration will continue by looking at studies that explore how these attitudes, financial impacts, and coping strategies shift when the assigned textbook is free.

Part 1: Students' Attitudes, Financial Impacts, and Coping Strategies

Scholarly interest in textbook costs is a contemporary phenomenon, and only a small number of peer-reviewed articles discuss it prior to the year 2000 (Griggs et al., 1994; Garson, 1998). In these instances, the articles are discipline-specific, stand-alone, and appear to not be connected to a broader textbook affordability movement. Formal research around student's

attitudes, financial impacts, and coping strategies regarding textbook costs has emerged in the past 15 years. This section of the literature review begins with studies conducted at public North American colleges and universities and transitions to research conducted at private universities.

This literature review begins with the oft-cited Florida Virtual Campus (FVC) survey (Florida Virtual Campus, 2019; Florida Virtual Campus, 2016; Florida Virtual Campus, 2012). Over the years, the FVC surveys have influenced the methodologies of most contemporary studies about textbook cost. The FVC is a consortium of 40 public colleges and universities in Florida that manages distance learning, a shared library system, and a repository of e-resources. The FVC has been investigating textbook and materials costs since 2010 (Florida Virtual Campus, 2019). The FVC's most recent survey was a 14-question multiple choice survey that was administered online to over 21,000 students at Florida colleges and universities during March and April 2018. It specifically sought to find out how much money students were spending on textbooks, how often those textbooks went unused, how students were affected by those costs, what kinds of study aids students think would help their learning-- and how these responses have changed since the last survey (Florida Virtual Campus, 2019).

Between the 2016 and 2018 surveys, the researchers found that almost all types of students' textbook cost coping strategies had increased. A total of 66% of respondents to the FVC survey were now looking beyond the campus bookstore to make their purchases, over half were buying used books, and 47% and 41%, respectively, were renting printed and digital textbooks. The financial impacts of textbooks costs were also notable. During Spring 2018, about 44% of Florida college and university students spent over $300, and about 14% spent over $500 on textbooks (Florida Virtual Campus, 2019). It is important to note that financial impacts go beyond how much a student spends on materials. Tuition has a cost and education is thought to

lead to jobs. Accounting for this, prolonging one's time in college-- or repeating a course leads to more that a student must spend. The FVC survey found that textbook costs caused over 64% of students to skip purchasing a required textbook, lead almost 43% of respondents to take fewer courses, caused 40.5% to avoid a particular course, led over 35% to get a poor grade in the class, and caused almost 23% to drop a course (Florida Virtual Campus, 2019). These financial impacts of textbook costs are echoed in most textbook cost studies.

Predating the initial FVC survey by a few years, one of the earliest published studies about students' attitudes, financial impacts, and coping strategies surrounding textbook costs was conducted by librarians at Oregon State University in 2007 (Christie et al., 2009). Their research was a response to a university proposition that the library spends $38,000 of its budget to purchase two copies of every textbook used at the university to help students with textbook costs. This would impact the library's space, budget, and staffing, so the librarians decided to survey the university's students in order to investigate whether this proposal-- or other textbook affordability measures would be beneficial for students. The authors of the study specifically sought to investigate "OSU students' attitudes toward purchasing textbooks, their strategies for coping with textbook costs, and their use of the OSU libraries' course reserves service" (Christie et al., 2009, p.491). The study was conducted via an 18-question online survey to undergraduates who were at least in their second year of university. Responses were obtained from 256 students-- a statistically sound 17% return rate. Students expressed discontent with textbook prices. Many noted in the survey that textbooks were too expensive, and a number claimed that they were being "ripped off" (Christie et al., 2009, p.491). Purchasing textbooks was also having a substantial financial impact. A total of 70% of respondents claimed that they always purchase required textbooks, and about half of them were spending $750 per school year. When analyzing

coping financial impacts, the authors of the study were disturbed to see that some students mentioned having to choose between purchasing books or food. Additionally, about 65% of students stated they always buy used books to save money, and about 60% reported buying and selling books with their peers. About half had used the library's existing course reserves, but were disappointed by the constraints of this program, such as short-term checkouts and dependence on their peers returning the books on time.

Researchers at Old Dominion University in Norfolk, Virginia, also a public university, used the 2016 Florida Virtual Campus Survey (Florida Virtual Campus, 2016) as a model to survey their students' attitudes, financial impacts, and coping strategies in response to textbook costs (Wittkower & Lo, 2020). A total of 485 undergraduate students were selected randomly via email and responded to an online survey (about 75% were juniors and seniors, and the rest were sophomores and freshmen). The purpose of the study was to gain insight into students' experiences at their university, and to collect data to share with faculty and administrators to build interest in Open Educational Resources and affordable learning materials. The researchers collected data about the student respondents' major, financial aid status, course enrollment, and number of textbooks required for their courses. Overall, students claimed to spend $300 - $400 per semester on course materials. The students' coping mechanisms were similar in spirit to Christie et al. (2009) but had evolved with technology: about 30% shopped outside of the campus bookstore to save money, about 33% rented physical or e-textbooks, about 10% shared with classmates, and about 4% tried to use the library. In terms of attitude, 75% felt that the cost of textbooks was "extremely unreasonable" or "somewhat unreasonable." The students reported negative impacts as well: high costs have prevented about 38% from purchasing a required book for a class, and almost 20% to not register for--or withdraw from--a course. Finally, about 20%

of students earned a lower grade than expected because they could not afford to buy the materials.

Also influenced by the 2016 Florida Virtual Campus Survey (2016) and in effort to guide Washington State University's (WSU) *Course Materials Cost Reduction Task Force*, Anderson and Cuttler (2020) conducted a survey to assess students' needs and perceptions surrounding course materials. The researchers collected responses from 925 undergraduate students via an online anonymous survey. The survey covered students' attitudes about commercial textbook costs, but it was more expansive than many similar studies, as it additionally assessed the differences in these perceptions between students in online and on-campus classes-- and whether being assigned free digital resources impacted these perceptions. This additional area of their research will be further explored in part two of this literature review.

Overall, the students at WSU reported similar financial impacts and coping strategies as students at other academic institutions in this literature review. Both online and on-campus students reported that high textbook costs had at some point caused them to avoid or drop a specific course, take fewer courses, or not purchase a required book at all-- and to sometimes earn a bad grade as a result of that. Interestingly, online learners were less likely to *not* purchase a required textbook but were *more* likely to avoid or withdraw from certain courses with prohibitively priced texts. About 78% of on-campus students and 59% of online students had purchased used copies from the campus bookstore, and about 65% and 61%, respectively, had rented a physical copy. About 34% of on-campus students and 7% of online students shared a textbook with a classmate. About 9% of on-campus students and about 4% of online students used a library reserve copy. Anderson & Cuttler's (2020) research was unique in the sense that it also asked about illegal strategies and produced some important information. About 24% of

on-campus students and about 16% of online students reported having downloaded a textbook from the internet. Another half of a percent from both groups admitted to having used theft as a means to acquiring their textbook. It's important to note the gravity of theft in this instance-- the student was willing to take the risk even though getting caught would have a notable impact on their academic (and perhaps legal) record.

Swanson (2014) conducted a study at George Mason University, a large state school in Virginia. Swanson, a history professor, took a decidedly more personal approach to uncovering students' attitudes about textbook costs. Rather than conducting a university-wide study, Swanson surveyed 549 of the students in his undergraduate classes, during class time, over a period of 2 years. The first year's students were assigned a required commercial textbook, and the second year's students were not. The purpose of the study was to explore "the relationship between the instructor, the students, and the assigned text" (p.289)-- and to explore how an instructor may "analyze how his or her intentions for an assigned textbook compared to the actual student usage of that same text" (p.291). When students from the first year courses with the required textbook were surveyed, their perceptions of the book differed greatly from Swanson's. A mere 33% of students "strongly agreed" or "agreed" that the textbook was a "useful and important component of the course" (p.297). A mere 26% felt like it had been necessary for the course assignments. Additionally, almost 80% admitted that "they were more likely to go to the internet for supplementary information than to the textbook" (p.297). In the following year's classes, free learning materials were used, and purchasing the textbook was designated as optional. Only 20% of students purchased the book. Students in the surveys from all four years additionally described textbooks as "overpriced," and "unnecessary to get an A" (p.298). While this study is specific to one course and a specific textbook limits its generalizability, it is clearly

illustrative of how a chasm can develop between student and faculty perceptions of learning materials.

Fischer et al. (2020) worked with the Utah Academic Libraries Consortium to conduct a survey across ten public and private colleges and universities in Utah. While ultimately researching how textbook costs impact students' behavior in order to explore the viability and gain support for Open Educational Resources initiatives, they learned a fair amount about student's attitudes, financial impacts, and coping strategies regarding textbook costs in the process. The researchers collected data from 2574 students and 1157 faculty members in two separate surveys. Across the ten institutions surveyed, students expressed many negative attitudes about textbook costs and believed that their academic success was negatively impacted by textbook costs. About 65% of them had skipped purchasing a book due to cost, 37% had dropped a course because of the cost of the book, and 37% reported registering for fewer courses to control textbook costs.

In terms of financial impacts and coping strategies, 87% of students had to delay purchasing a textbook because of its cost, and 61% of these students believed it negatively impacted their ultimate grade in the class. When questioned about how they would have spent the money if they hadn't had to purchase textbooks, 38% said food or groceries, 31% said housing costs, 23% said miscellaneous living expenses, and 16% stated that they would have put it in savings (Fischer et al., 2020, p.404).

Fischer et al.'s 2020 study does not differentiate its survey results from the public and private institutions. While the tone of the report speaks of students as a unified body, a reader may be left to wonder if there was a difference in survey results between the two types of schools. Indeed, it is tempting to relegate concerns about textbook costs as *public* college and

university problems, but the authors cite research that shows that students at private colleges express similar attitudes and report parallel financial impacts and coping strategies about textbook costs.

Murphy and Rose (2018) affirmed this firsthand when surveying students at American University in Washington D.C. in Fall 2015. Their specific aim was to respond to a prevailing local attitude that textbook costs were unimportant to students at a private university. Influenced by previous research from Florida Virtual Campus (2012, 2016), Bliss et al. (2013) and others, they surveyed a small but opinionated group of 110 Undergraduate students in 13 face-to-face courses. The students answered questions about habits and use of the specific commercial textbook assigned to their class. The respondents provided open-ended and closed-ended quantitative and qualitative feedback about their attitudes, and coping strategies regarding textbook costs. On average, the American University students reported spending $201 to $300 per semester on textbooks, and their comments about these costs included phrases such as "RIDICULOUSLY expensive," "it's stupid to buy textbooks," and “Class says required and most of the time it's not” (Murphy & Rose, 2018, p.294). A total of 75% of responding sophomores, juniors, and seniors reported at some point not purchasing a required textbook or course material because of the cost. Students' coping strategies for when they needed textbooks but didn't have them included over half of students accessing their textbooks at the library "often" or "very often," about 30% made photocopies, about 20% shared with a friend or classmate, and around the same number reported using "different study materials" (Murphy & Rose, 2018, p.295). The survey did not ask specific questions about the impacts of textbook costs, but students still mentioned impacts to food, rent, and stress in their open-ended responses.

Martin et al. (2017) also conducted research about students' attitudes and coping strategies-- as well as the financial impacts of textbook costs in a private university setting. The Martin et al. authors in this study had considerable overlap with the individuals involved in the Fischer (2020) study, which was previously cited in this literature review. This research differed in the sense that it specifically revolved around students and faculty at Brigham Young University (BYU). The purpose of the study was to examine the college's OER program. In addition to exploring faculty's willingness to adopt OER, the authors sought to explore BYU students' perceptions of textbook costs. A total of 3,115 randomly selected juniors and seniors were surveyed in early 2016 (676 of them answered every question). They were surveyed with an instrument adopted from the 2012 Florida Virtual Campus survey (Florida Virtual Campus, 2012) and the COUP framework (Bliss et al., 2013). Participants were queried about their general attitudes about textbook costs, how they perceive textbook costs to influence their academic success, and the financial impacts of the costs-- what they would use the money for if they didn't have to buy textbooks. On average, the students reported spending about $1000 per year on textbooks, and 66% said they had previously skipped buying a book because of its cost. Of those students, 47% attributed not buying the book to getting a lower grade in a class (this was 28% of all respondents).

When asked what they would spend their money on if they didn't have to buy textbooks, the students in the Martin et al. (2017) study reiterated the gravity of the financial impacts of textbook costs: about 29% would spend the money on housing, about 28.32 would spend it on food, about 20% would put it in savings. Accordingly, when students' open-ended responses about their final thoughts on textbook costs, 91.2% of their responses were categorized by the authors as "negative" or "extremely negative" (Martin et al., 2017, p.84).

Appedu et al. (2021) conducted textbook cost research at Gettysburg College, a small private liberal arts college in Pennsylvania. Librarians at the Gettysburg College libraries had noticed an increase in students coming to the library in hope of finding copies of textbooks that they could not afford. In response to this, the authors of the study (two of them employees of the college library) hoped to use the results of their survey to justify an institutional increase in support at the library for faculty who wished to reduce or eliminate their textbook costs for their students. The survey was adapted from the Florida Virtual Campus Survey (Florida Virtual Campus, 2016) and was administered online, inviting all enrolled students who were invited to take part. The resulting nonrandom sample ultimately consisted of 17% of Fall 2019 enrollees.

Students reported similar financial impacts and coping strategies to those at the other public and private colleges and universities in this literature review. Indeed, despite the college being private, a notable number of students still reported negative impacts of textbook costs. Students self-reported their textbook costs, and the most common amount spent for Fall 2019 was between $300 - $400. About 25% of students noted that high textbook costs had caused them to not purchase a required textbook. Almost 15% noted that not purchasing a book for this reason caused them to struggle academically. Another 15% of students noted that high textbook costs had influenced them to refrain from registering for a specific class-- or upon discovering a textbook cost, to drop a class at the beginning of the semester. Gettysburg students' textbook cost coping strategies aligned with those of students at other colleges and universities as well. Only 1.1% percent of students claimed to "not attempt to reduce textbook costs" (Appedu et al., 2021, p.74). Otherwise, around half had either rented or bought used books from the campus bookstore. 39% had looked beyond the campus bookstore for their renting needs. About 16% opted to share books with a classmate to save money, almost 12% had attempted to check out circulating copies

of library materials, and about 7% reported using short-term reserve book checkouts to reduce textbook costs.

The Appedu et al. survey allowed some open-ended responses, and students expressed frustration with book costs in this area. Some decried having to pay for access to a homework system or access code in addition to a textbook, and others implied that book costs were impacting their postsecondary academic options and choices. One student, for example, noted that due to the high costs of textbooks, "they could never be a science major" (Appedu et al., 2021, p.77).

Student attitudes, financial impacts, and coping strategies around textbooks have been found to be similar in Canada. Jhangiani and Jhangiani (2017) note a dearth of scholarly research on textbook costs in Canada. Thus, their pioneering study about the costs of postsecondary textbooks in Canada had four objectives. They sought to explicitly explore how British Columbian students (at a mix of private and public universities) purchase and acquire their textbooks, to assess the impact of textbook costs on students' academic experiences, and to explore students' attitudes and use patterns of free open textbooks. To conduct this research, they asked faculty who were known open textbook adopters to forward survey invitations to their students over a period of three semesters between Spring 2015 and Fall 2015. The resulting sample was 320 undergraduate students from 19 different courses across 12 colleges and universities in British Columbia. The survey contained 37 closed-ended and 3 open-ended questions that collected basic demographics and addressed the four research topics listed above. Ultimately, the students reported many of the same coping strategies as their contemporaries in other studies when it came to dealing with the costs of commercial textbooks. Fifty-seven percent sought purchasing sources beyond the campus store, 26% shared a book with a

classmate, 10% used reserve copies from the library, and about half sold their used books when the class was over. Fifty-four percent of students reported not purchasing a required textbook at least once due to its cost. Twenty-seven percent, 26% , and 17% respectively stated that they had either taken fewer courses or not registered for a specific class or dropped or withdrawn from a class because of textbook costs.

The students in the Jhangiani and Jhangiani (2017) study were also queried about their assigned open textbook. When asked to assign a cost value to their assigned free open textbook, students said it should be worth a mean of about $63. They appreciated that it was inexpensive to print, that they weren't paying for chapters that were not assigned, and various other benefits of the electronic format, including not having to carry a heavy book, and accessibility from anywhere with the internet.

North American college and university students' attitudes, financial impacts, and coping strategies around commercial textbook costs are strikingly aligned. Students at both private and public institutions have expressed dissatisfaction with textbook costs. Furthermore, the financial impacts of textbook costs are real-- students are spending money on course materials that they would otherwise be putting toward food, housing, or savings. From school to school, the research shows that college students employ multiple coping strategies to deal with the costs. These include taking the time to shop around for lower costs, sharing textbooks, selling old textbooks, and relying on the campus library to access assigned materials. Next, this review will explore the literature about how students' attitudes, financial impacts, and coping strategies are impacted when a textbook is free due to a faculty-led intervention.

Part 2: Faculty Institutional Interventions: Comparing Attitudes, Financial Impacts, and Coping Strategies

As shown in Appedu et al. (2021), much of the research around textbook costs has been conducted to promote or support the potential promotion of some kind of OER or textbook cost reduction initiative. Part two of this review explores what happens when an OER or textbook cost reduction initiative has been implemented. Specifically, it investigates the literature about how students' attitudes, financial impacts, and coping strategies are impacted when the book is free due to faculty intervention.

Foundational to much research on the impacts of textbook costs is a study entitled "*An OER COUP: College Teacher and Student Perceptions of Open Educational Resources"* (Bliss et al., 2013). As of 2022, two of the authors of this report (John Hilton and David A. Wiley) have become prominent voices in the Open Educational Resources (OER) movement. The *COUP* framework premiered in this study and has been cited and replicated in much of the contemporary research that assesses OER. Specifically, the COUP framework is used as a lens to explore OER's "impact on Cost, impact on Outcomes, Use patterns, and Perceptions of quality of OER" (Bliss et al., 2013, p.2). While COUP was designed specifically for OER, it can be used as an assessment tool for any learning resources.

In this early use of COUP, Bliss et al. (2013) noted a dearth of empirical research around the costs, outcomes, uses, and perceptions of OER in community college settings. The researchers collected survey results from 80 teachers and 490 students, all of whom were either teaching or learning in an OER initiative called *Project Kaleidoscope* during the 2011-2012 academic year. Courses in *Project Kaleidoscope* were taught with free OER textbooks that supplanted previous commercial textbooks. The researchers collected data that is fairly typical of

textbook surveys in the sense that it gathers students' attitudes about their textbook costs, their perceptions of quality, and even their course outcomes. Bliss et al. found that students and teachers both appreciated the cost savings (about $80 per book), they found the content to be of equal quality, and about 30% of teachers reported that their students were arriving to class more prepared than in previous semesters with a commercial textbook (2009).

In addition to presenting the COUP framework, the study by Bliss et al. (2013) also highlights important potential limitations when comparing and contrasting the effects of different learning materials. For example, when comparing their previous experiences with commercial textbooks to their current experiences with OER, teachers noted personal pedagogical shifts during that time that could also impact student performance. For example, one noted "No change due to the [new OER] textbook. Lots of change due to my growth as a teacher" (Bliss et al., 2013, p.9). Another concern noted by the study's authors was the risk of conflating one particular OER text with *all* free OER texts. Some of the OER texts used by the subjects in this study were incidentally poor quality, which is reflected in respondents' overall perceptions. The researchers note that another variable that may be influential is a textbook's format (e-textbook or physical). OER often is digital, and this may be a stressor for participants who are accustomed to learning from physical books.

In 2017, the New York State Governor announced $8 million in funding to increase the use of Open Educational Resources in the City University of New York (CUNY) and State University of New York (SUNY) systems. The resulting programs encouraged faculty in high-enrollment general education classes to convert their courses and replace commercial textbooks with OER. A year into the OER adoptions, Brandle et al. (2019) conducted a survey of City University of New York (CUNY) students to learn how students felt about these new

materials. The resulting anonymous survey was aimed at all CUNY students enrolled in zero textbook cost (ZTC) classes. Involved faculty were instructed to forward the survey to their students. A total of 890 surveys from 14 different campuses were collected and analyzed. Data was collected about when and where students accessed the materials, how easy they were to access, behaviors around printing, and finally, student attitudes about the benefits and drawbacks of the materials. When responding to open-ended survey questions, students liked saving money and having a lighter physical load to carry. Fifty-five percent specifically appreciated that the materials are free, about 27% noted the ease of access, and another 10% implied that the format was better for learning (Brandle et al., 2019).

While Brandle et al. (2019) lightly assessed students' attitudes about free textbooks, the study has some weaknesses. First, it surveyed students in the first semester of CUNY's OER program. The format was still brand-new to both students and the faculty who had adopted it. Additionally, the sample, while not insignificant in size (890 responses), was impacted by inconsistent faculty participation. Students at only 14 of the 24 CUNY campuses replied, suggesting that many faculty neglected to forward the survey to their students.

Cozart et al. (2021) took a more structured approach to assessing students' perceptions and outcomes of having a free OER textbook. The researchers surveyed undergraduate students in two *Foundations of Education* courses with the intent to evaluate "student outcomes and perceptions of OER and no-cost learning materials" (Cozart et al., 2021, p.4). The authors compared two cohorts of the course: Fall 2014, which used a commercial textbook that cost $75-$165, and Spring 2015, which used a mix of OER and no-cost readings that were built into their school's learning management system. There were about 120 participants for the two semesters

combined. The survey response rate for Fall 2014 was 88.03% and the survey response rate for Spring 2015 was 97.98%.

The researchers employed the COUP framework (Bliss et al., 2013), and found that the students performed the same or slightly better in the class that used OER and no-cost resources. Regarding attitudes, the students in the OER/ no-cost cohort reported that they liked that the book was free, and they also appreciated how the content could be customized to their specific class. Students in this group also rated their free texts as more important and helpful. For example, 47% of the Spring 2015 (OER/ no-cost) cohort strongly agreed that the online readings were important to their success in the class, whereas only 19% of students in the Fall 2014 cohort felt the same about their commercial textbook. Additionally, over 80% of the OER /no-cost cohort found their readings to be engaging and helpful-- and less than 40% in the commercial textbook cohort felt the same. Interestingly, there was no significant difference in course grades between the two cohorts.

Research showing that a free textbook can have neutral and sometimes-greater impacts on student grades is encouraging. Hilton et al. (2016) conducted a study that found that implementing OER can have *significant* impacts on student success. Their research examined the throughput rates (the aggregate of drop, withdrawal, and C or better rates) of students at Tidewater Community College. The authors identified four research questions that investigated the following differences between students using OER and students using commercial textbooks: differences in drop-rates, differences in withdrawal rates, differences in the proportions of students getting a "C" or better, and whether there was a cumulative impact of these 3 elements (a.k.a. the *throughput rate*). The research method was to collect data on drop rates, withdrawal rates, and final grades from both classes that used OER and classes that used commercial

textbooks at Tidewater Community College in Fall 2013, Spring 2014, Fall 2014, and Spring 2015. The commercial textbook courses were used as a control, and data comparing the two (in response to the above research questions. They ran these numbers in two parts-- once for face-to-face classes, and once for online/hybrid classes.

Ultimately, Hilton et al. (2016) showed that students enrolled in face-to-face OER classes were less-likely to withdraw, more likely to receive "C" grades or higher and were overall 7% more likely to succeed than their peers in the commercial textbook classes. The results were positive for online/hybrid classes as well: students in OER classes were less-likely to drop, more likely to earn a "C" or higher and had a 6% higher success rate than those in the non-OER online/hybrid classes. The authors note potential limitations to their research. For example, there was a difference between the number of OER and commercial textbook classes. Additionally, some course success might be due to the faculty rather than the book (as also suggested in Jhangiani et al. (2018), and Bliss et al. (2013)), and that there's also a chance that students who take the initiative to seek out OER (free) courses might be either more or less academically diligent than their peers who choose non-OER classes.

As discussed in Part 1 of this literature review, Anderson and Cuttler (2020) conducted a survey to assess students' needs and perceptions surrounding course materials via an anonymous online survey. Like Hilton et al. (2016), a unique component of their study was that it investigated differences between online and on-campus students. While Hilton et al. (2016) investigated course success, Anderson and Cuttler (2020) studied textbook impacts and coping strategies, and also asked students to state their preferences for no-cost digital vs commercial print materials. Overall, the researchers found that "there were no significant differences between online and on-campus students' general textbook format preferences," and that students tended to

prefer a "free digital textbook to a paid printed textbook" (Anderson & Cuttler, 2020, p.48). Asserting the impact of textbook cost on these attitudes, the researchers noted that students overwhelmingly expressed a preference for print textbooks-- but *only if cost wasn't a factor*. To illustrate, almost 69% of students enrolled in on-campus courses with a paid commercial print textbook said they would prefer a free print book, compared to about 16% of students who said they would prefer a free digital book for their class.

Fialkowski et al, (2019) researched whether providing a free textbook impacted students' usage, perceptions, and engagement with their course materials. The study occurred during the 2017-2018 academic year at the University of Hawai'i at Manoa. During Fall 2017 all sections of the university's introductory nutrition courses were taught with a traditional commercial textbook, and during Spring 2018, they were taught with a free OER textbook that been written by faculty and graduate assistants in the program and contained content that reflected the local culture and environment. Applying select components of the COUP framework, data was collected by a combination of online surveys that were administered to students at the end of the semester, and final grades that were provided by their professors.

Though 11% fewer students were enrolled in the semester that used the OER text, the gender, race, and academic demographics of students in both semesters were similar. Ultimately, the two groups did not have statistical differences in their course performances or course throughput rates (Fialkowski et al., 2019), which aligns with other research (Cozart et al., 2021). Differences in students' attitudes and the financial impacts were found between the two courses. The authors estimated that having a free OER textbook in Spring 2018 had a financial impact of saving their students over $39,000. Accordingly, during the Fall 2017 semester, out of 346 students, 14 students claimed the book was too expensive, 25 stated the belief that the book

wasn't needed after buying it, and 3 didn't buy it at all because they believed they could find the same information online. Not surprisingly, student attitudes about the free OER textbook were more positive. 48 students out of 311 in the Spring 2018 cohort explicitly expressed appreciation for the free cost, and another 15 appreciated that it reflected their local culture (Fialkowski et al., 2019). When responding to Likert scale questions, student perceptions about the free OER text were slightly more positive. When asked about quality, clarity, adherence to the course learning objectives, and how engaging the book's content was, responses for the traditional book skewed closer to "average," and responses for the OER skewed closer to "above average."

The research by Fialkowski et al. is novel in the sense that it studied a Hawai'ian population and that it also specifically explored students' "engagement" (Fialkowski et al., 2019). However, it was not without its limitations. The researchers did not differentiate between the different modes of the courses (online vs face-to-face), the fact that they were taught by different instructors, or how the regional specificity of the text could have impacted (or over-or-under-compensated for) student performance or engagement.

Hendricks et al. (2017) studied changes in the outcomes of a Physics 100 course at University of British Columbia (UBC) when an open textbook was adopted. The course is taken by 800-900 non-majors per year at UBC. The open textbook was added to the curriculum in Fall 2015 (taught face-to-face) and Spring 2016 (taught online). All sections of the courses used the same learning materials and pedagogical strategies.

Hendricks et al. (2017) used the COUP framework to assess students' cost, outcomes, use, and perceptions of their textbooks. The data was collected from a survey, final exam grades, and the *Colorado Learning Attitudes about Science Survey* (CLASS) for physics. About half of students reported typically spending $200- $400 in Canadian dollars (CAD) per academic year

on textbooks, and another 46% reported spending $401 - $800 CAD per academic year. The implementation of a free open textbook for Physics had a financial impact of saving students about $100 CAD each. When assessing how student outcomes changed when the open textbook was implemented, the researchers found that final exam scores had improved by about 2% compared to years that used a commercial textbook. When analyzing final course grades, there was a notable increase in "A" grades with the open textbook, but overall, the grade distribution between the open textbook semesters and the commercial textbook semesters showed no significant differences. Finally, the researchers assessed students' attitudes about learning physics in the open textbook semesters and the commercial textbook semesters. Overall, students in open textbook and commercial textbook classes used their books with about the same frequency. When asked about the quality of the open textbook, 93% of respondents reported that it was the same as-- or better than other commercial textbooks they'd had in the past, and 94% liked that the book had been customized specifically for their class, Physics 100 at UBC.

Jhangiani et al. (2018) compared 178 students' attitudes and experiences with commercial vs. open textbooks during Spring and Summer 2015 at Kwantlen Polytechnic University in Canada. The study took place in seven sections of an undergraduate introductory psychology course that were taught by 3 different faculty. Three sections of the course used a commercial text, two used an open print text, and two used an open digital text. The authors note that theirs is only the second study of its kind (comparing open textbooks to commercial textbooks) in Canada (the other is Hendricks et al. (2017)). This study is also important because it additionally compares and contrasts students’ experiences with digital and physical versions of the open textbook. Perhaps making up for lost time, the study was guided by six research questions. The questions sought to address differences in exam performance between the classes that used

different textbook formats, and whether the textbook format impacted students' study habits, perceptions of quality, and format preference. The researchers utilized a quasi-experimental research design that included a psychology pre-test, scores on course exams, and a questionnaire at the end of the semester.

All students in the study took 3 exams through the semester, and when comparing their performance, Jhangiani et al. (2018) found that students in classes using print or digital open textbooks overall performed about the same as their peers in classes assigned the commercial textbook. This is aligned with findings from Cozart et al. (2021) and Fialkowski et al. (2019). When students' study habits were investigated, textbook format did not impact the amount of time they spent studying. Students were surveyed about their perceptions about sixteen aspects of their assigned textbook. In 7 of the 16 aspects, the open print version of the textbook was rated significantly higher than the commercial textbook (e.g., clarity, everyday life examples, and helpful study aids). When asked about their preferences of textbook format (if cost wasn't an issue), students tended to state that they preferred print-- but were also interested in having simultaneous access to both print and digital. When queried about how much they thought their assigned textbook was worth, students using all three formats of the book said that about $50 would be an appropriate cost. It's important to note that students in the class sections that used the commercial book paid over $100 for their book, and students in the open textbook sections paid nothing.

This study possessed similar limitations of other studies of its type. For example, the authors note the risk of a "halo effect"-- the chance that the cost savings could impact students' perceptions of the open textbooks (Jhangiani et al., 2018). Additionally, the 7 sections of classes were taught by 3 different faculty, and the open textbook and the commercial textbook-- while

aligned to the same academic standards-- were different books with different authors. Regardless of cost, different books can have different impacts on student performances. This potential limitation is illustrated in Fialkowski et al. (2019), Cozart et al. (2021), and Bliss et al. (2013).

Howard and Whitmore (2020) found that students' attitudes about specific course materials are impacted by those materials' costs. The authors took a unique approach to assessing student attitudes about textbook costs. They surveyed 151 undergraduate students across 3 different semesters in an introductory psychology class. The purpose of the study was to "to explore students' perceptions of the quality of textbooks, including whether those preferences changed after learning the cost of course materials" (p. 10). In the first round of an in-class activity, students were each given packets with 4 samples of different psychology textbooks that covered the same topic. Two samples were from commercial textbooks, and two were from OER textbooks. The students (who believed they were doing an activity about means and standard deviations) responded to surveys that expressed their textbook quality perceptions and Preferences. They rated the ease of following the writing, the quality of the examples in the books, the design and layout, and use of figures. In this first round, the two commercial textbooks were rated the highest, and the two OER textbooks were rated lower. In the following two phases of the activity, students were shown the book samples again-- this time with prices-- and then asked to rate the materials again.

Ultimately, the researchers found that student perceptions of the textbooks changed slightly when students learned their costs. In fact, 30 of the 61 students who selected a commercial textbook as their favorite in the first round of the study switched their preference to an OER once they learned it was free. Additionally, the mean scores of the positive perceptions of the OER texts increased slightly in the following rounds. For example, when an OER

published by OpenStax was rated by students, the mean response rate to "This book is visually appealing " increased from 3.07 to 3.33 (on a scale of 1-5), and the mean response to " I would like to use a textbook like this in class" increased to 2.94 to 3.59. The other OER text saw similar increases. Accordingly, most ratings of the two commercial texts decreased slightly.

Howard and Whitmore (2020) note that "This study is the first demonstration of a one-group pretest-posttest study designed to specifically evaluate students' perception of textbook quality as a function of learning the cost of course materials" (p.11). However, the study did possess limitations. For example, despite rating each of the materials, only about half of participants selected a preferred text in both rounds of the study. Additionally, the researchers suspect that a degree of the students' fondness for the sample of the OpenStax text could be due to that particular text ultimately being assigned to their class. Finally, due to the data collection happening in the structure of a class lesson, demographic data was not collected in this study. The authors note that variables such as financial need, age, class standing, and more, could have been important contributions (Howard & Whitmore, 2020).

As most North American college students have repeatedly been exposed to high textbook costs throughout their academic careers, many of them have unsurprisingly positive attitudes about textbooks that are free. In addition to the financial savings, students report appreciation for the improved portability of an online textbook, as well as the benefits of customization made possible by the open license structure of Open Educational Resources. The impact on student grades may be of particular interest to educators and institutions. Across multiple studies, student grades in classes that use open textbooks tend to be about the same or slightly better. This subject area is new to research, and opportunities for its growth and expansion will be discussed in the conclusion of this literature review.

Conclusion

College and university tuition costs are on the rise, and so is U.S. students' financial insecurity. In a recent study, 34% of college and university students reported food insecurity, 48% reported housing insecurity, and 14% reported homelessness in the past year (The Hope Center for College, Community, and Justice, 2021). It is in this same environment that US college and university textbook costs have increased 35.5% in the last 10 years (U.S. Bureau of Labor Statistics, 2021). This literature review investigated North American college and university students' attitudes, financial impacts, and coping strategies regarding textbook costs. It investigated whether there was a difference in the data between public and private schools, as well as the impacts of free textbooks due to faculty intervention.

The literature clearly shows that students at North American public and private colleges and universities universally perceive textbook costs to be too high. Despite employing a multitude of cost coping strategies such as sharing textbooks, buying and selling used textbooks in the secondary market, renting textbooks, relying on library reserve copies, or even stealing textbooks, the financial impacts of textbook costs remain notable. Students surveyed in the literature have reported that high textbook costs are negatively impacting their grades, their academic progress, and their ability to put their money toward housing, savings, or food (Anderson & Cuttler, 2020; Florida Virtual Campus, 2019; Martin et al., 2017; Murphy & Rose, 2018).

The literature reviewed in Part 2 shows that the faculty intervention of implementing a free textbook can have a substantial positive financial impact for students. In addition to examples of impressive cost savings presented by a free textbook (Fialkowski et al., 2019; Hendricks et al., 2017), there are additional indirect positive financial impacts, which include

increased throughput and similar or slightly improved grades in courses using a free textbook (Cozart et al., 2021; Fialkowski et al., 2019; Hilton et al., 2016). When relieved of the many textbook cost coping strategies explored in Part 1, students' attitudes about their free textbooks were generally positive. The nature of most open textbooks is that they can be customized to a community or course, and students took note, citing increases in their interest and engagement (Bliss et al., 2013; Fialkowski et al., 2019; Hendricks et al., 2017).

Discussion

English-language research investigating North American college and university students' attitudes, financial impacts, and coping strategies regarding textbook costs has mostly emerged in the latter half of the past decade. Most of this research is based in the United States, a few studies have been published in Canada, and none have been published in Mexico.

This nascence is apparent when reviewing the literature on the subject. With few national studies about textbook costs and student finances in the United States (The Hope Center for College, Community, and Justice, 2021; Nagle & Vitez, 2021), most of the studies in this area have a purpose of collecting data for a specific local reason. Examples include faculty responding to a proposal from their administration (Christie et al., 2009), building faculty interest in a campus Open Educational Resources program (Wittkower & Lo, 2020), and investigating one's own students' attitudes about an assigned textbook (Swanson, 2014).

As exhibited in this literature review, the methodologies of two studies designed for a specific locale have emerged as models in the field that have been replicated in other studies across North America (Florida Virtual Campus, 2012; Bliss et al., 2013). However, due to variables such as students' socioeconomic differences, local politics, school tuition and fees, and

even campus culture, the data collection, and conclusions of much of this work may have limited generalizability.

Additionally, as most of the studies weren't intended to be generalizable to the whole of North America, a number of them produce thought-provoking and inspirational data, but have limitations in their methodologies. These limitations include small samples or imperfect data collection (Murphy and Rose, 2018; Howard & Whitmore, 2020), and potentials for bias or a "halo effect" (Jhangiani et al., 2018) amongst the research subjects.

Of additional concern are the studies that compare and contrast student attitude data and outcomes between course sections with free textbooks and commercial textbooks. These studies tend to conclude with a data story that compares the two textbook types and ultimately extols the value of free textbooks. This kind of data can be good enough for proving to an audience that OER can be just as effective as commercial textbooks-- but it has the potential to falter when it comes to precise data, as it often neglects to investigate important variables that change from course section to course section. These variables include human factors such as different teachers' pedagogical styles and/or shifts in those styles between different course sections or when switching to a new textbook (Bliss et al., 2013). They could also include the impact of economics, politics, world affairs, local issues, and even commitment levels amongst college and university students across the span of different times and places.

Potential limitations also include variations in different textbooks' content and format (Fialkowski et al., 2019; Cozart et al., 2021; Bliss et al., 2013). Every textbook has its own unique content and quality. Regardless of a book's status as free or commercial, no two books are going to have the same style or content. Those differences in style can affect students' experiences and attitudes. Another variable to stay aware of is whether a course and/or its

textbook are online or physical. Anderson & Cuttler (2020), Hilton et al. (2016), and (Fialkowski et al. (2019) investigated differences in students' attitudes, financial impacts, and coping strategies regarding textbook costs between online and in person classes, but they did not consistently differentiate between the two. Accordingly, book format is not consistently accounted for in the research. Many free open textbooks are in an electronic format, and until recently most commercial textbooks existed solely as hard copies. While the research reviewed occasionally seeks students' preferences (Anderson & Cuttler, 2020; Jhangiani et al., 2018), this is rare in textbook cost research.

Recommendations

Most academic research about college and university students' attitudes, financial impacts, and coping strategies around textbook costs has occurred in the past decade. As education's interest in student equity-- as well as its awareness of textbook costs-- increases, this will undoubtedly become a more researched topic. The purposes of the research will extend beyond a trend-- the research will provide data that will be used to justify institutional, district-wide, state (and province)-wide, and perhaps even national changes that will make learning more affordable to students.

To become standard, this kind of research will need to build its own standards. The Florida Virtual Campus model (Florida Virtual Campus, 2019) and the COUP model (Bliss et al., 2013) have been used as data collection models (or heavy influences) in much of the contemporary research on college and university students and textbook costs. Both of these models were originally created for the researchers' own needs and never intended to become standards. Conversations around student equity and funding opportunities for open textbook initiatives are becoming more common. In order to meet these opportunities, I recommend that

stakeholders from across multiple corners of academia convene, forge, and publish a standard data collection instrument and guidelines for this kind of research. A standard model and instrument will create more generalizable data that avoids many of the limitations encountered in the research in this literature review. The creation of this instrument will assist lower-resourced institutions that don't have the time, money, or staffing to build or adapt an instrument of this type. A standardized instrument will also produce results in a format that will not only allow institutions to contribute their data to a centralized repository-- it will also create a rich illustration of student experience across North America.

Another recommendation, which could connect to the above idea of a standard data collection instrument, is to create a model for (and execute) longer longitudinal studies. An increase in longitudinal studies may play out naturally as this area of research matures. Contemporary research around college students, textbook costs, and the impact of a free textbook typically attempts to compare data about attitudes, impacts, and outcomes between different course sections and semesters (Cozart et al., 2021; Fialkowski et al., 2019; Hendricks et al., 2017; Hilton et al., 2016; Jhangiani & Jhangiani, 2017; Jhangiani et al., 2018), but their range is typically limited to about one year. The potential for variables in their diverse (and sometimes home-grown) methodologies limit their accuracy. An increase in methodologically-sound longitudinal data will most likely more thoroughly and accurately illustrate college and university students' attitudes, financial impacts, and coping strategies around textbook costs over time-- and elucidate the benefits of interruptions to those costs.

Finally, connecting to the need for more studies, research in this area needs to further investigate the impact of *format* when comparing free textbooks to commercial textbooks. As free open textbooks are typically online and commercial textbooks have been mostly physical,

we need to know more about how that change is impacting students. A study in this literature review showed that students tend to prefer print textbooks (Jhangiani et al., 2018), but another study showed that stated preferences could be swayed with a free e-textbook (Howard and Whitmore, 2020). It would be important to learn the extent to which an assigned textbook's format (whether a print, digital, commercial, or free) impacts students' experiences with their textbooks to provide a more complete picture of the impacts that textbook costs have on North American college and university students.

Though the field is nascent, the available research surrounding the impacts of textbook costs on North American college and university students has covered substantial ground in a short time. This particular area of research has not only elucidated the harsh financial impacts of the commercial textbook industry on students-- it has also shown potential effective relief in the emerging arena of open textbooks. As illustrated throughout this literature review, institutions, nonprofits, and local governments are beginning to realize the equity implications of textbook costs and are beginning to take actions to change. As the research grows, formalizes, and spreads, so will the change, and so will the benefits.

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