



Determining the Lifetime Return on Investment of a Career in Physical Therapy or Occupational Therapy – An Educational and Financial Analysis

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Abstracts

Background: In the United States, student loan debt has been a subject for national and political discussion. Professional associations have expressed concern and taken action in ways to combat high levels of student loan debt. What has not been discussed is the lifetime earnings, debt, and retirement (or loss thereof) which would produce an overall lifetime return on investment (ROI) for the graduate and associate's degree levels of careers in physical therapy and occupational therapy.

Method: A literature review on student loan debt in the United States was performed. Specifically, statistics were obtained from various sources relative to the fields of physical and occupational therapy. Salaries and salary projections were obtained for both graduate and associate's/technical degree levels in physical and occupational therapy. Data was calculated to obtain overall cost of education (tuition plus debt-based interest), lifetime earnings of salary, and available retirement contributions when replacing contributions with potential loan repayment.

Results: Literature review showed that while value can only be determined subjectively, current career projections and cost of education for obtaining graduate degrees in physical and occupational therapy have an overall negative return on investment in relation to lifetime earnings. By comparison, the associate's degree level of training provides for a relatively high lifetime earning and high return on investment when factoring in a debt-to-income ratio and lifetime potential retirement earnings.

Conclusion: Value can only be determined by the one pursuing a degree or career goal. However, numeric and financial data shows that the lifetime earnings and overall investment in a graduate career in physical therapy and occupational therapy is negative when compared to the associate's degree level.

Limitations: Limitations of this review are the lack of consideration of loan forgiveness, as well as grant funding from research groups, Pell grants, and other methods of loan payment or repayment. Also not taken into account for these calculations are the career burnout rates for physical and occupational therapy professionals.

Introduction

Even before the COVID-19 pandemic began, concern has been rising about the value of higher education. While student debt

continues to amass to the current amount of approximately \$1.6 trillion, the long-term value of the degrees being pursued and obtained has not been investigated, specifically for those degrees leading to a career in healthcare. Many, if not most, careers in healthcare require specialized training, education, certification and/or licensure. Many parents and students believe that the true path to success and wealth is by becoming a "college graduate". In this context, "college graduate" often means obtaining an undergraduate bachelor's degree. Therefore, in order to pursue a "successful" healthcare career a graduate degree is a must. Is this perception, though, truth? What is the job market telling us, even during the COVID-19 pandemic? What is being projected for healthcare careers post-COVID pandemic? What is the financial reality of pursuing some of the most popular and highly demanded jobs in healthcare? Most importantly, what are the long-term financial repercussions of a graduate degree in a healthcare profession as compared to a technical degree?

Value

Financial stability is only one piece of the puzzle that determines value to a potential healthcare student. Students and parents should be informed on what a starting salary in their healthcare field of choice as well as how much debt would be incurred in order to pursue and obtain the necessary degree. Students and parents should also have some sort of plan in place to evaluate retirement and future financial plans, based on lifetime income and retirement contributions.

While income and debt make up some of the determined value of the degree and career of choice, nothing can quantify the *perceived* value ascribed the student and their family. Becoming a "doctor" of physical or occupational therapy may be a goal that students deem worth any dollar amount. Some students may be the first and only family member to obtain a master's or doctoral degree, and these students will place a priceless value on graduate school costs. Other students may be "legacy" students; for example, students who pursue nursing and come from a long line of nurses in their family. "Legacy" students at particular universities and colleges will also follow their family's path in order to pursue a degree from the same institution as their familial predecessors did. Value of a degree is ultimately in the eye of the beholder, but students and family members should be aware of the financial repercussions of their decisions since the pursuit of this degree path may completely alter the trajectory of their future, and the future of generations to come in their respective families.

Job Outlook

In order to begin determining value, the job outlook for specific healthcare professions must first be considered. At the time of this writing the Bureau of Labor Statistics, a government agency that monitors job outlook and the geographic economics of employment in the United States, has the following healthcare jobs listed as their Top 10 in-demand [1]:

- 1) Occupational Therapist Assistant
- 2) Nurse Anesthetist/Nurse Midwife
- 3) Physical Therapist
- 4) Occupational Therapist
- 5) Physical Therapist Assistant
- 6) Respiratory Therapist
- 7) Dental Hygienist
- 8) Speech Pathologist
- 9) Physician Assistant
- 10) Medical Assistant

Fortunately, prospective students can get insight into median annual earnings from the Bureau of Labor Statistics Job Outlook website, but a more accurate depiction of income will come from localized job searches since geography and market saturation will affect pay for each profession. It is important to know the job outlook for a particular degree or career choice in order to know what the job market will be upon graduation and how the market for this career will impact salary upon graduation.

Burnout

One factor that prospective students and their families must research and consider is career burnout. Burnout is defined as “a special type of work-related stress — a state of physical or emotional exhaustion that also involves a sense of reduced accomplishment and loss of

personal identity”. For example, recent data shows that physical therapist burnout (to the point of leaving the profession) is occurring at or around the fourth year of professional practice. At this point, physical therapy professionals begin to look to other avenues for their skill sets, or decide to leave the profession altogether. It is important to note that this burnout timeframe is specific to physical therapists that pursued a graduate degree rather than the PTA who pursued a technical degree. Other healthcare careers such as nursing face a similar battle of burnout, while others have much more workforce longevity due to the lack of paperwork, work environment, and physical requirements of the job [2,3].

Lifetime Earnings

Lifetime earnings for any profession is defined as the total earnings within the profession multiplied by the number of years worked. For example, if a medical doctor makes two hundred thousand dollars (\$200,000) per year for thirty (30) years of working in medicine (taking into account an average inflation of 2%), the lifetime earnings of a medical doctor from salary alone are approximately \$8.1 million dollars. The median annual salary of a physical therapist in 2019 was \$89,440. For a graduate who begins working at 25 years old and works until retirement at 65, lifetime earnings equate to approximately \$5.1 million dollars, assuming salary increases occur with inflation at a rate of 2% per year. By comparison, lifetime earnings for a PTA working from age 23 equate to almost \$3.2 million dollars. The salary difference is sizable but does not consider the difference in lifetime debt and missed retirement funding because of student debt loan payments. (It should be noted that at the time of this writing, PT salaries are declining, and a surplus of over 25,000 PTs is projected by 2030 [4])

Table 1 below outlines the difference for an eye-opening revelation when specifically comparing a graduate healthcare degree to a technical healthcare degree.

	PT	PTA	OT	OT
Median Salary (\$)	89,440	48,990	84,950	59,200
Years to complete degree	6-8	1.5-2	6-7	1.5-2
Lifetime Salary Earnings (\$)*	5.4 mil	3.2 mil	5.1mil	3.57 mil
Avg Student Loan Debt (\$) **	153,000 ²	24,000	150,000 ³	40,000
Avg Student Loan payment *** (\$)	928.65	158.47	901.44	260.77
Retirement Contributions missed **** (\$)	5.8 mil	1.5 mil	5.7 mil	1.65 mil
Total Retirement + Lifetime Salary Earnings (\$)	-400,000	1.7 mil	-600,000	1.92 mil

Table 1 : Lifetime Financial Analysis of Careers in PT and OT

- * Assumed at 2% cost of living increase with 2% inflation
- ** Total amortized over 40 years at current 6.8% interest rate
- *** assumed 40 years of employment and repayment (based on current average length of debt repayment prior to retirement)
- **** assumed 10 yr average of investment in S&P 500; assumption is that total debt payment could be contributed towards a 401(k) type retirement fund

Alternatives and Limitations

There are a few healthcare career choices worth noting here that are not part of the analysis performed. As previously mentioned, careers and degrees in healthcare that do not have an associate's degree to graduate degree comparison are not included. Careers as a physician assistant and medical assistant were not considered in this analysis. Also, options like the Speech Language Pathologist Assistant are too new to be considered both in need and future earnings. At the time of this writing, probably the highest-demand healthcare career not considered is that of the Respiratory Therapist. This is because this degree plan recently underwent an accreditation-mandated change to a bachelor degree program, from the previously obtained associate's degree in respiratory therapy. There is a graduate degree available, but is not required for entry into the profession. During the COVID pandemic, respiratory therapists are in higher demand than ever, and are bringing in pay ranges as high as \$3300 per week for contract employment [5]. The need for respiratory therapists, however, is not expected to dwindle even after the COVID-19 pandemic is over.

Another limitation not noted here is the availability of loan repayment programs for certain healthcare professions education. The nursing profession has multiple options for employment related loan repayment, as do Dental professionals. At the time of this writing, only a few options are available for loan repayment based on professional service or research. Qualifications for these programs are strict and will not be available to the large majority of graduates in the therapy professions.

Conclusion

It is very clear that that the return on investment for many healthcare degrees is not in favor of a graduate degree, but is more in favor of a certificate or associate's level. The current educational and healthcare workforce landscapes appear to support a better financial return on healthcare careers obtained from community and technical

colleges. It must be repeated, though, that these findings cannot take the personal value of completing certain degree paths away. The inherent value of any degree path is in the eye of the beholder. Of utmost importance for any educational endeavor are value determination, financial considerations and planning for the student's future. Parents, students, faculty and administrators should be pursuing financial literacy before any educational endeavor. High school guidance counselors should be having financial counseling courses with their future high school graduates, and healthcare programs should implement pre-application/pre-admission financial literacy programs so incoming students know the future financial ramifications of pursuing their career of choice.

Conflicts of interest: Author report no conflict or competing interest.

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