

Theoretical Framework in Student Debt Research: Linking Economic, Finance and Education Theories to Student Debt Literature

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ABSTRACT

There has been a growing interest in student debt research in recent years among researchers and graduate students. Student loan has become a popular means of financing the increasing cost of higher education among millennials, thus spurring the rising interest of researchers in this area. However, the availability of established theories related to the student debt topic is limited. The purpose of this study is to add to the limited literature of theories in student debt scholarship. This study links two economic theories, four finance theories, and two education theories to student debt literature. The economic theories (human capital theory and life cycle Model) emphasize the role of student loans in fostering investment in human capital and its impact on future consumption. This study also examines four debt repayment models (the debt snowball model, the balance-matching model, the debt avalanche model, and the debt consolidation model) suggested by various financial advisors on debt repayments, which postulate four distinct strategies on how debtors can settle their loans. The education theories (Tinto student departure model and John Bean's explanatory theory of student retention model) highlight the importance of student retention at colleges to ensure college completion, which in turn increases the chances of getting a job; thus, guaranteeing loan repayment. These theories will serve as a theoretical framework guide to researchers, especially graduate students who are working on their thesis or dissertation on the student loan debt topic.

Keywords: Student Loan Debt, Financial Aid, Higher Education, Federal Student Loans, Student Debt Theories, Debt Repayment Models

INTRODUCTION: CATEGORIES OF STUDENT LOAN

The rising cost of higher education in the U.S. has massively lured pursuers of college degrees toward lenders of student loans (Mbah et al., 2020). There exist two principal types of education loans for students: federal loans and private loans. **Private student loans** are loans that come from private lenders like banks, credit unions, state agencies, schools, or other lending institutions to aid cover college expenditures not covered by grants, scholarships, federal loans, or other forms of financial aid. Most such loans are given directly to the students, meaning that they are legally liable to repay the loan (Adams, 2018). The interest rates for private loans are set by the lenders, and the borrowers' credit score is taken into consideration. That is, the lender sets the terms and conditions of the loan (Birken, 2016). Due to the higher interest rates

than federal loans, students often take these loans as the last resort (Mazzeo, 2007). They are often marketed as a supplement to Stafford loans. On the other hand, **federal student loans** are loans funded by the government to aid students to pay for college expenditures. The terms and conditions of the loan are fixed by law. Types of federal loans include direct subsidized loans, direct unsubsidized loans, direct PLUS loans (for graduate students and parents), or Federal Perkins Loans (Adams, 2018). Table 3.1 shows the differences between private and federal student loans.

Table I: Difference Between Private and Federal Student Loans

Features	Private Student loans	Federal Student Loans
Origin	They are provided by private lenders like banks, credit unions, state agencies, or even schools.	They are provided by the government.
Purpose	College expenses directly linked to a school in addition to some postgraduate costs.	College expenses directly linked to school'
Terms and Conditions	The private lender sets the terms and conditions of the loan.	The terms and conditions are set by law.
Repayment	Students are required to repay most private loans while in school, but some lenders may allow for deferment.	Federal loans are payable after graduation, in the event of a school dropout, or change in enrollment status lower than half-time.
Interests Rates	Interest rates could be fixed or variable and could be lower or higher than the federal student loan interest contingent on the borrower's situation.	Interest rates are always lower than that of private loans and even lesser than certain credit card interest. They are fixed.
Availability of Subsidies	Private loans are mostly unsubsidized; hence, the borrower has the liability to pay all the interest on the loan.	Contingent on the student's financial need, the government might pay the borrower's interest if such a student is at least half-time.
Credit History	Private loans often require a credit score check.	Federal loans do not require a credit history check but for PLUS loans.
Cosigner	Required for most private loans for students who are below the age of 18 and do not meet the lender's credit, income, or legal residency prerequisite.	Most federal loans do not need a co-signer but for PLUS loans.
Tax Benefits	The interest might be tax-deductible.	The interest may be tax-deductible.
Postponement of Repayment	The ability to postpone repayment is subject to the lender as well as the ability to lower repayments.	Loan repayment can be temporarily postponed or lowered in cases of repayment difficulties.
Repayment Plans	Repayment plans are subject to the private lender.	There exist various forms of repayment plans under the federal loan program which includes even linking your monthly repayment to your income.
Prepayment penalties	It is subject to the lender.	There are no prepayment penalties.
Loan Forgiveness	Most private lenders do not offer loan forgiveness programs, but some state agencies can forgive some specific student loans based on the situation.	State workers could be eligible for loan forgiveness.

Source: Adapted from 'Federal vs private student loans: Which is better?' by A. Serio, 2019.

GAP IN LITERATURE AND PURPOSE OF THIS RESEARCH

Although there has been a growing interest in student debt research, very few researchers have concentrated on the theoretical framework of student loan debt literature. There is a research gap in the area of identifying theories that relate to the student loan debt literature. Mbah (2021a) suggests a link between Kingdon's three-stream Policy Window Model/Interest Group Theory and the student debt literature by emphasizing the influence of public policymakers and interest groups on student loan debt. In addition to her previous publication, Mbah (2021b) establishes a link between four public policy theories (Social Contract Theory, Utilitarian Theory, Theory of Neoliberalism, and Three-Policy Stream Theory) and existing student debt literature. However, she recommends the need for other researchers to expand on possible economic, finance, and education theories related to student debt literature. This will provide a vast theoretical pool for future student debt researchers, especially research students. Thus, the purpose of this study is to establish economic, finance, and education theories that relate to the student debt literature. As suggested by Mbah (2021b), this will facilitate the theoretical framework section of dissertations and thesis on student loan debt.

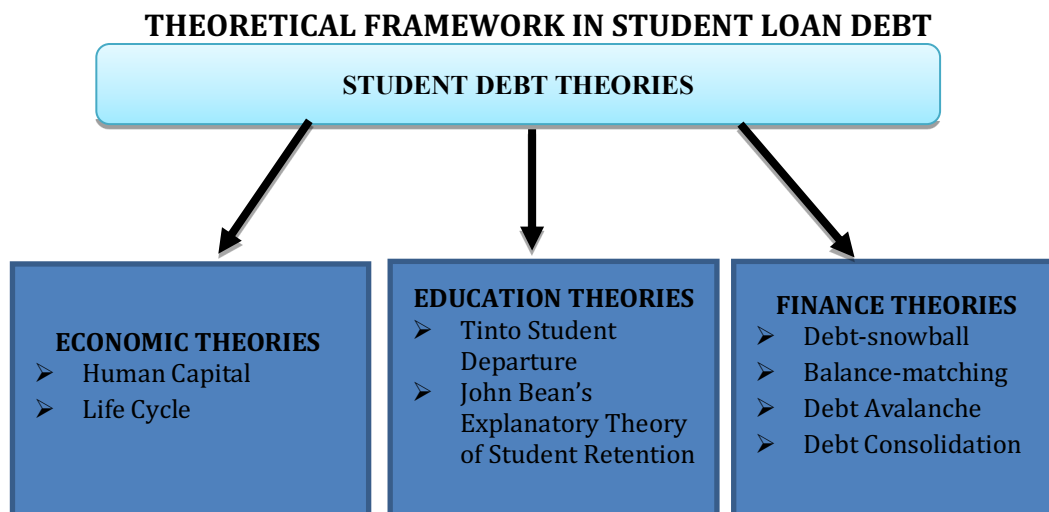


Figure I: Summary Table of Theoretical Framework in Student Loan Debt
Source: Author's Presentation Based on Various Theories

Economic Theories

Human Capital Theory

Human capital theory studies the relationships among education, economic growth, and social well-being (Netcoh, 2016). Education is considered worldwide as the key that permits individuals and nations to meet swift economic and social changes (Rustiadi, 2015). Higher education is a vital investment, which individuals can make for themselves and the country (Executive Office of the President, 2016). Several theoretical analyses have acknowledged that human capital has a positive and significant impact on economic growth (Diebolt & Hippe, 2019; Jihène, 2013; Pelinescu, 2015; Rustiadi, 2015). It is often regarded as one of the major factors that influence competitiveness and economic growth (Burgess, 2016; Čadil, Petkovová, & Blatná, 2014; Diebolt & Hippe, 2019; Elliott & Lewis, 2015).

The theory of human capital can be traced back to Adam Smith in the 18th century, who added human capital in his definition of capital. Other scholars- including Irving Fisher in 1897, Jacob

Mincer in 1958, Theodore Schultz in 1961, and Gary Becker in 1964- continued the same effort (Goldin, 2014; Laroche et al., 1999). Jacob Mincer defines human capital as ‘acquired capabilities which are developed through formal and informal education at school and home, and through training, experience, and mobility in the labor market’ (Mincer, 1981). According to Mincer, human capital is essential to ensure sustainable economic development because it is the foundation of new knowledge, it increases total output, and boosts economic growth (Mincer, 1981). A wide range of empirical research within the human capital theory suggests that higher education is linked with elevated individual wages, growth in GDP, and better welfare (Netcoh, 2016).

Schultz defines human capital as ‘knowledge, skills, and abilities of the people employed in an organization’ (Chartered Institute of Personnel and Development, 2017). Schultz urges that governments and private banks ought to provide long-term student loans to correct the imperfection of the capital market, which provided more funds to physical goods investment than human capital investment. Like Schultz, Gary S. Becker, winner of the 1992 Nobel Prize in Economic Science, suggests that investment in a person’s education and training (human capital) is comparable to business investment in equipment. Human capital is an imperceptible investment on a human level, like education, which produces financial benefits for the individual as well as the employer. It augments the worker’s productivity in all assignments and is the key and vital factor of wealth creation in developed nations (Becker, 1993).

Likewise, in the changeover from the Industrial Revolution to contemporary growth, Galor and Moav (2004) developed a growth model that apprehended the endogenous replacement of physical capital accretion by human capital accretion as a key engine of economic growth. In the advanced phases of the translation to modern growth, as human capital arose as a key engine of economic growth, equality lessened the opposing impacts of credit constraints on human capital accretion and inspired the growth process. Fos, Liberman, and Yannelis (2017) studied the impact of student loans on human capital. These authors suggest that this impact is essential because it indicates that, the decision of financing human capital- that is, undergraduate student loan debt- alters personal-level investment choices and the total human capital that a person can acquire. Their results showed that credit restraints are significant for the amassment of human capital at the personal level. They speculated that credit restrictions led to inefficiently small investment in human capital, leading to possible inefficiency. Their overall outcome suggests that student loan debt discourages investments in human capital. As such, human capital theory helps policy makers comprehend how policies can be developed to boost individuals’ investment in their personal education (Netcoh, 2016).

Burgess (2016) suggests that education is crucial for three major policy areas. Foremost, the stock of skills within a given country is critical for economic growth within a highly competitive world. Next, a vital determinant of income inequality is the dispersal of human capital. Lastly, the relationship between an individual’s human capital and their family history is an essential determinant of social mobility and the perpetuation of disadvantage. The major way in which public policy can influence human capital is via the provision of access to education, and the effectiveness of such an educational system affects the skills acquired by citizens (Burgess, 2016).

Life Cycle Model

According to Rothstein and Rouse (2011), student loan debt has no impact on consumption all through its life cycle. In the typical life cycle model, youths make optimum education investment choices if they can finance these investments by borrowing against future incomes. Student loan debt has just income implications for future decisions. The authors suggest that “student debt has only an income effect- proportional to the ratio of debt to the present discounted value of total lifetime earnings on career and other post-college decisions.” This impact should be minimal because student loan debt comprises a small fragment of an average graduate’s lifetime earnings. Therefore, college students are considered as rational actors who calculate the amount of student loan debt they will accrue in finishing a college degree against their possible lifetime incomes as college graduates (Elliott & Nam, 2013). Withal, Oliver, and Shapiro (2006) suggest that young adults’ earnings are much lower during their first years after graduation than in their middle age. They can no longer depend on their parents for financial support. As such, several young adults are forced to depend on credits as a major means to facilitate their consumption and acquire wealth-building assets like homes. The life-cycle proposition of student loan debt assumes that there are little or no restraints on credit- that is, a perfect credit market- and that folks, especially low-income earners, are capable of borrowing against future incomes to acquire wealth-building assets that need significant financial investment like houses (Elliott & Nam, 2013)

Finance Theories

The Debt Snowball Theory

The debt Snowball model is the creation of Dave Ramsey, a famous American finance expert and an author (Amar et al., 2011). This model is also known as ‘Dave Ramsey’s Baby Steps’. This is a debt reduction model in which the borrower pays off the debt with the smallest amount first while ensuring that the required minimum balances on the larger debts have been paid off. That is, after the borrower has paid all the required minimum balances for the larger debts, he/she uses the left-over debt funds to pay off the debt with the lowest balance (O’shea & Pyles, 2019). This is a strategy for those who have several debts such as student loans, car notes, credit cards, mortgages, and health/car/life insurances. The proponents of this theory suggest that, once the debt with the lowest balance has been paid off to zero, then the borrower should allocate any supplementary fund to other debts (Ramsey, 2009a). The debtor lists his/her debt starting with the smallest balances. The debtor does not need to bother about the interest rate of the debts except in a scenario where two debts have the same balance (e.g. car note=\$5000 and health insurance=\$5000). In this case, the debtor will list the debt with the highest interest rate first (Ramsey, 2009b). Simply, the amount on the list is determined by the debt balance owed and not the interest rates on the balances. Ramsey argues that this method gives debtors an extra push, which is a ‘win’ that encourages further repayment (Amar et al., 2011; Elmlad, 2018; Gathergood et al., 2017). The debt Snowball model has been proven by decision-making research as a way of managing multiple debts, even when the larger debt balances have higher interest rates (Amar et al., 2011). Figure 1 portrays the steps in Ramsey’s snowball model.

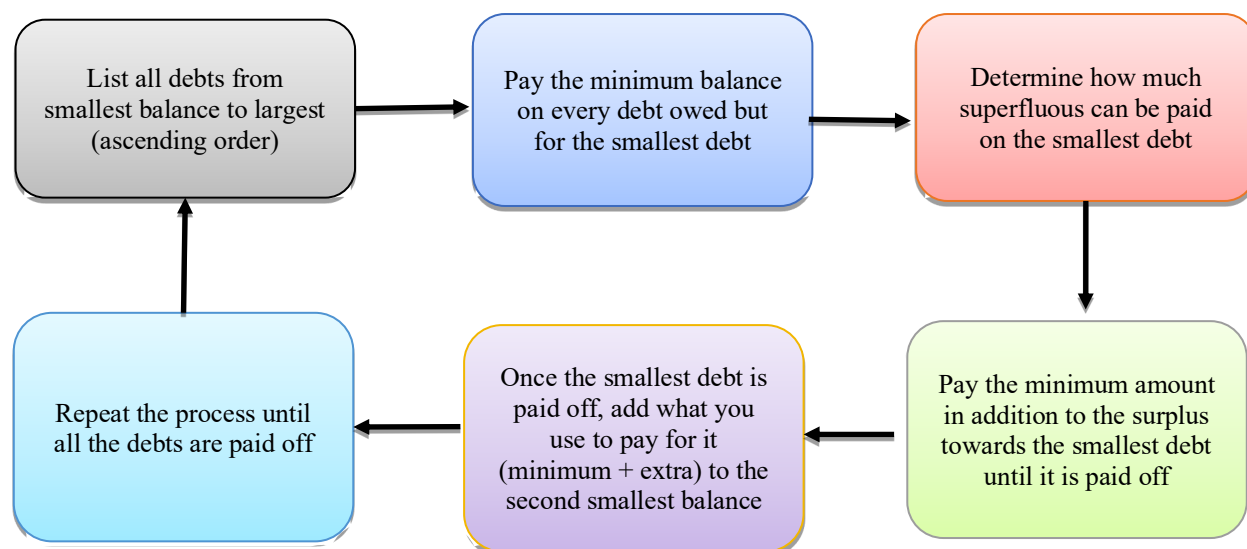


Figure II: Debt-Snowball Methodology

Source: Adapted from 'How to Get Out of Debt With the Debt Snowball Plan,' by D. Ramsey, 2009. Retrieved February 10, 2019, from <https://www.daveramsey.com/blog/get-out-of-debt-with-the-debt-snowball-plan>

This smallest-balance model of loan repayment has a psychological impact on debtors. Research conducted in 2012 by Northwestern's Kellogg School of Management suggests that "consumers who tackle small balances first are likelier to eliminate their overall debt" rather than those trying to pay off debts with the highest interest rates (Boyer, 2012). Research from Harvard Business Review in 2016 came out with the same conclusion. Their conclusion suggests that this model is significant for millions of American credit card users because it is straightforward, easy to communicate, and easy to apply (Trudel, 2016). However, a limitation of this method is that interest rates will be accruing on the loans with the largest balances (Berger, 2017).

The Balance-Matching Model

Gathergood et al. (2017) argue that borrowers do assign loan repayments to the higher interest rate card to reduce their borrowing costs. The balance-matching model postulates that 'individuals match the share of repayments on each credit card to the share of balances on each card' (Gathergood et al., 2017). That is, debtors, concentrate on balances, which are exhibited on credit card statements. Using the goodness-of-fit to compare this model, these authors found out that balance-matching captured above 50% of the 'predictable variation' in loan repayment behavior. That is, balances have greater importance than interest rates in determining the debt repayment strategy. According to Gathergood et al. (2017), account balances are more correlated to loan repayment than interest rates.

Debt Stacking or Debt Avalanche Model

It is important to notice that the other two models focus on the debt balances, while debt stacking focuses on interest rates. Per contra, debt Avalanche is very similar to debt Snowball in that, debtors must first make minimum payments on all existing debts (Berger, 2017). It is a form of the accelerated debt repayment plan in which the debtor pays the minimum payments on all debts and allocated the remaining debt repayment money to the debt with the highest

interest rate (Kagan, 2018). This model requires the borrower to rank his/her debts based on the interest rates from the highest to the lowest. Although the debtor saves money by paying the debt with the highest interest first, he/she might spend a long time to get the debt with the largest balance off his/her list. It may become frustrating to spend much time on a loan without having the psychological victory of taking it off the list (Pant, 2018). This is a major difference that Ramsey (2009b) pointed out when postulating the snowball method.

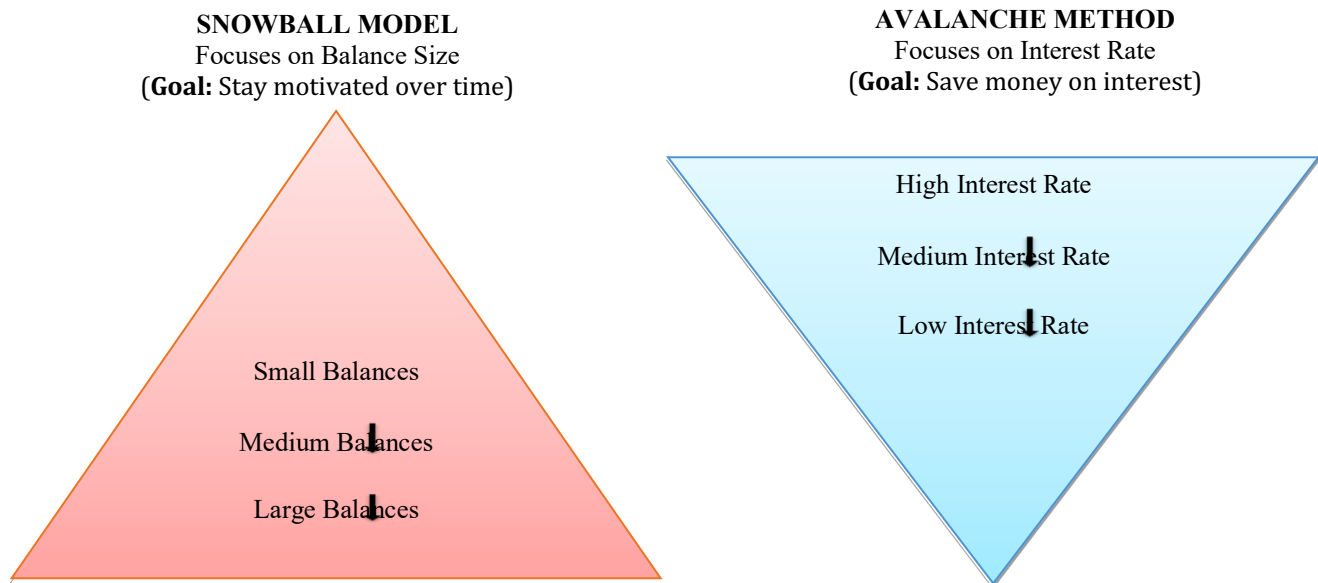


Figure III: Snowball Model vs Avalanche Model

Source: Adapted from 'Debt Snowball Versus Debt Avalanche: What the Academic Research Shows' by R. Berger, 2017. Retrieved February 10, 2019, from <https://www.forbes.com/sites/robertberger/2017/07/20/debt-snowball-versus-debt-avalanche-what-the-academic-research-shows/#b4e628e1454a>

Debt Consolidation Model

According to National Debt Relief (2012), debt consolidation allows debtors to combine all their outstanding debts into one new loan. The borrower, therefore, has just a single interest rate and one monthly payment to worry about. It often has a lower interest rate and a longer repayment period than the original debts; hence, making it easier for the borrower to repay, alongside other unsettled bills. It is a verified method for 'tapped-out' borrowers to resurface from underneath a crushing bulk of debts. The one lesser payment always enables borrowers to ensure greater control of their finances and ultimately begin repaying their debts. Nonetheless, it may take a longer period to repay off debts under a debt consolidation because it is offered with a longer payment timeline (Irby, 2019; National Debt Relief, 2012).

There are several ways of carrying out debt consolidation. A widely used type of debt consolidation is an **unsecured loan**. Unsecured loans are provided by banks or other lenders principally for debtors to consolidate their current debts. Eligible borrowers benefit from a fixed interest rate that will run through the life span of the debt (Irby, 2019; National Debt Relief, 2012). Another method of consolidating debt is to take advantage of the several credit card balance transfer promotions offered nowadays. This involves transferring debt on several

high-interest credit cards to a single card with a lesser interest rate. This is called the **balance transfer** method of loan consolidation and is widely used by borrowers who are not eligible for an unsecured loan. However, these lower interest rates promotions are often for a short duration (9-12 months) and are sometimes raised after the promotions (Fontinelle, 2018; National Debt Relief, 2012). The alternative approach is to use the **secured loan** method. This is mostly used by those with real property. If they have equity in their homes, they can refinance and use the extra to repay other outstanding loans. Borrowers can alternatively decide to acquire a home equity line of credit and utilize the loan to consolidate their owing debts. Borrowers who have real properties as collateral can use them to acquire loans that they are not eligible for. Nevertheless, this becomes risky in the event of default, as the lender can decide to foreclose on the property (National Debt Relief, 2012; Ryan, 2011). In the case of a federal student loan consolidation, when students combine their multiple types of loans into a single new consolidation loan, an appropriate interest rate is calculated using a weighted average method based on the then-recent interest rates of the various loans being combined (Congressional Budget Office, 2010).

Education Theories

Tinto Student Departure Model

Tinto Student Departure Theory is maybe one of the most used and cited theories in higher education. It was first developed in 1975 by Vincent Tinto and later reviewed in 1993 (Melguizo, 2011, p.396). According to Ashar and Skenes (1993), Vincent Tinto suggests that both the social and intellectual incorporation of students in an institution's life are vital for retention. This model is also known as the Student Integration Model, which implies collaboration between students and the academic and social structures of their institutions (Aljohani, 2016). This makes college institutions accountable for their practices and takes responsibility for the departure process (Melguizo, 2011, p. 400). The more comfortable a student is at an institution, the lesser the rate of departure before completion and the lesser the risk of student loan default. Students who are satisfied with their college investment and experience are less likely to default (Buam & O'Malley, 2003; Sandy & Diane, 1998). Also, the length of time a student stays in school is positively correlated with loan default (Gross et al., 2010). Quadlin and Rudel (2015) assessed the correlation between student loan debt and the foundation of campus life. They found a significant link between student loan debt and the student's college lifestyle. The U.S. Department of Education 2017 data accentuates the significant impact that the student and institutional factors have on default rates (Scott-Clayton, 2018). Likewise, financial stress was found as a major factor that influenced retention because it increases the probability of dropping out of school (Britt et al., 2017). Nevertheless, the major limitation of this theory is that it neglects the influence of the outside environment- that is, external factors (Melguizo, 2011, p. 401).

John Bean's Explanatory Theory of Student Retention

John Bean's Explanatory Theory of Student Retention was introduced in 1980 by John Bean from existing organizational turnover and psychological theories that lead to academic and social integration (Atif et al., 2013). Bean (1981) uses the organizational turnover theory in establishing this student retention theory because just like workers, students are 'members of an organization who may leave.' As such, satisfaction is a common variable that can be influenced by many independent variables. Satisfied workers and students will stay while the unsatisfied will leave. Unlike Tinto, Bean emphasizes the importance of background factors like

students' performances at the high school and ACT scores which often predict the students' subsequent performance in college. Some environmental variables which may influence dropout directly which Tinto did not consider in his model include family responsibilities, marriage, the opportunity of transferring to another school or getting a job, and financial stress (Atif et al., 2013; Bean, 1981). Evidence from research shows that students with greater family responsibilities have a higher likelihood of defaulting student loan repayment (Gross et al., 2010). Britt et al. (2017) affirm that financial stress influences college dropouts, thus leading to student loan default. According to Atif et al. (2013), Bean's model also suggests that academic variables like student grades (GPA) would influence student retention. Research shows that students with higher GPAs and students who are academically ready for college accumulate less student loan debt (Harrast, 2014).

CONCLUSION

With the rising interest in student debt research, it is vital to have a variety of established theories that can facilitate the theoretical framework section of either a dissertation or a thesis on this topic. This study is an extension of a recent publication of Mbah (2021b) that links public policy theories to student loan debt literature. Based on her recommendation, this study links two economic theories, four finance debt repayment theories, and two education theories to the student debt literature. The economic theories emphasize (1) the importance of higher education as an investment in human capital which leads to economic benefits and student loans have become a vital means of funding such an investment; (2) student debt does not have any impact on consumption but it does have an income effect. The finance theories suggest four debt repayment models that students can choose from in settling their debts as they fall due. These debt repayment models include (i) the debt snowball model by Dave Ramsey which requires the borrower to pay off debts beginning from the smallest debt balance after haven paid all the minimum balances on the larger debts; (ii) the balance-matching model highlights the importance of matching payments based on account balances than on interest rates; (iii) the debt avalanche model accentuates the importance of interest rates in determining which debt to pay first and it suggests that borrowers should pay off debts with higher interest rates first after haven paid the minimum balances on the debts with lower interest rates; (iv) the debt consolidation model allows debtors to combine all of their outstanding debts into a single new debt leading to one interest rate and one monthly payment. Lastly, the education theories, both stress the role of student retention in ensuring college completion, thus, leading to a higher probability of securing a job and paying off student debt. Nevertheless, this study is limited to eight theories that can be used by student researchers in their theoretical framework on student debt research. More theories should be proposed to ensure a vast pool of theoretical resources to ease research in this field of research.

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