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USING THE THEORY OF PLANNED BEHAVIOR TO EXPLORE COLLEGE STUDENTS' PERCEPTIONS TOWARDS UNDERSTANDING THEIR HEALTH INSURANCE

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ABSTRACT

USING THE THEORY OF PLANNED BEHAVIOR TO EXPLORE COLLEGE STUDENTS' PERCEPTIONS TOWARDS UNDERSTANDING THEIR HEALTH INSURANCE

Ariba Sheikh

The purpose of this study was to explore college students' perceptions towards understanding their health insurance. Specific objectives were to explore students' attitudes, subjective norms, and perceived behavioral control toward understanding their health insurance, and to examine how these three factors impact students' intention to seek health insurance information. A cross-sectional study was conducted on a sample of 400 participants using a paper and pencil survey method. Study participants consisted of undergraduate students at St. John's University who were capable of reading and understanding English. Theory of Planned Behavior (TPB) was used as the conceptual framework. Descriptive statistics were performed with the data, and hierarchical regression analyses were conducted to address the study objectives, using SPSS® v27. Results indicated that college students had positive attitudes, positive subjective norms, and positive perceived behavioral control in understanding their health insurance. The final model exhibited all three determinants (attitudes, subjective norms, and perceived behavioral control) to be significant predictors of intention, $F(9,384) = 18.760$, $p < .05$, $R^2 = .305$. The results of this study may be used in identifying tools to enhance college students' understanding of health insurance information, which can ultimately bring societal benefits.

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CHAPTER 1: INTRODUCTION

The United States (US) continues to struggle with providing basic healthcare and healthcare-related information to its people. There is a reported lack of easy access to information that would aid people in developing a better understanding of concepts and terminologies related to health insurance (Kakar, et al., 2022). Not only do many people struggle to understand and utilize their health insurance, but it can even be hard to obtain insurance in the first place. Unlike other high-income nations, the United States is the only country that does not participate in a government-funded healthcare system, also known as universal healthcare (Gunja et. al., 2023). This type of healthcare system allows all citizens to enroll, regardless of employment status or income, and covers basic and advanced medical treatments, funded by government tax revenue. Instead, the United States healthcare system consists of primarily private health insurance companies, and subsidized public health insurance programs, like Medicare and Medicaid.

This is the basis of the current problem facing our society today. With privately run systems, healthcare is treated more as a business and not as a basic human right. Physician-prescribed treatments and procedures can be denied, at the hands of businessmen who have limited medical knowledge. Furthermore, a complex bureaucratic system is established, through which it is difficult for physicians and patients alike to get procedures authorized and received promptly.

Due to such obstacles, it is challenging for general consumers to utilize and understand their own health insurance policies and benefits. Little information is provided by insurance companies regarding what is outlined in consumers' policies or benefit plans. Even if the information is provided, it may not be understood by general

audiences, due to a lack of education on this topic. There are no current guidelines on what constitutes an appropriate amount of information disseminated to the public before they are allowed to make major health decisions for themselves or their loved ones. Attempts at healthcare reform, such as the Patient Protection and Affordable Care Act of 2010, ignore this principal problem, of consumers not effectively understanding and using their insurance policy and benefits.

In addition to a lack of education, the general cost of procedures and treatments in the United States has skyrocketed in recent years. About half of all Americans report difficulty in affording their healthcare costs, leading some individuals to forgo care to save money (Tolbert et. al., 2023). Even those with insurance coverage face an expensive bill, with copayments and coinsurance policies designed to generate profit for pharmacy benefit managers and insurance companies alike. Aside from cost, there is a lack of easy access to information about one's policy or benefits. With so many types of insurance plans, it can be hard to find answers to specific questions. Even with resources available online, a lot of the jargon used can lead to further complications and delays in care.

This issue is paramount as it pertains to young adults and college students. Their transition to being new beneficiaries in the healthcare system should be supported with sufficient access to information and appropriate education that can empower them to make important health decisions. Specifically, young adults who are just coming off their parents' insurance at age 26 may find navigating their way into the health insurance sector to be extremely difficult. These young adults are entering the health insurance market for the first time and should be met with an honest system meant to guide them toward better health. The ability of young adults to make informed decisions regarding

their own health may be severely compromised, due to the confusing healthcare system seen today.

Previous literature has explored young adults' experiences with the healthcare system and knowledge of insurance concepts, by utilizing the health insurance literacy index (Waters et. al., 2022). Findings across the literature indicate a severe lack of understanding among this population on basic insurance terminology and appropriate usage (Price et. al., 2010, James et. al., 2018, Waters et. al., 2022). Aside from studies that focus on how well young adults understand insurance terminology, few studies explore the perceptions of young adult populations on health insurance. The Theory of Planned Behavior (TPB), proposed by Icek Ajzen in 1991, stated that one's intention to engage in a certain behavior is influenced by several determinants or constructs that are present within a person (Ajzen, 1991). These constructs (attitudes, subjective norms, and perceived behavioral control) are equally vital to college students' understanding and perception regarding health insurance concepts and terminology, and further, will shape the extent to which students intend to seek insurance information. The Theory of Planned Behavior can be used with this cohort to assess how attitudes, subjective norms, and perceived behavioral control affect students' intention and ability to seek health insurance information.

Understanding these factors can provide policymakers insight as to what appropriate changes to implement within the healthcare system, and to better prepare young adults who are entering the health insurance market. In addition, this research can be used to identify specific actions that can be taken to equip this population with the necessary resources to take an active role in their healthcare decisions.

1.1 Statement of Purpose

The purpose of this study was to better understand college students' perceptions in seeking health insurance information. The results of this study may provide unique insight into the experiences and views of this little-researched cohort.

1.2 Research Objectives

The objectives of this study are to:

1. Explore college students' attitudes, subjective norms, and perceived behavioral control toward understanding their health insurance, and
2. Examine how college students' attitudes, subjective norm, and perceived behavioral control impact their intention to seek health insurance information.

CHAPTER 2: LITERATURE REVIEW

To investigate consumers' understanding and perceptions of health insurance, as well as their understanding of how to access health insurance information, a review of previous literature was conducted. Literature was searched for using the following keywords: health insurance literacy, perceptions, college students, and survey. The results were limited to peer-reviewed articles available in English.

2.1 Overview of the American Health Insurance System

Health insurance can be defined as an agreement between an insurance company and beneficiary, in which the health insurer will pay a predetermined amount or percentage of health care costs for the insured, in exchange for a monthly fee or premium. Health insurance plans operate on the basis of sharing the risk of high healthcare costs, meaning that insurance companies will charge all members a set monthly fee that reflects the average cost of services an individual may use that month. Regardless of whether the individual incurs health care charges of that amount, a payment system is created, where continuous funds are coming into the insurance money pool to be used by all members enrolled in the plan. Some individuals may use more services than their premium would cover, while others would use fewer services than their premium paid for. By combining the risk of high health insurance costs across a large number of beneficiaries, health insurance companies can offer health care services at an affordable price.

In the United States, there are two main types of health insurance plans: private and public plans. Private insurance plans are funded by the individual, or sponsored by their employers, and are managed by private health insurance companies, such as Aetna,

Blue Cross Blue Shield, or United Healthcare, to name a few. Public insurance plans refer to health insurance coverage programs run by the state or federal government, such as Medicare and Medicaid. Public insurance is financed through payroll taxes, in which both employers and employees contribute, or through tax dollars from the federal government. To facilitate this, the United States takes on enormous medical debt for healthcare spending, estimated at around 20% of the national gross domestic product, and total healthcare spending averaging one-third of states' budgets (Price et. al., 2010). A study conducted in 2020 finds that an estimated 17.8% of individuals in the US carry outstanding medical debt, averaging around $430 each (Kluender et. al., 2021).

2.1.1 Structures of Health Insurance Payment

Attributed to the complexity of our healthcare system is the utilization of insurance plans. Even those who possess insurance have trouble paying for their medical expenses. Insurance companies require their beneficiaries to meet their deductible, which is a specified amount of money that the insured must pay out of pocket before an insurance company will take over and pay a medical claim. This is calculated yearly, so one must meet their deductible payment amount first, and then those services would be covered by the insurance company for the rest of the year. Another insurance concept is copayment, which is a relatively small, fixed fee that a health insurer requires the patient to pay upon incurring a medical expense, such as for doctor visits or prescription medications. A similar concept is coinsurance, where a percentage of a medical charge is liable to be paid by the beneficiary, with the rest of the expense paid by the health insurance plan. For example, if one has a 20% coinsurance rate, they would pay 20% of each medical bill, while health insurance would cover 80% of the bill.

These payment agreement systems are further complicated by bureaucratic obstacles, such as market exclusivity tactics. According to the Federal Trade Commission guidelines, brand-name drug manufacturers can legally delay generic drug manufacturers, by agreeing to pay off the generic competitor to hold their product off the market for a certain amount of time (Federal Trade Commission, 2018). This is advantageous for brand-name drug manufacturers, as it limits competition in the market, allowing them to achieve market exclusivity. In addition, since their products are the only option for patients, this gives brand-name companies the power to price their products at whatever they please, usually at very high rates. Such practices allow brand-name drug companies to make a considerable profit by keeping medication prices high (Federal Trade Commission, 2018). From the patient's perspective, this results in higher copayments, and other problems, like lower medication adherence, if they cannot afford to pay the high pharmaceutical prices.

A recent study conducted by the Kaiser Family Foundation found that an estimated 27.5 million non-elderly individuals in 2021 were uninsured in the United States (Tolbert et. al., 2023). This coverage gap stems from people not being able to afford private insurance, as well as not qualifying for federal insurance programs, such as Medicaid. To qualify for Medicaid, adult beneficiaries must prove that they earn an insufficient household income, which is currently 138% of the federal poverty level, for the state of New York (Tolbert et. al., 2023). This percentage varies from state to state, but often, earning even $1,000 above the threshold level may prevent individuals from obtaining insurance. Subsequently, the high cost of health insurance gives rise to increased behaviors of forgoing needed medical visits, tests, treatments, and medications,

due to high cost (Dickman et. al., 2017). Often, individuals fall into medical debt, due to unexpected medical costs. Another national study conducted by the Kaiser Family Foundation found that four in ten adults have healthcare debt, of which a major contributor was unexpected medical and dental bills (Lopes et. al., 2023). These instances depict how flawed the current health insurance payment structure is, causing unnecessary financial hardship for many.

2.1.2 Bureaucratic Influence on the Health Insurance System

Compared to other established nations, the US healthcare system is extremely disorganized and unnecessarily complicated. The US spends an estimated $12,318 per person on healthcare, the highest healthcare costs per capita, compared to other nations (Gunja et. al., 2023). Logically, higher spending should lead to better health outcomes; however, in the US, much of the spending is lost as administrative waste. This is done through unnecessary resource utilization, billing department charges, or other third-party members of the hospital. The US spends approximately $1,000 on administrative waste, which is five times more than other countries (Peter G. Peterson Foundation, 2023). In addition, despite such high spending on healthcare, the US suffers from having some of the worst health metric scores. For example, US life expectancy at birth is three years lower than the average of other nations, attributed to racial disparities and lack of healthcare access for minority groups (Gunja et. al., 2023). The US hosts adults who have an increased risk of developing multiple chronic conditions, such as obesity, diabetes, and heart conditions, due to a lack of long-term care (Gunja et. al., 2023). This reflects a healthcare system of high costs and poor outcomes and creates dissonance in society (Peter G. Peterson Foundation, 2023). In a recent study conducted on the working-class

population, participants reflected on their experiences with healthcare bureaucracy and attributed to it fear and mistrust of the healthcare system (Kakar, et al., 2022).

To further complicate things, patients are often caught in the crossfire between providers and insurers, over access to care services, such as prescribed medications or medical tests. Insurance companies and pharmacy benefit managers work together to determine the prices of medications and testing services, as well as what services are covered or not under an insurance plan. The top three pharmacy benefit managers: CVS Health, Express Scripts, and Optum Rx, own 80% of the market share for patient medication management (Fein, 2023). These business executives dictate whether a patient can receive a treatment that has been prescribed to them by licensed doctors. To process a treatment, a prior authorization is collected, in which healthcare providers must seek approval from the insurance before an expensive medical service, such as radiology scans, specialty drugs, or medical equipment, is provided to the patient. Prior authorizations also confirm that the insurance will cover the cost of the treatment at an agreed-upon rate (American Medical Association, 2023). Prior authorizations serve as a cost-control barrier for insurance companies, as they require doctors to justify that their prescribed treatment is medically necessary and allow insurance companies to avoid paying for expensive medical services that are not essential. Regardless of what treatment plan is recommended to patients by their healthcare providers, one's access to medical services is limited and controlled by the bureaucratic practices of healthcare administration.

2.1.3 Health Care Reform: The PPACA

The Patient Protection and Affordable Care Act (PPACA), enacted in 2010, attempts to solve many issues that plague our US healthcare system. It is highly regarded as the crowning achievement of US law reform, due to being the first legislation that led to the advancement of health equity in our nation, and allowed for the first time, cost-effective, and increased access to basic health insurance coverage. The PPACA provided millions of low-income individuals access to essential healthcare benefits, including rehabilitative and preventative care services, prescription drug coverage, and mental health treatment, among other services. The PPACA also significantly helped drop the rate of uninsured populations in the US, creating relatively open access to health insurance for all. In 2010, an estimated 16% of people of all ages in the United States were uninsured (Cohen et. al.). In 2020, this number decreased to about 9% (Cohen et. al.). Further, the rate of uninsured populations was at a historic low in 2016, in large part due to the passage of the PPACA, which opened doors for people who never could access health insurance before (Garfield et. al., 2019).

Although the PPACA significantly increased access to insurance, there is still a present problem of whether people know how to optimally utilize their insurance benefits. A study on health education in health care conducted in 2016, found that "if consumers have a low level of health insurance literacy, they will likely not understand the financial and health implications of health insurance plans…" (Brown et. al., 2016, para. 4). This conveys that while an individual may have insurance coverage, without a basic understanding of literacy in health insurance concepts and terminology, they will not be able to attain beneficial health care outcomes. The US healthcare system is

incredibly complex, adding to the difficulty of the average person to maneuver the system and redeem their insurance benefits. Much of the terminology used to describe each plan is complicated and may be received as a foreign language by the general public. Such misunderstandings can lead to adverse health choices and excess medical spending, according to Barnes et. al. in a recently published article. This casts doubt on whether it is enough to increase access to insurance coverage, without providing proper means to facilitate the public's understanding of general insurance concepts, and further, guiding them on how to properly navigate the healthcare system.

2.1.4 Health Insurance Decision-Making

Health insurance decision-making considers a beneficiary's ability to successfully enroll in and utilize their health insurance plan and benefits. Previous literature reviewed considers how consumers make these decisions, and what obstacles they face in doing so, such as enrollment, considering the cost of health insurance, as well as accessing insurance information. An identified concern revealed through interview data from stakeholders, like healthcare providers and policy experts, was consumers' inability to commit to a single insurance plan for the upcoming year, and anxiety over choosing the wrong insurance plan (Housten et. al., 2016). The decision-making anxiety felt by many is strongly linked to consumers' unfamiliarity with insurance terms, which presents the biggest challenge to insurance enrollment (Housten et. al., 2016). The concept of knowing insurance terms can be measured as health literacy scores. Another study shows that individuals who delay enrolling in a health plan or seeking care overwhelmingly had lower health literacy rates, at 12.77%, compared to individuals who didn't access care but were measured to have adequate health literacy, at 7.99% (Levy & Janke, 2016). This

conveys that low health literacy is correlated with a lack of health insurance utilization, which can become a major issue for patients wanting to access care but not knowing how to take the initial step of enrolling in a healthcare plan.

A possible solution for health insurance enrollment issues would be to present consumers with a guideline of information on how to compare insurance policies, which provides a brief explanation of common terminology used. This allows consumers to be more informed and have more confidence in their decisions. Confidence and self-efficacy in health decision-making are significantly related to higher utilization, implying that a beneficiary's ability to utilize their healthcare services is stronger when they have more confidence in their ability to navigate the system (James et. al, 2018).

2.1.5 Cost of Health Insurance

An important factor of health insurance that consumers give much consideration before enrolling in a plan is cost. The costs of an insurance plan can be subdivided into deductibles, monthly premiums, and co-payment costs (Wong et. al., 2015). Research has shown that cost consciousness may affect decision-making. An online survey distributed to an estimated 1,500 adults in the United States confirms the importance of economic feasibility as it relates to health insurance decision-making. The research project aimed to determine the association between consumer demographics and their ability to make health insurance-related decisions, such as comparing and choosing plans. They found that respondents with higher self-reported incomes also had better health insurance plan choices that fit their plan criteria, and this was found to be statistically significant (Adepoju et. al., 2019). Additionally, an individual's ability to compare insurance plans was found to be significantly linked to income, among other factors (Adepoju et. al.,

2019). This research supports the fact that income and cost-consciousness present important factors for insurance decision-making.

2.1.6 Access to Information

To enter the health insurance system, one must have an approachable form of media for seeking information. With the help of technology, this information can be easily accessed and distributed to all. Young adults are increasingly utilizing the Internet as their initial approach to seek resources and inform their healthcare decisions (Rennis et. al., 2015). A recent qualitative study conducted at an urban community college on a diverse sample of young adults records how the Internet is used to seek health-related information. Participants reported that they would use the Internet as a source of health information when they believed they did not require professional health services to answer their questions, as well as to avoid the costs of seeking care in person (Rennis et. al., 2015). Participants also cited the ease of using the Internet to answer specific questions, as well as informative motion graphics which present the information in a clear and approachable format (Rennis et. al., 2015). However, users still faced issues with this open access, as a lack of 'eHealth literacy skills', or a misunderstanding of the scientific language used, was found to be a major factor in their lack of understanding of insurance concepts (Rennis et. al., 2015). The researchers conclude that while students should be taught how to access the validity of sources they find on the web, they should also be given an approach to understanding the terminology used in health, to make the most of healthcare information available on the Internet (Rennis et. al., 2015).

2.2 Health Insurance Concepts and Terminology

2.2.1 Health Insurance Literacy

The Institute of Medicine defines health literacy as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (Griffeth et. al., 2022, para. 1). Health literacy refers to the knowledge of basic concepts and terminology that is required to understand, seek, and access healthcare services (Edward et. al., 2019). Within this concept of literacy is the understanding that one must possess sufficient skills in numeracy and financial literacy, which inform economically feasible healthcare decisions (Kakar, et al., 2022). One research instrument often used to objectively measure health literacy rates is the health insurance literacy index (HIL) (Edward et. al., 2019). Other forms of measurement, such as survey responses, interviews, or focus group sessions, have also been mentioned in the literature to measure this construct. Assessing levels of literacy concerning health insurance can help to understand how individuals engage within the health insurance system. This broad view can be broken down into two subgroups: general society, consisting of working-class individuals, and young adults, specifically college students.

2.2.2 Knowledge of the Working Class and General Society

A recent study published in the Health Literacy Research and Practice Journal was conducted to understand consumer health insurance literacy, based on survey responses from a nationally representative sample of over 15,000 participants. The researchers quantified HIL based on two measures: self-reported knowledge of terms, and self-reported confidence levels for using insurance. Knowledge was measured by asking

participants to self-rate their level of understanding of terms such as "premium, deductible, copayment, coinsurance, out-of-pocket spending, provider network, and covered services" (Edward et. al., 2019, para. 5). Participants rated their understanding on a four-point scale, ranging from 1 (very confident) to 4 (not at all confident). Similarly, participants were asked to rate their level of confidence with using insurance, such as being able to find an in-health network provider, calculate their copayment for doctor visits, and what prescription drugs are covered by their insurance plan (Edward et. al., 2019). Participants who rated themselves a 2 (somewhat confident) were coded to have adequate health insurance knowledge, while higher scores were coded as inadequate.

The literature reviewed informs us that a concerning 51% of the sample had scored very low on the HIL index (Edward et. al., 2019). Nearly half the sample, 48%, reported inadequate knowledge of insurance information (Edward et. al., 2019). These results are consistent with other related literature. In a similar study, researchers conducted a self-administered survey on insurance concepts to 362 respondents, and found the average HIL score for participants from the collected data to be 58%, reflecting the general population's low knowledge about insurance concepts (Tennyson, 2011). To further investigate this relation, researchers from the Department of Internal Medicine conducted a systematic review of literature referencing health insurance literacy and health care utilization in 2021. The literature reviewed reveals that higher HIL levels are associated with a greater rate of health insurance utilization and attainment of preventative care services (Yagi et. al., 2021). Additionally, 89% of cases studied within this research depicted that having a lower HIL was associated with delays or avoidance of care (Yagi et. al., 2021).

2.2.3 Sociodemographic Factors Affecting Health Insurance Literacy Rates

Researchers have attributed lower HIL scores to be prevalent within medically needy populations, such as minorities, those of lower socioeconomic status, as well as elderly adults (Yagi et. al., 2021). Examples of taxing socioeconomic factors include unemployment, lack of higher education, and high rates of being uninsured, which ultimately affect a population's health literacy rates (Edward et. al., 2019). This is consistent across multiple pieces of literature, which found that participants who score low in health literacy are also more likely to be uninsured. A study conducted in 2016 found complementary results, stating that in addition to being uninsured, "individuals with low health literacy were on average less educated, more likely to be racial or ethnic minorities, less healthy, older, and more likely to exhibit cognitive impairment than were those with adequate health literacy" (Levy & Janke, 2016, para. 14). Such low scores coming from our working-class population are greatly concerning, as they are associated with delays in accessing care and substandard health outcomes.

Among enabling sociodemographic factors that improve health literacy rates are higher education and recent health visits. A study conducted in Alabama which looked to analyze the level of health literacy across age groups and genders found significant positive correlations between older male participants and health status. For example, researchers found that achieving higher education was significantly linked to increased health literacy across age groups for male participants (Li et. al., 2021). In addition, reports of one or more recent health visits were significantly associated with higher health literacy rates among the sample (Li et. al., 2021). Further, those with higher health literacy also self-reported better current health status (Li et. al., 2021). These results

convey that having a greater understanding of the insurance system is linked to leading a healthier lifestyle. An analogous study looked at participant characteristics and links to insurance usage, measured as participants' self-reported ability to "choose, compare, manage, and use health insurance" (Adepoju et. al., 2019, para. 8). Researchers found that "an individual's ability to compare health insurance plans was significantly associated with age, gender, income, (and) insurance status" (Adepoju et. al., 2019, para. 13). Researchers found that participants with higher incomes reported better insurance choice literacy. In addition, the researchers noted that as the income of the participant increases, there is a significant positive correlation to being able to better manage their insurance (Adepoju et. al., 2019). Interestingly, this study found that women are better at comparing insurance plans and utilizing their plan benefits than male participants (Adepoju et. al., 2019). These results depict that in addition to a basic understanding of health insurance, as measured in these studies through the health insurance literacy measure, variate sociodemographic factors also play a significant role in appropriate health insurance utilization (Adepoju et. al., 2019).

2.2.4 Knowledge of Young Adults and College Students

Health insurance literacy scores are consistently lower among young adult populations (Dolezel et. al., 2018, Tilley et. al., 2018). A recent article published in the Journal of Adolescent Health describes a study in which researchers observed young adults, aged 19-30, as they searched for health insurance plans on an online healthcare exchange website (Wong et. al., 2015). This method allowed the researchers to assess what thoughts, concerns, and challenges young adults may have about choosing health insurance plans. They found that among the 33 participants, access to primary,

preventative, and emergency care, as well as peace of mind, were the most important factors to consider when choosing a plan (Wong et. al., 2015). Many participants cited financial hardship and the high cost of health plans, such as monthly premiums and out-of-pocket costs, to be debilitating factors in accessing care (Wong et. al., 2015). An estimated 14% of participants identified their lack of insurance knowledge, and the stress related to this, as obstacles in their ability to choose an insurance plan (Wong et. al., 2015). In addition to accessibility issues, young adults proved to have little understanding of common health insurance terminology as well. Interestingly, they found that the confidence of young adults in health insurance terminology and concepts was poorly correlated with their actual understanding of those concepts (Wong et. al., 2015). This means that while the individuals believed they had a good understanding of certain insurance topics, when asked to explain them, a staggering 40% of participants defined terms incorrectly (Wong et. al., 2015).

It is worth it to consider how young adults' knowledge and understanding of health insurance concepts can change when they are allowed to access information. One such study focuses on assessing undergraduate students' knowledge of health insurance, with or without formal instruction opportunities. Participants, half of which had received instruction on health insurance literacy, and half which didn't, completed online surveys, to compare the two groups' health insurance literacy rates, experiences with health insurance, and self-efficacy regarding health care decisions. The researchers found that participants who had received education performed significantly better on the insurance knowledge section of the survey, and received a higher score on eight out of the ten knowledge questions, as compared to the general population of students (Upadhyay et.

al., 2022). Enrollment in the health systems course was significantly correlated with higher health insurance knowledge among the participants (Upadhyay et. al., 2022). This research concludes that with proper education, young adults can be empowered to take an active role in navigating the healthcare system.

Literature reports that young adults are also more likely to seek information regarding health insurance through web-based technologies (Tilley et. al., 2018). A study conducted at the Borough of Manhattan Community College concludes that digital media and electronically available resources give young adults more opportunities to become well-versed in health insurance literacy as they enter the insurance market (Rennis et. al., 2015). The study focused on understanding college students' ability to use the Internet to find information about health insurance. The researchers concluded that young adults felt empowered by their ability to easily access answers and address their healthcare concerns via the Internet (Rennis et. al., 2015). In addition, participants stated that they found using the Internet to be easy and convenient, and it served as a preferred alternative to seeking in-person information (Rennis et. al., 2015).

Aside from knowledge acquired through internet searches, many young adults comment receiving a "rude awakening" to the health insurance system when they experience an adverse health event and need to utilize their insurance benefits (Waters et. al., 2022, para. 10). In a recent study, adolescent and young adult cancer survivors revealed that through their cancer treatment journey, they gained a better understanding of how insurance works (Waters et. al., 2022). Young adult survivors were shown to have used a variety of sources to seek information about their health insurance, including family, friends, coworkers, and healthcare providers, as well as online sources like their

insurance website (Waters et. al., 2022). Moreover, participants revealed issues navigating their insurance system in this process. Some reported delaying appointments due to not knowing if the session would be covered by their insurance, or what the copayment for these visits would be (Waters et. al., 2022). Others reported not knowing whether their doctor was in-network with the insurance or not, which also delayed care opportunities (Waters et. al., 2022). While their cancer journey introduced these young adults to the elaborate US healthcare system, such vulnerable populations should be given more information to feel better prepared when entering treatment plans with costly medical services. Additionally, given that many young adults under the age of 26 are still on their parents' insurance plans, their understanding of health insurance concepts is limited, adding to the effect of having a rude awakening when entering a medical emergency (James et. al., 2018).

2.2.5 Perceptions and Attitudes of Health Insurance

In addition to knowledge, perceptions and attitudes toward health insurance and accessibility are important to consider. These are the inner thoughts that guide our perception of the world and how we interact with it. In the case of health insurance, perceptions and attitudes are vital to accepting responsibility for one's health and health outcomes.

2.2.6 Perceptions of the Working Class and General Society

Across demographics, people find navigating the healthcare system in the US to be complex (Kakar, et al., 2022). Individuals attribute their lack of understanding of commonplace insurance terms to the complicated jargon used by insurers to describe health insurance plans, as Kakar et. al. found in their focus group session work with

working-class individuals (Kakar, et al., 2022, Nobles et. al., 2018). In these sessions, participants revealed that they find the bureaucratic set-up of health insurance companies to be a major cause of unnecessary issues (Kakar, et al., 2022). Participants elaborate on this and report feeling like they are in a legal battle between insurance companies and physicians, who fight over what services have been prescribed and whether they are covered (Kakar, et al., 2022). Amid disputes like this, patients may delay care for needed medication or treatment. Such incidents are all too common in today's health system and may leave a patient feeling insignificant to healthcare professionals. For such reasons, individuals report feelings of mistrust and fear towards healthcare bureaucracies (Kakar, et al., 2022).

In addition to a multi-faceted system, many beneficiaries believe that the cost of health insurance and medical services are too high (Kakar, et al., 2022). A common theme among these focus group sessions was the idea that while health insurance is important to protect one against unexpected high medical costs, participants felt that it is useless for practical life (Kakar, et al., 2022). Participants state that in addition to paying for health insurance coverage, they are also responsible for paying high deductibles and out-of-pocket costs, prompting them to think that having an insurance plan is useless, as they must pay for the majority of their services before the insurance kicks in (Kakar, et al., 2022). To avoid having to pay such costs or risking being in medical debt, many individuals are hesitant to seek needed services and delay care, which invites other problems affecting their health outcomes.

2.2.7 Perceptions of Young Adults and College Students

Questionnaire data reveal vital insights into the perceptions of the rising generation of health insurance beneficiaries. One such piece of literature describes college students' perceptions of health insurance coverage. Of an estimated 1,400 participants, 86.4% of students believe that being covered by health insurance is a fundamental human right for all citizens (Price et. al., 2010). Young adults define health as living with good physical and mental disposition, and not only the lack of diseases, which coincides with the definition provided by the World Health Organization (Nunes et. al., 2020). In terms of access to insurance and care, 47.6% of students rated the current cost of health insurance to be too expensive (Price et. al., 2010). Further, when asked about what factors are most influential to the high cost of health insurance, most students (73.2%) rated health insurance companies as most influential, followed by pharmaceutical companies (46.8%) and Congress (41%) (Price et. al., 2010). This reveals that many young adults perceive the bureaucratic system of health insurance in the US to contribute to high medical prices. In addition, 53.3% of students reported that the federal government should manage and offer health insurance for those who seek services, similar to a universal health insurance policy, and 52.7% of students believed that a universal health insurance program would be the best way to manage high health care costs (Price et. al., 2010). Overall, young adults believe that the government possesses the power to distribute services to those in need, as well as to make health insurance more affordable if they choose to.

The previous literature reviewed conveys how aware college students and young adults are about their health and health insurance status. A recent study finds that an

estimated 47% of nearly 50 students conveyed that they read about health-related topics, and further, 53% of students stated that they would visit a healthcare professional if they had health complaints (Nunes et. al., 2020). This reveals that young adults do take an active and sincere approach towards caring for their health. Personal concerns of importance to young adults are their overall well-being, which 33% of students rated as their priority, followed by the ability to participate in sports (12%) and maintaining a healthy diet (16%) (Nunes et. al., 2020). This shows that young adults are more interested in healthcare services that address these issues that are pertinent to their lives, rather than possessing health insurance in general.

The channel in which information is presented to this cohort of insurance beneficiaries is also perceived as an obstacle in utilizing information. Literature by Tilley et. al. reveals insight into this demographic from key health insurance informants who assess young adult behavior and guide them to find care. The researchers found that dense readings often intimidate young adults and cause them to shy away from important health insurance information (Tilley et. al., 2018). In addition, key informants advocate for universities to introduce students to health insurance information during their time as students, so they enter the real world with a better understanding of basic insurance concepts (Tilley et. al., 2018). Literature confirms that young adults do not seek care until there is an event of illness or injury, and by this time, it may be too late to begin reading about one's health benefits (Tilley et. al., 2018). Therefore, key informants promote the introduction of informative resources early in young adulthood, which may be received positively.

2.2.8 Domestic vs. International Student Experiences with Health Insurance

Students who live in the US for either school or work are obligated to purchase US health insurance, through which they face a new world of problems. Many international students opt to enroll in university-sponsored health insurance plans which are offered to them at enrollment. However, they are not provided with any further information to help them understand the US health insurance system, the healthcare industry, related health insurance concepts, or terminology (Adegboyega et. al., 2020). International student participants explained in focus group sessions and interviews, that while they were provided a basic health insurance plan from their university, they were not given any additional information in order to maximize their benefits (Adegboyega et. al., 2020). Many participants reported being unaware of what services, medications, or vaccines would be covered, as well as the costs for them (Adegboyega et. al., 2020). These concerns are serious, as previous literature reviewed confirms that students' ability to manage their health insurance plan is significantly correlated to appropriate health care utilization and awareness (McLeod & Adepojo, 2018).

Mackert conducted a study that compared international and domestic students' experiences with health insurance, and found that both groups perceive barriers to accessing information about their health insurance plan (Mackert et. al., 2018) They found that both groups of students struggle to seek health insurance information, due to their lack of basic knowledge (Mackert et. al., 2018). In effect, domestic students are in the same boat as international students, since both groups are seeking a basic understanding of how the US health insurance system functions, which was not provided to them when they enrolled in their health plans. In addition, the health insurance system

may be different in the US as compared to the home nation of international students, adding to their need for more guidance. More discouraging, however, are the abundance of studies that show how unaware young adults and college students are regarding their health insurance status (Alkodaymi et. al., 2020). Knowing the basic information of what type of insurance plan one has can set them up to be able to access information and take an active approach toward decisions regarding their health status.

By researching past literature on healthcare systems and health insurance utilization, researchers can gain a better understanding of the recurrent problems facing our society. There are numerous factors contributing to the challenges that general consumers encounter in comprehending and making use of their insurance benefits, ranging from a business-oriented healthcare system to insufficient education and guidance regarding insurance procedures. These issues become especially potent as they pertain to young adults. The literature research presented here strengthens the researchers' ability to develop better questions to further investigate these issues.

2.3 Theoretical Framework

This research takes a social-psychological approach toward understanding the perceptions of college students as they interact with health insurance concepts and information. This approach is informed by the Theory of Planned Behavior (TPB), developed by Icek Ajzen (1991). TPB is a psychological framework that is used to better understand and predict behavior, by considering that health behavior is the result of one's intentions. TPB considers intrapersonal level factors, or factors within one's mind or self, which have a strong influence over behavior. In effect, by understanding one's intentions, or one's inner thoughts, attitudes, beliefs, and motivations, we can predict the resulting

behavior of the individual. Ajzen elaborates on the construct of intention, and how it is comprised of certain factors, or determinants, of behavioral intention. These determinants are 1) attitudes, 2) subjective norms, and 3) perceived behavioral control. Each of these determinants influences one's intention in a meaningful way, and subsequently, their behavior.

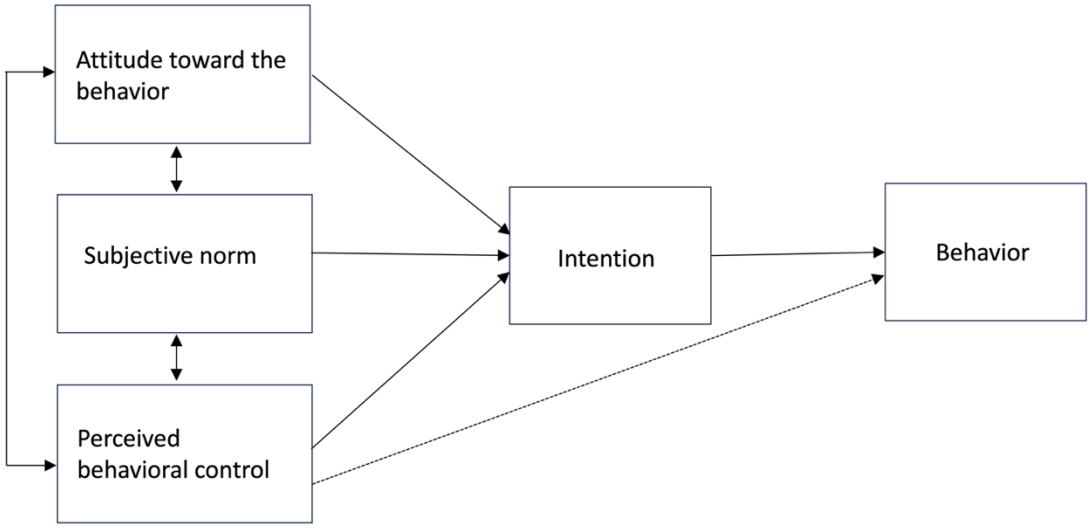

Figure 1: Theory of Planned Behavior

Source: *Introduction to Health Behavior Theory* (p. 114), by J. Hayden, 2019, Jones & Bartlett Learning. Copyright 2019 by Jones & Bartlett Learning, LLC, and Ascend Learning Company.

2.3.1 Attitude

Attitudes are defined as a series of beliefs that result in a value being placed on the outcome of behavior (Hayden, 2019). Attitudes affect the way we think about a certain topic. This construct portrays that one's attitude towards a topic is influential to the person's intention to conduct a behavior. In this study, we investigate how college

students' attitude toward their health insurance plan influences their intention to seek health insurance information.

2.3.2 Subjective Norms

Subjective norms are defined as behaviors we engage in because important people in our lives may expect that of us. These influential people include family, friends, and healthcare providers, who influence our desire to comply with those expectations (Hayden, 2019). In essence, subjective norms refer to the social pressure one faces to either engage in or not engage in certain behaviors (Hayden, 2019). The construct of subjective norms emphasizes the influential power of external factors, such as relationships, on one's identity and role within a social structure. In this study, we investigate how college students' family, friends, and healthcare providers influence their intention to seek information and understand health insurance concepts.

2.3.3 Perceived Behavioral Control

Control can be defined as the extent to which one can decide to engage in a behavior (Hayden, 2019). This refers to volitional control or the level of control that one internally decides. A person may not always have complete control over their behavior, even if their intention to engage in the behavior is high. This is especially seen in behaviors that take place in society, which rely not only on one's level of control but also on extraneous factors. Ajzen recognized this gap in control over behavior and introduced another construct for TPB, referred to as behavioral control. This construct refers to a person's perceived control over the performance of a behavior, and how easy or difficult it is to perform the behavior. In this study, we investigate how college students' perceived

behavior control over accessing health insurance information influences their intention to seek this information.

2.3.4 Intention

Intention is what drives an individual to perform a certain behavior. The previous three determinants of attitudes, subjective norms, and perceived behavioral control, lead to the development of intention, which then leads to behavior. In this study, favorable intention is required for college students to seek information about health insurance.

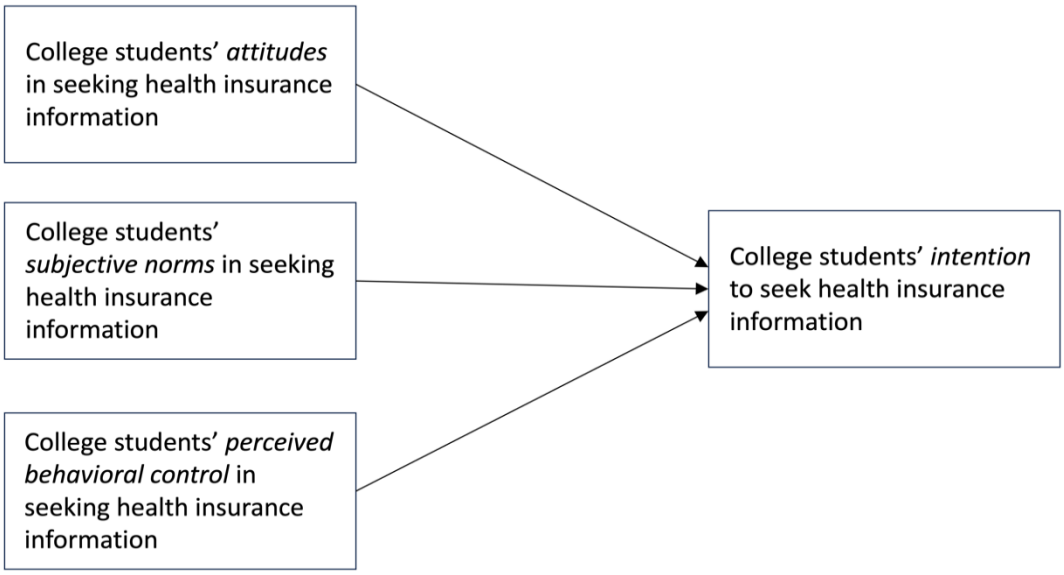

Figure 2: Operationalization of TPB for the study

2.3.5 The Theory of Planned Behavior in Literature

The Theory of Planned Behavior has frequently been used in literature to explain human behavior. For example, researchers at Northern Michigan University conducted a study on students' adoption of an online learning system. They utilized TPB to assess determinants of behavior that influenced students' initial use of the online system, as well as how these determinants predicted long-term use. The study was conducted on 248

undergraduate students, who completed a survey that measured several determinants relating to TPB. The researchers hypothesized that a student's behavior in adopting the online learning system could be predicted by their intention to do so, as measured on the survey, through determinants of attitude, subjective norms, and perceived behavioral control (Ngafeeson & Gautum, 2021). The results conveyed that differences in perceived behavioral control and subjective norm determinants played a significant role in students' initial or continued use of the online learning system (Ngafeeson & Gautum, 2021).

Utilizing the TPB is an essential factor in studies that assess perceptions and intentions, as it allows researchers to measure implicit feelings and intentions to perform a certain behavior. Another study that utilized this theory shows how it may be used to predict health behavior. Asare studies how TPB may be utilized to predict condom use behavior among college students (2020). In this study, 218 college students were given a cross-sectional survey that asked students to rate their preferences on a self-reporting item scale meant to measure the primary determinants of the theory. He found that all three determinants, attitudes, subjective norms, and perceived behavioral control, significantly predicted a student's intention for condom use (Asare, 2020). Literature such as this depicts the importance of this theory in better understanding and predicting health behavior.

Increasingly, the TPB has been utilized in research pertaining to the healthcare setting. To validate the efficiency of this theory's extended application to the healthcare setting, Godin and colleagues conducted a review of Ajzen's TPB and its efficiency in predicting health behaviors (1996). They conclude that the model is a valuable tool that considers multiple facets of health-related behaviors. Additionally, they find that

intention is explained well by the model, with strong influence from attitudes and perceived behavioral control determinants (Godin & Kok, 1996).

A recent study conducted by Horne and colleagues investigates how the TPB can be incorporated into personalized healthcare behavior change research, leading to beneficial patient outcomes (Horne et. al., 2017). The researchers highlight that improved strategies to increase patient intention toward lifestyle-changing habits can ultimately lead patients to have an easier and more efficient transition to health (Horne et. al., 2017). The researchers relate these changes to chronic diseases, and an increased need to educate the population on the severity of these illnesses. Horne and colleagues conclude that personalization to these strategies may have a positive effect on patient attitudes and normative beliefs, and ultimately on patient intentions, which can guide new health behaviors (Horne et. al., 2017).

The TPB has also been assessed among administrative practices to inform decision-making by stakeholders. Kortteisto and colleagues investigate healthcare professionals' intentions to use clinical guidelines to inform patient care, using the TPB framework (Kortteisto et. al., 2010). The researchers found that all theory determinants played a significant role in the administrator's use of clinical guidelines to aid patient care (Kortteisto et. al., 2010). Notably, perceived behavioral control was the strongest indicator among physicians to utilize the guidelines, suggesting that one's own belief system is still the largest indicator of behavior (Kortteisto et. al., 2010). Overall results of this study revealed that the TPB was successful at predicting decision-making processes in the healthcare setting. This research reinforces the use of the TPB to answer the objectives of this study, on young adult's perceptions of health insurance.

2.4 Hypotheses

Listed below are study hypotheses formed based on the TPB theoretical framework.

H1. College students' attitudes toward seeking health insurance information will be a significant predictor of their intention to seek health insurance information.

H2. College students' subjective norms related to seeking health insurance information will be a significant predictor of their intention to seek health insurance information.

H3. College students' perceived behavior control in seeking health insurance information will be a significant predictor of their intention to seek health insurance information.

H4. College students' attitudes, subjective norms, and perceived behavioral control together predict their intention to seek health insurance information.

CHAPTER 3: METHODOLOGY

This chapter provides information regarding the methods used to accomplish the objectives of the study, to better understand college students' perception of seeking health insurance information. Details of the research design, study sample, development of data collection instrument, data collection, and analysis, will be discussed. This study received approval from the Institutional Review Board at St. John's University.

3.1 Research Design

A cross-sectional survey design was used to explore college students' perceptions on gaining knowledge regarding their health insurance, and intention to seek health insurance information. An in-person (paper and pencil) survey method was used to collect the data for the study.

3.2 Study Sample

Since the study is exploratory in nature, a non-probability convenience sampling was selected as a method to recruit participants for the study. The theoretical population for this study consisted of all undergraduate students in colleges and universities in New York. The sampling frame consisted of undergraduate college students enrolled at St. John's University. Inclusion criteria for this study required participants to be enrolled as undergraduate students at St. John's University, being of either full-time or part-time status, and capable of reading and understanding English. Exclusion criteria included graduate students.

3.3 Sample Size Calculation

The estimated sample size for this project was 384 participants, calculated by Cochran's formula and implementing the finite population correction formula. The finite

population correction factor is used to adjust the sample size calculation when surveying a population that is not infinitely large, such as a population with a known and limited size (Zach, 2020). The population size, N, is 898,264, reflecting the total number of undergraduate students enrolled in the academic year 2022-2023 in colleges and universities in New York (Univstats, 2023). Given the statistical values under normal conditions are a 95% confidence interval, standard error of 1.96, standard deviation p = 0.5, and sampling error of 5%, the following equation yields 384 as the sampling size. The calculation for the sample size is shown below. A total of 400 surveys were collected to account for invalid surveys or missing data.

$$n = \frac{n_0}{1+\frac{(n_0-1)}{N}} \text{ where } n_0 = \frac{Z^2pq}{e^2}$$

$$n_0 = \frac{(1.96)^2\ x\ (0.5)(1-0.5)}{(0.05)^2}$$

$$n_0 = 384.16$$

$$n = \frac{384.16}{1+\frac{384.16-1}{898{,}264}}$$

$$n = 384$$

3.4 Survey Instrument Development

The survey instrument used for this study was adapted from a previously validated survey instrument which was created for a study titled “Learning Management System Adoption: A Theory of Planned Behavior Approach” (Ngafeeson & Gautam,

2021). The work utilized a survey to measure the four constructs of the Theory of Planned Behavior (TPB): attitude, subjective norm, perceived behavior control, and intention, to assess the adaptability of different online learning systems. These survey items used a 5-point response scale, allowing participants to respond to statements with anchors from strongly agree to strongly disagree for each variable measurement. Ngafeeson and Gautam included three items to measure attitudes, three items to measure subjective norms, three items to measure perceived behavioral control, three items to measure behavioral intention, and five items to measure continuance intention, or intention to use. Continuance intention was used as a proxy for behavioral intention, to measure behaviors indicating the use of the online learning system. Since the current study does not aim to measure behaviors that indicate seeking health information, these items were excluded from the survey. The survey items from Ngafeeson and Gautam's (2021) study can be found in Appendix A, and the survey items for the current study can be found in Appendix B.

Further, Ngafeeson and Gautam conducted reliability and validity testing on each instrument item, to ensure quality of measurement throughout the study. Reliability refers to the consistency or dependability of observations or measurements recorded in a study (Hayden, 2019). This ensures that observations provide the same measurement or results each time (Hayden, 2019). The reliability tests for all items were above the 0.70 threshold defined by social research standards, relaying that measurement error has been minimized, and subsequent results yielded through these items are reliable (Ngafeeson & Gautam, 2021).

The convergent and discriminant validity of models were also measured. These concepts refer to the degree to which an item that has been operationally defined matches what it is theoretically measuring (convergent validity), or if they do not measure what the construct is intended to measure (discriminant validity) (Hayden, 2019). Evaluation of the model reveals that all items indicated significant accuracy to the concept which it is intended to measure, measuring above the 0.70 defined threshold, except for the first item for the perceived behavioral control determinant. This can be attributed to improper factor loading on that item. Factor loading refers to the idea that an item can be categorized as significantly correlating to the construct being measured, or insignificantly correlating to the construct (Webster, 2023). The item may not have contributed to the results as much in terms of how that specific item helps the researcher measure perceived behavior control among users adopting an online learning system, as compared to the other two items that significantly measure this. Therefore, this item was eliminated from being adopted into the current study.

3.5 Study Variables

3.5.1 Independent Variables

The independent variables measured in this study were 1) attitudes, 2) subjective norms, and 3) perceived behavioral control. These are the three determinants from the TPB whose influence is being studied on the dependent variable. The items were measured using a 4-point scale: strongly agree, agree, disagree, and strongly disagree.

The following items were used to measure *attitude* in the study:

1. Understanding my own health insurance policy is a good idea.
2. I like understanding my own health insurance policy.

3. It is desirable to understand my own health insurance policy.

The following items were used to measure *subjective norms* in this study:

1. People important to me support my active engagement in understanding my own health insurance policy.
2. People who influence me think that I should be actively engaged in understanding my own health insurance policy.
3. People whose opinions I value prefer that I understand my own health insurance policy.

The following items were used to measure *perceived behavioral control* in this study:

1. I have the resources, knowledge, and ability to understand my own health insurance policy.
2. I would be able to understand my own health insurance policy well if I tried.

3.5.2 Dependent Variable

The dependent variable measured for this study is intention. The influence of the three independent variables on intention is of specific interest in this study, as it explains why young adults may or may not have positive beliefs about their health insurance plan, based on unique intrapersonal factors measured. The items were measured using a 4-point scale: strongly agree, agree, disagree, and strongly disagree.

The following items were used to measure *intention* in this study:

1. I intend to gain a better understanding of my own health insurance policy in the future.

2. I predict I would gain a better understanding of my own health insurance policy in the future.
3. I plan to gain a better understanding about my own health insurance policy in the future.

3.5.3 Demographic Characteristics

Six survey items ask participants about their demographic information. These items inquire about 1) gender, 2) age, 3) academic year, 4) major or field of study, 5) international status, and 6) race or ethnicity. This information serves to give the researcher a better understanding of the diversity of participants being studied.

3.6 Participant Recruitment and Procedures

This study utilized a survey instrument to assess college students' knowledge and perceptions regarding seeking their own health insurance information. A pre-outlined participant recruitment script (Appendix C) was prepared to assist in filtering for qualifying students who can participate, as well as a research consent form (Appendix D) that was provided to participants to read and sign before data collection. The research consent form served to inform interested participants of how the study would work and what was expected of them if they agreed to participate. Once the researcher had answered all participant questions and collected the signed research consent form, participants were given a paper-based survey to complete anonymously. Participants completed a 17-item survey, with statements that inquired about attitudes, subjective norms, perceived behavioral control, and intention to seek health insurance information. Items were measured and operationalized as scores on a 4-point scale, given survey response categories of strongly disagree, disagree, agree, and strongly agree.

Demographic information was also collected through the survey. Participants took approximately 5 minutes to complete the survey. Completed surveys were returned to the researcher, and all collected data documents were kept in a locked room in a locked file on campus. The electronic data was stored on a secure computer that is password protected.

3.7 Data Collection

A total of 400 surveys were administered and collected from the target population to account for missing data and incomplete surveys. The data collection for the study was carried out between October 2023 to November 2023. Participant recruitment took place on the St. John's campus, at popular student hang-out spots, such as Marillac Cafeteria, DAC student lounge, the campus library, student study rooms, and undergraduate student events. The in-person recruitment method was predicted to yield a higher response rate from participants and ensured that all surveys were filled out correctly and fully. Conversations between the researcher and participants followed the outlined script (Appendix C). Filtering questions, such as asking the student if they are undergraduates enrolled at St. John's, were asked. The nature of the survey, why it is being conducted, and how it will work were explained to the participants in these conversations. Upon obtaining informed consent from the participants, a paper-based survey was given to them to fill out anonymously. Students took approximately 5 minutes to complete the survey, and completed surveys were returned to the researcher. Subjects' confidentiality was fully protected by using ID numbers instead of any identifiable personal information in the data sets. Collected data was entered onto Excel using a codebook. All collected materials were kept in a locked file in a locked room.

3.8 Data Analysis

Data was analyzed through the Statistical Package for the Social Sciences (SPSS, version 27) software program. Firstly, variables were transformed to create and define one number that represents the data collected for each variable of interest (attitudes, subjective norms, perceived behavioral control, and intention). This was done by taking the average of all items under one variable category. For example, attitude would equal the mean of items 1, 2, and 3, and attitude = $\bar{x}$ (1, 2, 3). Next, the reliability of items was ensured, by calculating Cronbach's alpha, which measures how reliable the items are in measuring the constructs. For Cronbach's alpha, an assumption that data at 0.7 and above are significant was used.

Then, a two-step hierarchical regression analysis was conducted to assess the level of variance each determinant of the TPB contributed toward the intention of participants to understand their health insurance information better. This regression analysis was conducted using the following independent variables: demographic information, consisting of gender, age, academic year, major/field of study, international student status, race/ethnicity, and TPB determinants of attitudes, subjective norms, perceived behavioral control, and intention. In this analysis, demographic data functions as a covariate variable, as it is not a part of our main research objective, although it does affect the dependent variable. The hierarchical regression method follows that multiple steps are added, also called blocks or stages, in a stepwise manner to the regression, which allows us to examine their incremental contributions to variance in the intention variable. Multiple individual regression analyses were run to correlate the six covariate items of step (1): demographic information, and the three independent variables of step

(2): attitudes, subjective norms, and perceived behavioral control, to the dependent variable of intention. A regression analysis with all three determinants was also run to correlate with intention. Individual regressions were run until all independent variables were observed, controlling for the demographic block. For significance values, an assumption that data of 0.05 or above are significant was used. In addition, to measure how reliable the items are in measuring the constructs, Cronbach's alpha was calculated. These statistics reflect significant internal consistency among items, $a > 0.70$.

CHAPTER 4: RESULTS

4.1 Introduction

This study aimed to better understand college students' perception of the importance of knowing their health insurance information. The following data was collected from October 2023 through November 2023, at previously determined data collection sites at St. John's University. A total of 400 surveys were distributed to undergraduate students around campus, from which 396 were used for data analysis. Four surveys were found invalid for either missing values or not being completed by undergraduate students, thus violating the inclusion criteria of only undergraduate students being allowed to participate. These surveys were removed from the dataset.

4.2 Participant Demographics

Characteristics of the study population were obtained through six survey items measuring demographic information, revealing diverse backgrounds and varying experiences being represented by the study sample. Demographic items inquired about participants' gender, age, academic year, major/field of study, international student status, and race/ethnicity. More than two-thirds, 72.2% (n=286) of participants were female, and 27% (n=107) were male. The age of participants ranged from 18 years old to 23 years old, with 4% (n=16) participants not fitting the traditional age categories for undergraduate students. The median age of participants was 20 years old. Of the total sample size of 394, 27.5% (n=109) were freshmen, 27.5% (n=109) were sophomores, 30.8% (n=122) were juniors, and 14.1% (n=56) were seniors. A significant majority of participants (46%, n=182) were in science, math, or technology-based academic fields, while 13.1% (n=52) were in the business or economic field, 8.6% (n=34) were in the

humanities or arts, 10.9% (n=43) were in social sciences, and 8.1% (n=32) were in law or public policy. A total of 13.4% (n=53) of participants did not fit a category that describes their academic field of study. A minority of students, 1.8% (n=7) expressed their status as international students, while the majority of 98% of participants were domestic. The ethnic background of participants was broken down as: 12.1% (n=48) African American or Black, 0.8% (n=3) American Indian or Alaskan Native, 29% (n=115) Asian or Pacific Islander, 18.4% (n=73) Hispanic or Latino, 28.8% (n=114) White or Caucasian. A sum of 2.5% (n=10) of participants did not fit a category that described their race/ethnicity, and 8.3% (n=33) of participants described themselves as multiracial.

Table 1. Demographic Characteristics of the Study Sample (n=396)

	n (%)
Gender	
Female	286 (72.2%)
Male	107 (27.0%)
Other	3 (0.8%)
Age*	
18 yo.	86 (21.7%)
19 yo.	86 (21.7%)
20 yo.	100 (25.3%)
21 yo.	64 (16.2%)
22 yo.	30 (7.6%)
23 yo.	9 (2.3%)
Other	16 (4.0%)
Academic Year	
Freshman	109 (27.5%)
Sophomore	109 (27.5%)
Junior	122 (30.8%)
Senior	56 (14.1%)
Major/Field of Study	
Business or Economics	52 (13.1%)
Humanities or Arts	34 (8.6%)
Sciences, Math, or Technology	182 (46.0%)
Social Sciences	43 (10.9%)
Law or Public Policy	32 (8.1%)
Other	53 (13.4%)
International Student Status**	
Yes	7 (1.8%)
No	388 (98.0%)
Race/Ethnicity	
African American or Black	48 (12.1%)
American Indian or Alaskan Native	3 (0.8%)
Asian or Pacific Islander	115 (29.0%)
Hispanic or Latino	73 (18.4%)
White or Caucasian	114 (28.8%)
Other	10 (2.5%)
Multiracial	33 (8.3%)

* n for Age does not equal 396 due to 5 missing responses.
** n for International Student Status does not equal 396 due to 1 missing response.

4.3 Descriptive Statistics

Table 2 displays the frequency and percentage of student responses to each survey item, categorized by the TPB determinant that each item measures. Participants were asked to rate their level of agreement with each item on a four-point scale, from strongly agree (1), agree (2), disagree (3), and strongly disagree (4). Table 3 presents the distribution of means, standard deviation, and other descriptive statistics for attitudes, subjective norms, perceived behavioral control, and intention determinants.

4.3.1 Student Attitudes Towards Understanding Health Insurance

A majority of participants expressed favorable positive attitudes toward understanding their health insurance. For each of the three survey items on the TPB determinant of attitude, responses were overwhelmingly skewed on the side of (1) strongly agree and (2) agree. A total of 73.5% (n=291) of participants expressed that understanding their own health insurance plan is a good idea. A total of 52.5% (n=208) of participants conveyed that they like understanding their own health insurance policy. Additionally, 55.8% (n=221) of participants expressed that it is desirable for them to understand their own health insurance policy. The mean for items measuring attitude was 1.42 (SD=0.44), indicating that participants had strong agreeance with these items.

4.3.2 Student Subjective Norms Towards Understanding Health Insurance

Responses for items measuring subjective norms were not as bold. While 34.6% (n=137) of participants strongly agreed that people important to them support their active engagement in understanding their health insurance policy, the majority of 52.3% (n=207) of participants rated this item with agree. Additionally, while 34.6% (n=137) of participants strongly agreed that people who influence them think that they should

actively engage in understanding their health insurance policy, the majority of 49% (n=194) of participants only rated agree to this item. When presented with the statement that people whose opinions students value prefer that they understand their own health insurance policy, 40.9% (n=162) rated strongly agree, while slightly more students, 49.2% (n=195) rated agree. The mean for items measuring subjective norms was 1.78 (SD=0.61), which indicates that student responses were closer to 2 (agree), rather than 1 (strongly agree).

4.3.3 Student Perceived Behavioral Control Towards Understanding Health Insurance

Most participants, 49.2% (n=195) rated agree with the item which questions students on whether they have the resources, knowledge, and ability to understand their own health insurance policy, while a smaller number of students, 36.6% (n=145) rated more boldly with strongly agree to this item. A surprising 12.9% (n=51) of students rated disagree, reflecting that they do not have the proper resources to seek information. Additionally, while 50% (n=198) and 41.9% (n=166) of participants rated strongly agree or agree, respectively, to being able to understand their own health insurance policy well if they tried, 7.6% (n=30) rated disagree. The mean for the perceived behavioral control determinant was 1.69 (SD=0.60), reflecting that responses were more distributed among strongly agree and agree for these items.

4.3.4 Student Intention Towards Understanding Health Insurance

Students portrayed strong intentions to understand their health insurance. A sum of 56.1% (n=222) of participants rated strongly agree to the item that they intend to gain a better understanding of their own health insurance policy in the future, and 58.6%

(n=232) of participants rated strongly agree that they predict they would gain a better understanding of their own health insurance policy in the future. An overwhelming 60.6% (n=240) of participants rated strongly agree to the item that they plan to gain a better understanding about their health insurance policy in the future. The mean score for intention was 1.44 (SD=0.47), which corresponds to the positively skewed responses

Table 2. Participant Survey Responses

	Strongly Agree n (%)	**Agree** n (%)	**Disagree** n (%)	**Strongly Disagree** n (%)
Items on Attitude				
1. Understanding my own health insurance is a good idea.	291 (73.5)	100 (25.3)	3 (0.8)	2 (0.5)
2. I like understanding my own health insurance policy.	208 (52.5)	178 (44.9)	8 (2.0)	2 (0.5)
3. It is desirable to understand my own health insurance policy.	221 (55.8)	160 (40.4)	14 (3.5)	1 (0.3)
Items on Subjective Norms				
4. People important to me support my active engagement in understanding my own health insurance policy.	137 (34.6)	207 (52.3)	45 (11.4)	7 (1.8)
5. People who influence me think that I should be actively engaged in understanding my own health insurance policy.	137 (34.6)	194 (49.0)	58 (14.6)	7 (1.8)
6. People whose opinions I value prefer that I understand my own health insurance policy.	162 (40.9)	195 (49.2)	34 (8.6)	5 (1.3)
Items on Perceived Behavioral Control				
7. I have the resources, knowledge, and ability to understand my own health insurance policy.	145 (36.6)	195 (49.2)	51 (12.9)	5 (1.3)
8. I would be able to understand my own health insurance policy well if I tried.	198 (50.0)	166 (41.9)	30 (7.6)	2 (0.5)
Items on Intention				
9. I intend to gain a better understanding of my own health insurance policy in the future.	222 (56.1)	165 (41.7)	9 (2.3)	0 (0.0)
10. I predict I would gain a better understanding of my own health insurance policy in the future.	232 (58.6)	153 (38.6)	9 (2.3)	2 (0.5)
11. I plan to gain a better understanding about my own health insurance policy in the future.	240 (60.6)	151 (38.1)	4 (1.0)	1 (0.3)
Total	396 (100)	396 (100)	396 (100)	396(100)

Table 3. Descriptive Statistics for the Domains of TPB

	Mean	Median	Standard Deviation
Attitudes	1.4234	1.3333	0.44377
Subjective Norms	1.7803	2.0000	0.61828
Perceived Behavioral Control	1.6869	1.5000	0.59677
Intention	1.4394	1.3333	0.47376

4.4 Regression Analysis

4.4.1 Demographic Information and Intention

ANOVA was conducted to determine the difference between determinants and their influence on intentions. In step 1, the R^2 value of .026 reveals that participant demographic information only explained 2.6% of the variance in intention to seek health insurance information, and was not found to be significant, with $F(6,387) = 1.750$, $p > .05$. When looking at each demographic item individually, it is important to note that certain factors led to a significant change in intention. Age was one such factor that showed a significant correlation to intention. Age was coded with scores 0-6, where 0 represented being older than a score of 6. Analysis revealed that as the code numbers increase, meaning the younger the participants are, they tend to have lower intention to seek insurance info, and age is less correlated with intention, ($B = -.094$, $t = -1.622$, $p = .103$).

4.4.2 Attitude and Intention

Entering attitude in step 2, it was found that participant attitudes toward understanding their health insurance had a significant impact on predicting their intention to seek health insurance information, $F(7,386) = 12.865$, $p < .05$, $R^2 = .189$. The R^2 change reveals that 16.3% of the variance in intention is explained by attitudes determinant, when controlling for demographic information, $\Delta R^2 = .163$, $p < .05$. Further, coefficients were assessed to determine the influence or strength of each item on the

dependent variable. As the attitude variable increases by one unit, there is a significant positive increase in the intention variable, revealing that as one has an increase in favorable attitude towards understanding their health insurance, their intention to do so also increases ($B = .407$, $t = 8.802$, $p < .05$).

4.4.3 Subjective Norms and Intention

Participants' understanding of social expectations from people around them resulted in a significant impact on intention as well, $F(7,386) = 12.575$, $p < .05$, $R^2 = .186$. The R^2 change reveals that 15.9% of the variance in intention is explained by attitudes determinant, $\Delta R^2 = .159$, $p < .05$.

Holding other variables constant, we see that subjective norms are responsible for a significant positive variance in intention measures ($B = .403$, $t = 8.689$, $p < .05$).

4.4.4 Perceived Behavioral Control and Intention

It was found that participants' perception of their self-control significantly impacted their intention for health insurance-seeking behaviors, $F(7,386) = 12.015$, $p < .05$, $R^2 = .179$. The R^2 change reveals that 15.2% of the variance in intention is explained by attitudes determinant, $\Delta R^2 = .152$, $p < .05$. When assessing the coefficients, single-unit increases in measured perceived behavioral control led to a significant positive increase in intention ($B = .400$, $t = 8.467$, $p < .05$).

4.4.5 Attitude, Subjective Norm, and Perceived Behavioral Control on Intention

Lastly, all three determinant items were correlated with intention to see whether the relationship was statistically significant. This final model depicts all three determinants as predictive of intention, $F(9,384) = 18.760$, $p < .05$, $R^2 = .305$.

Table 4. Hierarchical Regression Analysis

Variable	*B*	*SE B*	B	t	p	R^2	ΔR^2	Cronbach's α (N of items)
Step 1 – Demographics						.026	.026	
Constant	1.727	.372		4.644	.000			
Gender	.068	.051	.067	1.327	.185			
Age	-.031	.019	-.094	-1.632	.103			
Academic Year	-.043	.027	-.094	-1.622	.106			
Major/ Field of Study	.028	.016	.088	1.752	.081			
International Student Status	-.158	.169	-.047	-.936	.350			
Race/Ethnicity	.014	.015	.046	.908	.365			
Step 2 – Attitudes						.189	.163	
Constant	1.363	.342		3.980	.000			0.733 (3)
Gender	.049	.047	.049	1.058	.290			
Age	-.029	.017	-.088	-1.659	.098			
Academic Year	-.033	.024	-.072	-1.363	.174			
Major/ Field of Study	.021	.015	.065	1.415	.158			
International Student Status	-.282	.155	-.085	-1.819	.070			
Race/Ethnicity	.016	.014	.054	1.160	.247			
Attitude	.434	.049	.407	8.802	.000			
Step 3 – Subjective Norms						.186	.159	
Constant	1.395	.343		4.070	.000			0.851 (3)
Gender	.041	.047	.040	.873	.383			
Age	-.037	.017	-.111	-2.103	.036			
Academic Year	-.044	.024	-.095	-1.805	.072			
Major/ Field of Study	.014	.015	.042	.915	.361			
International Student Status	-.211	.155	-.063	-1.358	.175			
Race/Ethnicity	.011	.014	.037		.423			
Subjective Norms	.309	.036	.403	8.689	.000			
Step 4 – Perceived Behavioral Control						.179	.152	
Constant	1.083	.350		3.090	.002			0.698 (2)
Gender	.047	.047	.047	1.008	.314			
Age	-.036	.017	-.110	-2.065	.040			
Academic Year	-.019	.025	-.042	-.780	.436			
Major/ Field of Study	.013	.015	.040	.849	.396			
International Student Status	-.069	.156	-.021	-.445	.656			
Race/Ethnicity	.006	.014	.021	.451	.652			
Perceived Behavioral Control	.319	.038	.400	8.467	.000			
Step 5- All IVs						.305	.279	
Constant	.902	.324		2.786	.006			0.834 (3)
Gender	.030	.043	.030	.694	.488			
Age	-.036	.016	-.108	-2.210	.028			
Academic Year	-.021	.023	-.045	-.906	.366			
Major/ Field of Study	.006	.014	.020	.454	.650			
International Student Status	-.197	.145	-.059	-1.364	.173			
Race/Ethnicity	.009	.013	.030	.687	.493			
Attitude	.271	.053	.254	5.113	.000			
Subjective Norms	.138	.040	.180	3.481	.001			
Perceived Behavioral Control	.222	.037	.279	5.983	.000			

CHAPTER 5: DISCUSSION

This study aimed to better understand how college students perceive the importance of knowing their health insurance information. Participants were given a survey to complete anonymously, which inquired about their attitudes, subjective norms, and perceived behavioral control determinants of behavioral intention. Two research objectives were examined through this: 1) explore students' attitudes, subjective norms, and perceived behavioral control toward understanding their health insurance, and 2) examine how students' attitudes, subjective norm, and perceived behavioral control impact their intention to seek health insurance information. Using the Theory of Planned Behavior, students' intention to seek health insurance information was expected to be influenced by their attitudes, subjective norms, and perceived behavioral control towards the topic. The results from this study supported these expectations, as students' attitudes, subjective norms, and perceived behavioral control veritably predicted their intention to seek health insurance information. In addition, each determinant significantly contributed to a positive change in intention, revealing that undergraduate students with positive attitudes, subjective norms, and perceived behavioral control had higher intentions to seek health insurance information as predicted by the theory.

5.1 Age and Intention

Age was one demographic variable that resulted in significant changes to the measured intention of participants. When correlating demographic variables to intention, age was the only variable to show a correlation to intention. Analysis revealed that as the code numbers for age increase, meaning the younger the participants are, they tend to have lower intention to seek insurance info. It can be interpreted from this data that older

students have greater intention to seek health insurance information. Similarly, Adepoju found that younger individuals surveyed on health insurance literacy, significantly scored lower among the data set, reinforcing younger age to less care for health insurance (Adepoju et. al., 2019). Another study by Price study found that undergraduate students have well-formed opinions on health insurance and policy (Price et. al., 2010). A possible reason for these discrepancies could be the number of life experiences and interactions younger individuals have with medical events and the need for health insurance, which would have expanded their knowledge and understanding of the subject. Although beyond the scope of this study, it would be worthwhile to research what experiences or events in young individuals' lives have led them to their current level of understanding of health insurance information.

5.2 Theory of Planned Behavior Determinants and Intention

5.2.1 Attitudes

Results showed that college students' attitudes significantly impacted their intention to seek health insurance information. Participants who answered favorably to attitude survey items that inquired if participants liked understanding their health insurance, and found this desirable, led to a significant increase in their intention for health information-seeking behavior. Several prior studies that have used the TPB concur with this outcome, stating that as one's attitude towards an item increases, their intention for an outcome behavior on that item also increases (Ajzen, 2006, Asare, 2020.). Wong et. al. who also investigated young adults' attitudes and perspectives on health insurance, found that among many factors, having a positive outlook on access to care and peace of mind brought by having health insurance, are the most important factors to consider when

relating to health insurance-seeking behavior (Wong et. al., 2015). This study informs us that by understanding young adults' attitudes toward insurance, we can create more engaging means and better strategies for reaching this novice audience to educate them on health insurance information (Wong et. al., 2015). This study mirrors this idea, as having a favorable opinion on health insurance and the importance of understanding it has been shown to predict positive intentions for future health-information-seeking behaviors.

It is worth considering that such attitudes may not be a typical representation of college student perceptions on health insurance. For instance, a study conducted at Truman State University with undergraduate college students aimed to investigate students' attitudes toward the need for insurance, using a questionnaire. The results indicated that a majority of students believed health insurance was not important, and further, that it was not important for students to acquire health insurance while in college (Johnson, 2010). These findings can be attributed to young adults' attitude of being invincible against health risks, leaving them unguarded and without insurance coverage or knowledge for when it is desperately needed (Marcinow, 2015). Johnson cites that another cause for young students having such an attitude is that death among this age range is more often due to unintentional accidents, rather than disease or illness, which reinforces young adults to not take their health seriously (Johnson, 2010, Collins, 2008). The stark contrast between these results and this current study can be attributed to a difference in societal influences. An estimated 98.8% of students, nearly a total of the surveyed population, agreed that understanding their own health insurance was a good

idea. This is a singular success in how young adults today are influenced and taught to value their health and show a strong understanding of this concept from young adulthood.

5.2.2 Subjective Norms

The determinant of subjective norms assesses the influences of society on participants' intentions toward health insurance-seeking behaviors. Results showed that college students' social support systems strongly influence their intention for health-seeking information behavior. Friends, family, medical professionals, and others, influence young adults to take an active approach to understanding their health insurance plan, thus, leading to more information-seeking behavior, as shown in the results of this study. A significant majority of responses showed that students value the opinions of the people in their social support circle, who positively influence them to seek health information. The literature reviewed reveals that there is a significant effect of social support on intention and behavior when assessing exercise training (Courneya et al., 2003). Researchers who have used behavioral theory models find that family or friends act as "invisible promoters" who inflate the benefits of having insurance (Nomi & Sabbir, 2020, para. 4). Other studies that adopted the TPB and were investigating subjective norms looked at specific groups of people, in relation to their impact on intention, such as Asare who studied condom use behavior. For instance, the difference between influences from friends or family in guiding one's intentions towards condom use (Asare, 2020). Future studies can consider breaking down the determinant of subjective norms used in this study, to target the specific influences among a support group, and measure how they individually impact college student intention for health information-seeking behavior.

5.2.3 Perceived Behavior Control

Perceived behavior control or the degree to which one senses their own ability to complete a behavior, is imperative to one's intention for information-seeking behavior. The results conveyed that increases in perceived behavioral control led to greater intention among surveyed students. This is logical, as one's own sense of empowerment determines the actions they will take. A study conducted by Tennyson reflects this idea, as she found that consumer's self-confidence in insurance-related decision-making was related to their level of insurance literacy (Tennyson, 2011). In other words, the more confidence or control a person assesses themselves to have, the better the chances that they will take an active approach towards interacting with their health insurance plan. Her study also found a statistically significant relationship between the lack of an insurance policy and low self-confidence, reiterating that one's perceived behavioral control and sense of ability are crucial to subsequent health-seeking behaviors (Tennyson, 2011).

James and colleagues' research concurs with this statement, as they similarly found that health insurance knowledge and utilization were significantly higher when self-efficacy was reported to be greater, among surveyed college students (James et. al., 2018). To unlock the potential of young adults to understand their own health insurance affairs, we must arm them with a sense of control regarding these actions, as well as guidance and information on how to do so. Despite expressing that they want to understand their own health insurance plan, a distressing 14.2% of students felt that they don't have the essential resources or ability to do so. An internal sense of control can only do so much when most of the problem with understanding health insurance lies within the system itself. These results reflect that more needs to be done by policymakers

and insurance providers to reach these audiences and make an effort to provide them with the necessary information to empower them in healthcare decision-making and communication.

5.2.4 Intention

The final regression analysis depicted the correlation of all three determinant items to intention. Results indicated that all determinants had a significant positive effect on participants' intention for health-information-seeking behavior, and effectively depicts the TPB to be successful in predicting outcome behaviors. Essentially, this theory reinforces the idea that targeted questions about one's attitudes, subjective norms, and perceived behavior control, can reveal a person's mindset and way of thinking, and this can be used to predict behavior. Literature on the topic reveals that most health-related behavior can be attributed to one's motivations or intentions, where an estimated 66% of the variance in behavior can be explained by intention itself (Godin & Kok, 1996). Intention is the power that drives our thinking and behaviors, and it can be inferred that, regardless of surrounding influences, one's own understanding of what is best for them will ultimately guide their behavior. It can be presumed that young adults today are actively learning and asking questions about their healthcare system, in response to influences from those around them, and are making an effort to become educated individuals who are actively engaged within the healthcare system.

5.3 Limitations

It must be noted that this project was completed with a few limitations. The chosen statistical model to conduct data analysis comes with a few assumptions which must be considered. When doing a hierarchical regression analysis, the data is assumed to

be linear and normally distributed to ensure reliable results (Polymer, 2023). Ensuring that data is linear is important, as it reflects that there is a one-to-one relationship between the independent and dependent variables. For example, in this study, as the code for the independent variables or TPB determinants (attitudes, subjective norms, perceived behavioral control) increases, the dependent variable of intention also increases. This assumption was made, after researching the model and how it has been used in other literature. However, it would be beneficial to ensure linearity before conducting data analysis and fitting data to a certain statistical model, to prevent bias and inaccurate predictions portrayed by the model. (Shweta, 2021). It's important to note that the hierarchical regression model was the optimal statistical model chosen for this analysis, as it allows for the analysis of multiple independent variables on a dependent variable. While controlling for certain covariate variables, this model allows us to see the level of impact of one independent variable on the dependent variable, which other statistical models don't offer.

An inhibition in data analysis that was presented in this study is concerning the impact of participant age on intention. The results showed that older students were more likely to have intentions for health information-seeking behavior. However, the current study did not consider how experiences and prior knowledge, regardless of participant age, may impact students having a positive intention to seek information. For example, Palmedo and colleagues look at how college students' personal experiences shape their understanding and perception of health insurance concepts (Palmedo et. al., 2018). These results aid in the potential development of resources catered to young audiences in efforts to improve insurance understanding and usage among this population.

A final limitation of this study is of external validity, or how generalizable the found data is to the greater population of young adults and college students in New York. The choice to use a convenience sampling method resulted in faster data collection, although it risked diversity among responses. This sampling method may have decreased the generalizability of results, as it limited the reach for potential participants to only those who are more opportune to the researcher.

5.4 Future Research

In addition to the drawbacks mentioned thus far, this study can be improved upon in future research by changing the sampling method used, to increase the diversity of responses. For the current study, of nearly 400 students surveyed, only seven were of international status. It would be beneficial to survey more students of international status, to draw a sufficient comparison to how they differ in their perceptions of health insurance to domestic students. Adegboyega and colleagues look at how international students based in the southeast US are less efficient in using their health care due to a barrier in language or access (Adegboyega et. al., 2020). Had this study surveyed more of this population, an inference on whether or not barriers to access and information have also been observed among the international student population based in New York could have been made. These research objectives can be supported by introducing probability to the sampling method chosen, to allow the researcher a better chance of reaching such rare groups within the study population.

In addition, qualitative research methods can be implemented to gain a better perspective of participants, regarding the research questions. The current paper and pencil survey method fails to understand why students have certain perceptions. In this case, a

qualitative method, such as focus group sessions, may be opportune, to allow researchers to gain a deeper understanding of participants' opinions regarding these topics.

Moreover, research on covariate variables not looked at in this study can be done, to assess other factors that may impact intention for information-seeking behavior. As previously mentioned, experiences with medical events, either personally or through family, do influence how a young adult comes to understand and have a relationship with their health insurance plan (Palmedo et. al., 2018). It is worth surveying other such variables which may have influenced this data.

5.5 Implications

Current literature on young adults' perceptions of their health insurance plan is limited. This study functions to be a leading source on how the TPB can be used to predict health insurance information-seeking behavior among college students. This study revealed that participants' attitudes towards health insurance, subjective norms, and perceived behavioral control determinants play a significant role in positively influencing their intention to seek information, which we can predict will lead to well-informed young adults entering the healthcare system. Future research should focus on better understanding this population of users. Young adults, being the future generation of the healthcare system, should possess the necessary information and positive intentions to care for their health before entering the market, which can be complex and hard to navigate. This project played an introductory role in exposing the perceptions towards health insurance of young adults, but more must be done to aid policymakers in implementing change that will equip this population to take active roles in making their own healthcare decisions.

Appendix A

Survey Items from Ngafeeson and Gautam's Study (2021)

Questionnaire Items

Attitude (ATT)

ATT1 Using the LMS is a good idea.

ATT2 I like using the LMS.

ATT3 It is desirable to use the LMS.

Subjective norm (SN)

SN1 People important to me support my use of the LMS.

SN2 People who influence me think that I should use the LMS.

SN3 People whose opinions I value prefer that I should use the LMS.

Perceived behavioral control (PBC)

PBC1 Using the LMS system was entirely within my control. *

PBC2 I had the resources, knowledge, and ability to use the LMS.

PBC3 I would be able to use the LMS system well for learning process.

Behavioral intention to use the system (BI)

BI1 I intend to use the LMS system in the future.

BI2 I predict I would use the LMS system in the future.

BI3 I plan to use the LMS system in the future.

Continuance Intention / Intention to Use (CINT)

CINT1 I will use the LMS system on a regular basis in the future. *

CINT2 I will frequently use the LMS system in the future. *

CINT3 I will strongly recommend that others use the LMS system. *

CINT4 I intend to take more courses using LMS system in the future. *

CINT5 I intend to show others this LMS system. *

** eliminated items for the current study*

Appendix B

Survey Instrument for Current Study

Participant ID: _____

Below is a list of statements regarding your understanding of health insurance policy. Please indicate how strongly you agree or disagree with each statement by placing a check mark.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Understanding my own health insurance policy is a good idea.				
2. I like understanding my own health insurance policy.				
3. It is desirable to understand my own health insurance policy.				
4. People important to me support my active engagement in understanding my own health insurance policy.				
5. People who influence me think that I should be actively engaged in understanding my own health insurance policy.				
6. People whose opinions I value prefer that I understand my own health insurance policy.				
7. I have the resources, knowledge, and ability to understand my own health insurance policy.				
8. I would be able to understand my own health insurance policy well if I tried.				
9. I intend to gain a better understanding of my own health insurance policy in the future.				
10. I predict I would gain a better understanding of my own health insurance policy in the future.				
11. I plan to gain a better understanding about my own health insurance policy in the future.				

The next 6 questions are regarding your demographic information. Please answer each question by checking the appropriate box.

12. What is your gender?
    - ☐ Female
    - ☐ Male
    - ☐ Other

13. What year were you born?

    _____

14. What academic year are you currently enrolled in?
    - ☐ Freshman
    - ☐ Sophomore
    - ☐ Junior
    - ☐ Senior

15. What is your current major or field of study?
    - ☐ Business or Economics
    - ☐ Humanities or Arts
    - ☐ Sciences, Math, or Technology
    - ☐ Social Sciences
    - ☐ Law or Public Policy
    - ☐ Other (specify)_____

16. Are you an international student?
    - ☐ Yes
    - ☐ No

17. Which of the following best describes your race or ethnicity?
    - ☐ African American or Black
    - ☐ American Indian or Alaskan Native
    - ☐ Asian or Pacific Islander
    - ☐ Hispanic or Latino
    - ☐ White or Caucasian
    - ☐ Other (specify)_____

Thank you so much for participating!

Appendix C

Participant Recruitment Script

Hi! My name is Ariba. Do you have a few minutes to talk with me today about a research project that I'm working on?

→ If no, say…

No worries, thank you!

→ If yes, continue…

Great! I'm a graduate student at the College of Pharmacy and Health Sciences, and I'm conducting a survey to understand student's attitudes and perceptions about their health insurance plan. Can I ask if you are an undergraduate student here?

→ If no, say…

My survey is for undergraduate students only. Have a great day!

→ If yes, continue…

That's good to hear, I'm looking for undergrad students to participate in this survey. If you decide to participate, I will give you this paper survey that will ask you to rate your agreement to statements regarding health insurance information. It will only take about 5 minutes of your time to fill out.

→ Answer questions, continue…

Are you willing to participate?

→ If no, say…

No worries, thank you!

→ If yes, continue with (1) informed consent form, then (2) survey.

Appendix D

Research Consent Form

Research Consent Form

Title of the Study: Using the Theory of Planned Behavior to Explore College Students' Perceptions Towards Understanding Their Health Insurance

Principal Investigator: Ariba Sheikh, M.S. Student
ariba.sheikh22@my.stjohns.edu

Description of the Research
You have been invited to take part in a research study to learn about college students' attitudes and perceptions towards understanding their own health insurance policy. This study will be conducted by Ariba Sheikh, a M.S. graduate student in the Department of Pharmacy Administration and Public Health, College of Pharmacy and Health Sciences, St. John's University, as part of her master's thesis work. The faculty mentor for the research is Dr. Monica Hwang, Department of Pharmacy Administration and Public Health, College of Pharmacy and Health Sciences, St. John's University.

You have been asked to participate in this research study because your views and experiences in understanding health insurance are very valuable.

This study will include undergraduate students from St. John's University. Approximately 400 students will be participating in this study.

The research involves completing one survey. Only the researchers would have access to the completed survey. The completed survey will be kept for 5 years for research purposes.

What will my participation involve?
If you decide to participate in this research, you will be asked to answer questions regarding your perception in understanding health insurance information. Your participation will last approximately 5 minutes. It will be a one-time participation; no further involvement will be required in the future. Your name or any identifiable personal information will not be collected.

Are there any risks to me?
There are no risks beyond those of everyday life. However, you will be protected by using ID numbers instead of identifiable personal information on data documents.
Are there any benefits to me?
You are not expected to benefit directly from participating in this study. Through this study, we hope to better understand how college students perceive the importance of knowing their health insurance information. Understandings achieved through this research could be shared as results of the study, which could help to find tools to enhance college students' understanding of health insurance information in the future. This could ultimately bring societal benefits.

Will I be compensated for my participation?
You will not be compensated for your participation in this study.

How will my confidentiality be protected?
Your confidentiality will be protected by using ID numbers instead of any identifiable personal information in the data sets. Also, data documents on paper will be kept in a locked room in a locked file and the electronic data will be stored on a secure computer that is password protected. While there will probably be publications as a result of this study, your name will not be used. Only group characteristics will be published.

Whom should I contact if I have questions?
You may ask questions about the research at any time. If there is anything about the study or your participation that is unclear or that you do not understand, or if you wish to report a research-related problem, you may contact Ariba Sheikh at ariba.sheikh22@my.stjohns.edu, or Dr. Monica Hwang at 719-990-5936, hwangm@stjohns.edu, 8000 Utopia Parkway Queens, NY 11439.

For questions about your rights as a research participant, you may contact the University's Institutional Review Board, St. John's University, Dr. Raymond DiGiuseppe, IRB chair at irb@stjohns.edu, 718-990-1440.

Your participation is completely voluntary. If you begin participation and change your mind, you may end your participation at any time without penalty.

Agreement to Participate

Your signature indicates that you have read this consent form, had an opportunity to ask any questions about your participation in this research and voluntarily consent to participate. You will receive a copy of this form for your records.

_____ _____

Subject's Signature Date

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