DETERMINANTS AND CONSEQUENCES OF HEALTH INSURANCE LITERACY – ROLE OF FRAMING BIAS IN THE PURCHASE DECISION

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by

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CERTIFICATE

This is to certify that the thesis entitled **Determinants and Consequences of Health Insurance Literacy – Role of framing bias in the purchase decision** submitted by **M.Lalitha Supriya** bearing Registration Number **20MBPH05** in partial fulfillment of the requirements for the award of Doctor of Philosophy in the School of Management Studies is a bona fide work carried out by her under my supervision and guidance.

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1. M. Lalitha Supriya, Gopi Anil Reddy, P. Jyothi - "Information is Key: Unlocking Intention towards Health Insurance among India's Missing Middle" - *South Asian Journal of Management (SAJM) (ABDC – C) - upcoming Volume 32, Issue 3 (July–September 2025).*
2. Gopi Anil Reddy, M. Lalitha Supriya, P. Jyothi - "Digital vs Traditional: Factors Influencing Youth Preferences for Insurance"- *Empirical Economics Letters (ABDC – C), Volume 23, Special Issue 3, August 2024.*
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and has made presentations in the following conferences:

1. Presented paper titled “Health Insurance Literacy: The influence of Informational Nudges“ at Insurance Conclave 2023 – Inclusive Insurance – the Way Forward by IIRM, Hyderabad.
2. Presented paper titled “Understanding the mediating role of Health Insurance Literacy in Health Insurance Purchase Decision” at NICOM 2024, Nirma University, Ahmedabad.
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Further, the student has passed the following courses towards fulfillment of coursework requirements for Ph.D:

S.No	Course Name	Code Name	Credits	Pass/Fail
1.	Statistics for Business Analytics	BA105	3	PASS
2.	Academic Writing for Doctoral Students	EG825	3	PASS
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4.	Data Analysis for Social Science Teachers (SWAYAM)	PH102	3	PASS
5.	Research and Publication Ethics	PM804	2	PASS

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DECLARATION

I , M Lalitha Supriya hereby declare that this thesis entitled "Determinants and Consequences of Health Insurance Literacy – Role of framing bias in the purchase decision", submitted by me under the guidance and supervision of Professor P.Jyothi, is a bonafide research work. I also declare that it has not been submitted previously in part or in full to this University or any other University or Institution for the award of any degree or diploma. I hereby agree that my thesis can be deposited in Shodhganga/INFLIBNET. A report on plagiarism statistics from the University Librarian is enclosed.

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School: Management Studies

Among 17 goals (https://sdgs.un.org/goals), under which SDG the work incorporated in the thesis will be addressed: SDG 3 (SDG 3.8)

How the work incorporated in the thesis addressed the above SDG (in 250 words):

By studying health insurance literacy and its relevance in achieving Universal Health Coverage, the present research contributes to India's journey in achieving Sustainable Development Goal 3 (SDG 3), which aims for Good Health and Well-being of the global population.

SDG 3 – Good Health and Well-Being:

This research is a step in the direction of contributing to subtarget 3.8 of SDG 3, which focuses on achieving Universal Health Coverage. This includes financial risk protection and access to affordable, quality healthcare services. Countries that make progress in UHC also make progress towards other health-related goals. The main purpose of this study is to explore how health insurance literacy of India's missing middle population is being affected by various cognitive and financial factors, and how, in turn, it affects their intention to purchase health insurance in the presence of framing bias. Primarily, this research aims to understand a neglected segment of the Indian population and aid in developing any relevant policies for their benefit, thereby contributing uniquely to the grand challenge of achieving the Sustainable Development Goal of Universal Health Coverage.

It showcases the interconnectedness between improving consumer health insurance literacy and their health insurance purchase intention, thereby helping policymakers strategize accordingly. Increasing those covered by health insurance inevitably contributes to improved health systems and helps in achieving universal health coverage.

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ABSTRACT

Health Insurance is a pathway to achieving Universal Health Coverage (UHC), one of the Sustainable Development Goals to be completed by 2030. However, health insurance penetration is very low in many developing countries, including India, more so in the missing middle segments of the Indian population.

Previous research has identified various determinants for health insurance demand, from demographic factors like age, income, education, and gender to psychological factors like cognitive ability and self-efficacy. Research has identified that a lack of awareness about health insurance benefits and difficulty in understanding health insurance terms could be reasons why individuals do not prefer to invest in health insurance. So, consumers require proper guidance and access to relevant information in the form of health insurance literacy (HIL) to enroll in the right health insurance plan.

HIL comprises health insurance knowledge, cognitive skills, self-efficacy, information seeking, and document literacy concerning the health insurance plans (Paez et al., 2014). Previous research in this area has been quite scant and particularly for the lower middle-class individuals (Patel et al., 2019). This segment of the Indian population, called the "Missing Middle" population, has been neglected in research as well as in policy-driven solutions, Missing Middle refers to uninsured individuals working in both urban and rural areas, despite having the ability to pay reasonable premium amounts for private voluntary health insurance and are not covered by the government insurance schemes nor by their employers.

This study intends to shed light on the determinants of health insurance literacy that affect the health insurance purchase decisions of the missing middle. Also, the study investigates how framing bias in the form of risk aversion and loss aversion affects the relationship between cognitive styles and HIL, thereby influencing purchase decisions. Hence, this study has set out

to understand and examine the role of HIL for the missing middle under the lens of context-driven and psychological factors influencing the health insurance purchase decisions.

This study makes significant theoretical and practical contributions. This study's unique contribution lies in its theoretical integration, seamlessly integrating varied theoretical perspectives. The study's distinctive feature lies in integrating two very different theories underlying two distinct concepts, expected utility and prospect theory, into the same model. Including these two theories in the same model and studying their relationship with the types of cognitive styles helps us understand how framing bias and risk attitudes affect intuitive and analytic thinkers, thereby enhancing the theoretical understanding of biases in the health insurance domain.

From a practical standpoint, the study entails implications for insurance companies/agents and policymakers. Management across insurance company boards can understand the importance that health insurance literacy plays in increasing the consumer pool and in facilitating the efficient claim settlement process through the findings of this study. Also, they should sensitise consumers using frame-sensitive marketing materials. Overall, insurance companies should aim to not just increase the coverage, but also to nudge the consumers towards the right direction by building a helpful choice architecture that supports their decision-making.

Along with the insurance companies, policymakers should make strategies to enhance consumer health insurance literacy through initiatives that direct insurance companies to use simple language and understandable claim processes and systems. The literacy programs designed should not be a one-size-fits-all approach. Policymakers can enhance the choice architecture designs by improving their "perceived effectiveness and acceptability" among consumers.

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CHAPTER 1

INTRODUCTION

"The financial protection dimension of UHC is achieved when there are no financial barriers to accessing needed health services and goods, and OOP health spending is not a source of financial hardship."

- World Bank 2023 Global Monitoring Report

In the present chapter, the key concepts of the thesis, namely, "Health Insurance Literacy", Financial Knowledge", "Cognitive Style "and "Purchase Intention" are explained. It gives a holistic overview of the concepts in this study and their relationships with each other. Also, the chapter places the study within a broader framework of behavioural insurance and personal finance literature. It highlights the motivation underlying this study and the contribution it makes.

1.1 Background of the Study

Universal Health Coverage (UHC) is one of the 17 Sustainable Development Goals (SDGs) (SDG 3.8), which the World Health Organisation (WHO) aims to achieve by 2030. The goal of UHC is that the entire global population must have access to and must be able to afford all the health services they need without facing any financial hardship. These include services ranging from promotion, prevention, treatment and rehabilitation, ensuring that the people utilising these services do not face any financial difficulties.

There are two dimensions to the UHC goal: the service coverage dimension (3.8.1) and the capturing of the population exposed to financial hardship (3.8.2). When people who require health care and services have financial barriers, they either forgo the necessary care or choose to spend from their pocket, leading to high Out-of-Pocket Expenditure (OOPE), which causes financial hardships (World Health Organisation, 2023). Both of these options are a direct consequence of not having financial protection. Financial protection empowers individuals not

to forgo required health care by removing financial barriers. According to the World Health Organisation 2023 Global Monitoring Report, the percentage of the world's population that spends catastrophic amounts on healthcare, at 10% (and 25%) of their overall household consumption, grew continuously from 2000 to 13.5% (3.8%) in 2019. OOPE payments are one of the most important sources of funding for healthcare, making up more than half of all medical expenses in several low and middle-income nations. Out-of-pocket health expenditures are entirely borne by the individuals without any reimbursement from any third party (like health insurance), which may significantly affect an individual's financial well-being, as the OOP payments are way more than their ability to pay (World Bank & World Health Organisation, 2023). The increase in catastrophic health costs is consistent with data showing that individuals are allocating a growing portion of their rising consumption to out-of-pocket medical expenses. Although an increase in health spending may indicate a decrease in treatment avoided, dependency on out-of-pocket spending hinders rising salaries from translating into even greater welfare. This suggests that there has been a widespread failure to effectively capture those extra resources through prepayment methods subject to redistribution and pooling, unlike utilising them for OOPE (World Bank & World Health Organisation, 2023).

Consumers tend to resort to various avenues like borrowing from money lenders, selling off assets, reducing consumption expenditure from their current incomes and savings to finance the increasing OOPE for health care services (Mishra & Mohanty, 2019). Depending on these sources and also depending on friends and relatives for money to seek health care services is called distress healthcare financing (Joe, 2015). Such high out-of-pocket payments push people into financial hardship. Financial hardship is generally understood through two approaches: (i) catastrophic expenditure and (ii) impoverishment. When out-of-pocket expenditures on medical care surpass certain levels, households may experience catastrophic spending on healthcare, which hinders their ability to make payments for other needs. Whereas, when a household's health-related expenses drive them into poverty, it is referred to as impoverishment (Wang et

al., 2018). A reduction in these financial catastrophes is possible with the development and beginning of pre-payment mechanisms in health care (Xu et al., 2007), which will give ample financial protection to individuals.

Financial Protection is at the heart of the Universal Health Coverage (UHC) goal and is one of the ultimate coverage objectives of health financing policies throughout the world. Differentiating people's direct payments for healthcare products and services from their financial capacity is the goal of financial protection. These direct payments can cause financial difficulty for people of all income levels because they are an inherent part of the health financing system in all nations. Evidence-based policies and actions must be guided by an understanding of how these financial hardships are occurring, the magnitude of these occurrences, the reasons, and to find out which population group is the most affected.

Good health systems guarantee financial protection from any illness or death, or at least from the consequences of costly medical care expenditures. When the health systems do not perform well in this context, it leads to disastrous consequences, especially for the low and middle-income households (Wagstaff, 2008). In this regard, the World Health Organisation suggests that the key to protecting people is to enable “pre-payment and pooling of resources for health” rather than depending on OOP payments. One of the best ways to reduce OOPE and contribute to reducing catastrophic health expenditures is through Health Insurance (Dror et al., 2016; Kazibwe et al., 2024).

According to IRDA (Insurance Regulatory Development Authority of India), health insurance is defined as “a contract between an insurer and an individual/group in which the insurer agrees to provide specified health insurance cover at a particular 'premium' subject to terms and conditions specified in the policy. Health insurance protects individuals from unexpected contingencies and is a security against the increasing health expenditure due to an accident or a disability, saving them from financial distress and indebtedness (M. Bhatia et al., 2018).

Health Insurance is a healthcare financing reform that expands access to healthcare services and also includes risk pooling to spread financial risk among all insured individuals, unlike OOP payments (Merga et al., 2022). Insurance enables individuals to access medical care that would otherwise be unaffordable to them. This access value given by insurance is different from the risk-avoidance perspective that it offers (Nyman, 1999).

According to the SwissRe Institute, as of January 2024, in India, almost 35% of non-life sector premiums were written in the health sector, making it the largest non-life business line in 2023. Health enjoyed the greatest growth of all non-life lines of business last year, with premiums rising by 11%, according to estimates (albeit less than the 15% gain in 2022). Rising medical expenditures, supportive government regulations, improved health awareness, and advancements in Insurtech all contribute to this development. Despite the price and income restrictions that limit demand from the low-income population, the growth of the insurance sector in India still looks bright, owing to the growing middle class and rising discretionary expenditure, which boosts the overall GDP.

However, according to the 75th round of the National Sample Survey, Key Indicators of Social Consumption in India: Health, for the period July 2017 to Jun 2018, 80% of the urban and rural population each were not covered under any health insurance schemes. Previous research has identified various determinants for health insurance demand ranging from demographic factors like age, income, education, and gender to psychological factors like cognitive ability, self-efficacy and willingness to pay (Mureșan, 2023). Research has identified that a lack of awareness about health insurance benefits and difficulty in understanding health insurance terms could be reasons why individuals do not prefer to invest in health insurance (Cucinelli et al., 2021; Khera et al., 2022; Kim et al., 2013).

The health insurance purchase decision is a complicated financial decision, as it impacts long-term health and financial well-being (Taylor et al., 2016). Consequently, making informed decisions is essential for choosing health insurance. However, challenges exist in making

educated and efficient enrolment choices. The primary obstacle is a lack of knowledge of basic health insurance terminology, such as deductible, premium, and co-payment and a lack of confidence in choosing the most suitable plan. So, consumers require proper guidance and access to relevant information in the form of health insurance literacy to take an enrolment in the right health insurance plan (Colón-Morales et al., 2021).

1.2 Introduction to the Study

Insurance choice is a dynamic and complicated decision, which can also affect future decisions (Pardo, 2019). Consumers' behaviour towards insurance, health or any other type of insurance is studied extensively in existing research. Most of the existing research focuses on understanding consumer behaviour from the perspective of the expected utility approach, wherein an individual prefers to maximise his/her expected utility, which is gained from uncertain outcomes.

In the context of insurance, there exist two schools of thought explaining this phenomenon (Eling et al., 2021). The classical literature on insurance demand posits that insurance purchase depends on expected utility theory (Campbell, 1980; Lewis, 1989; Woodard & Yi, 2020). The growing modern literature focuses on the behavioural aspects of insurance (Corcos et al., 2020; Richter et al., 2019) and how the risk attitudes of the consumers affect their decisions. The recent literature stems from the support of the bounded rationality theory, a concept proposed by Herbert Simon in 1957, an American political scientist, which asserts that people make decisions depending on their limited cognitive abilities and knowledge. It contradicts the widely held notion in economic models that individuals are perfectly logical and are capable of making rational decisions (Simon, 2000).

Bounded rationality confines the rationality of individuals as their abilities are limited. It is a framework that explains the decisions of individuals, with respect to their mental processes to arrive at a particular definition (Simon, 2000). Consumers may make sub-optimal decisions due to trouble in processing complex information, and other aspects restricting critical thinking

abilities. Essentially, because of the concept of bounded rationality, individuals do not make the best choices for themselves after comparing and evaluating all the alternative options available to make a decision. Instead, they depend on “rules of thumb” or heuristics to make “satisficing decisions” or just “good-enough” choices (Chen, 2020).

Individuals behave according to the economic models of rationality most of the time; however, insurance is one such decisional area where they do not always behave rationally. The major misunderstanding, in general, about insurance that leads to unwise decisions stems from their impractical expectations about how they will feel about losses they may (or may not) experience. To keep their premiums cheap, people frequently select coverage that does not entirely protect them, but when they experience a loss, they are typically disappointed that not all of their damage is covered. But, they are also dissatisfied if they pay a premium and there is no damage, since they believe purchasing insurance was a mistake (Kunreuther et al., 2013). So, individuals purchase insurance only if the benefits received exceed the amount paid for premiums, as they consider it a risky investment (Gottlieb et.al, 2019).

In the health insurance landscape, selecting a health insurance plan has many complex sub-dimensions. From making comparisons of coverage, insurance providers (O’Connor & Kabadayi, 2020), to dealing with the plethora of information available to them (Colón-Morales et al., 2021), everything leads to decision fatigue for consumers. So, in the domain of health insurance, bounded rationality may be particularly significant because the products are complex and the advantages of purchasing insurance are not always obvious (Taylor et al., 2016). The typically complex and unclear language in insurance contracts is another cause of misinterpretations and confusion that results in disappointment for consumers. All these factors drive the consumers to make decisions based on heuristics and biases, which are a part of behavioural economics.

Behavioural economics understands and predicts consumer behaviour as it occurs in reality. Consumers tend to have limited processing capabilities and knowledge to make rational

decisions all the time. Their autonomy in financial decisions majorly affects their financial well-being (Campbell et al., 2011). Individuals make systematic errors while choosing health insurance, owing to their lack of understanding of health insurance, which is seen as a "widely perceived but poorly documented problem" (Loewenstein et al., 2013). So, consumers' understanding of health insurance will significantly contribute to making informed decisions.

To understand insurance plans, basic mathematical and numeracy skills should be supported by some degree of insurance literacy as well. So, general literacy skills are not the same as having insurance literacy. It requires some specific knowledge on how to confidently choose and use an appropriate insurance plan.

Health Insurance Literacy (HIL) is defined as having the conceptual, technical and procedural knowledge about Health Insurance and its benefits (Mathur et al., 2018). Health Insurance Literacy materials can help the consumer to choose plans in line with individual preferences, which are in turn influenced by levels of numerical abilities, thinking styles, educational skills and health literacy (Tilley et al., 2018). This study aims to contribute to the insurance industry by evaluating the determining factors for Health Insurance Literacy and understanding the significant influence of HIL on an individual's intention to purchase health insurance.

Existing research has shown that the plethora of choices available to consumers while choosing an insurance plan often confuses them and prevents them from making the most informed decision (Bang et al., 2020; Ericson & Sydnor, 2017). Through this research, we aim to understand the impact of framing biases and risk attitudes on the consumer's insurance decisions.

By understanding the impact of different influential factors of Health Insurance Literacy, the present work seeks to provide a more holistic understanding of a less-researched area. Attempts to understand HIL are still at the nascent stage in the current research scenario globally, especially in India. This research can provide valuable insights to the health insurance agents, health insurers, financial policy makers and financial planners and educators as it will enable

them to help the consumers by providing them with the right information at the right time to make the right decision.

Health Insurance Literacy as a concept is not just dependent on the finance domain, but also on economics and psychology. So, this research follows a multidisciplinary approach, sharing insights from various related fields. Economics always considers human beings as rational thinkers who take optimal decisions to maximise their well-being. But this scenario has been changing as human beings cannot always be rational. Human decisions always include either inherent or explicit behavioural biases that affect their well-being. The area that explains such behaviours and attitudes is the domain of behavioural economics. Behavioural economics will enable us to understand the decisions from a broader perspective.

1.3 Broad Research Area

Behavioural Economics is a field which enables the identification and prediction of actual behaviour rather than benchmarking on classical models of economics. It helps to identify behavioural patterns that drive the real-time decision-making of individuals (Richter et al., 2019). Previous research by eminent psychologist Daniel Kahneman and economists like Richard Thaler and Amos Tversky has contributed significantly to the field of behavioural economics by accounting for the role of loss aversion, framing, ambiguity and emotions in individuals' decisions.

Behavioural economics sheds light on how choice architecture influences consumer decisions. Choice Architecture is a term coined by Thaler and Sunstein to reveal that any decision an individual makes depends on the way the available choices are presented to them (Johnson et al., 2012). Each concept explains a different phenomenon in understanding consumers and has implications for insurers and policymakers alike. Framing of contingencies in insurance plans may lead to underinsurance or overinsurance and has direct consequences on public expenditures and consumer welfare (Burkovskaya et al., 2022). Loss Aversion and insurance decisions can be understood primarily in the case of mixed prospects, as they offer the

possibility of outcomes being a gain or a loss (Van Winssen et al., 2016). Behaviour models try to incorporate an individual's "emotions, hopes and fears" into the process of making and predicting rational decisions, which is considered a more suitable mechanism to predict outcomes, rather than the Expected Utility Model (EUT), which gives rise to more contradictions in the predicted outcomes (Richter et al., 2014).

While the Expected Utility Theory is normative, behavioural economics is descriptive. Behavioural economists seek to understand real-life choices of individuals that do not conform to the traditional economic models. These rational decisions sometimes involve risk, which is borne by the individuals making it a complex and individual-specific process. Insurance is one such field which is a good example for understanding risk-taking decisions. Recent developments in research in the field of insurance lean towards the concept of behavioural insurance (Corcos et al., 2020; Richter et al., 2014).

In the context of health insurance, too, when the information at their disposal is limited, with their limited information processing capabilities, with the cognitive biases that exist within and depending on the context in which information is presented to them (Richter et al., 2019), consumers make decisions that may or may not lead to favourable circumstances in the long run. While choosing a health insurance plan, rational decisions are still possible, but taking into consideration the role of loss aversion, framing bias and other behavioural biases in people's decisions (Corcos et al., 2020).

In the economics of insurance, one of the most curious issues is that of underinsurance of risks with high consequences. Even in countries with developed insurance markets, there is observed underinsurance of high-consequence risks (Kunreuther et al., 2013). So, it is not a problem of insurance supply. The literature in the insurance demand domain focused on looking for possible explanations in the behavioural economics domain. The presence of biases and heuristics in "probability estimation and weighing of risks" results in sub-optimal insurance decisions by consumers (Pitthan & De Witte, 2021).

The majority of these biases and heuristics that impact insurance stem from a lack of understanding or incorrect application of financial concepts and products, which is strongly related to low financial literacy. Financial literacy is often overlooked as a key factor in reducing the impact of behavioural biases in insurance decision-making. Financial literacy is the ability to make financial decisions which foster improved financial well-being by integrating information, attitudes, and skills (Pitthan & De Witte, 2021).

However, understanding concepts of only financial literacy does not always mean individuals have the best idea about insurance decisions. Lin et al., (2019) surveyed post-graduate students who were divided into two cohorts – one consisted of students with actuarial education, and one consisted of students with only financial education and no actuarial education. This study focused on bringing about the difference between having financial literacy and having insurance literacy. It identifies that students with actuarial education outperformed the students with only financial literacy. So, only having financial literacy will not help in making informed decisions in the case of insurance without having any insurance knowledge.

This gave rise to the concept of "insurance literacy", in the context of this study, "health insurance literacy". HIL measures the level of confidence and belief of an individual to choose, compare and use the right plan for themselves, which also determines their intention to purchase a plan. To possess health insurance knowledge, like the payment of deductibles and cost-sharing responsibilities, consumers need to have basic financial skills (O'Connor & Kabadayi, 2020). Having this financial knowledge will help them make better financial decisions and purchase an appropriate plan. Individuals with limited HIL are usually confused about which health insurance plan to purchase (Nobles et al., 2019).

Having the right health insurance coverage saves individuals from using their emergency funds and lifetime savings, and also helps in dealing with the rising medical costs. As it gives financial protection to different population groups, it enables countries to focus on development that is sustainable and economically beneficial as well.

1.3.1 Health and Sustainable Development

The term sustainability was defined as " meeting the needs of the present without compromising the ability of future generations to meet their own needs" by the United Nations Brundtland Commission in 1987. The United Nations Millennium Development Goals, which were later renamed as the Sustainable Development Goals, were established with this strong foundation to integrate environmental issues with economic development around the world. To this effect, all the United Nations member countries – both developed and developing agreed to work towards achieving 17 Sustainable Development Goals by 2030 to bring 'peace and prosperity for people and the planet'.

It has been a longstanding acceptance in economics that for economic development, it is imperative to end poverty. However, development in its truest sense can be achieved when eradicating poverty goes hand in hand with strategies to 'improve education and health, reduce inequalities, while preserving our environment and its climate.' All 17 SDGs are integrated into one another. So, action in one area can affect outcomes in other areas.

The Health Sector is often at the forefront of the environmental sustainability arena, as it has been observed that countries which are having great health outcomes are also the ones that have the 'highest rates of economic and health equity' (MacNeill et al., 2021). SDG 3 focuses on ensuring good health for the global population. It includes various goals such as reducing the maternal and infant mortality rate, ending communicable diseases, increasing vaccination use, etc. One of the prominent goals is SDG 3.8, i.e., Universal Health Coverage, which is integral in achieving the overall goal of SDG 3 as well as other Sustainable Development Goals.

Universal health coverage (UHC) ensures that everyone has access to the necessary high-quality healthcare without facing financial challenges. It covers the entire range of necessary, quality health services, ranging from prevention, treatment, rehabilitation, and health promotion. The UNDP aims to achieve UHC by 2030.

Countries that make progress in UHC also make progress towards other health-related goals. Good health enables adults and children to work, lifts them out of poverty, and promotes long-term economic growth.

Two aspects are the primary focus of tracking UHC progress:

• The percentage of the population with access to basic, high-quality healthcare services (SDG 3.8.1)

• The percentage of those who spend a lot of money on household expenses (SDG 3.8.2)

The progress on UHC, as per the Sustainable Development Goals Report for 2024 by the United Nations, states that though there has been a decrease of 15% in the proportion of population not covered by essential health services between 2000 and 2021, there has been very minimal progress made after 2015. In 2021, there were around four and a half billion people globally who were still not covered by any essential health services.

Universal Health Coverage (UHC) can be achieved by investing in good healthcare and healthcare systems, which in turn lead to economic growth. A strong healthcare system provides financial protection against health shocks and saves people from making catastrophic health expenditures.

Focusing on the Indian narrative, in recent times, most of the overburdened public hospitals are diverting people to private hospitals. According to the NSSO 75th Round survey (2017-18), 60% of all hospitalisations and 70% of outpatient services in India are delivered by the private sector.

Despite the services offered by the private sector, the healthcare landscape in India remains a mix of both public and private systems. This gives India a need to collaborate and innovate together to address the challenges faced by the healthcare sector with respect to access, affordability and quality care to cater to the needs of a diverse population.

1.3.2 Indian Health Sector – An Overview

A nation's level of economic growth can be determined in great proportion by its population's health. Good health status is a reflection of the nation's socio-economic development and is influenced by several variables, including income, education, lifestyle choices, health consciousness, personal hygiene, housing conditions, and access to medical care. It is commonly acknowledged that inadequate housing, inadequate sanitary facilities, a lack of drinking water, and low nutritional status are the causes of low-income countries' poor health status (Manjula & Afza, 2020).

In any country, including India, the healthcare industry consists of hospitals, health insurance, clinical trials, medical equipment and gadgets. The Indian government has made rapid progress in raising public health spending to improve the citizens' standard of health. India's healthcare delivery mechanism is divided into two main components: public and private systems. The public systems focus on starting Primary Healthcare Centres (PHCs) mainly in rural areas, while continuing secondary and tertiary centres in a few major cities. The majority of secondary and tertiary care centres are run by the private sector. There is a significant difference in the number of people accessing public and private hospitals for various reasons. One of the strongest reasons is the exorbitant prices of the private hospitals, considering the quality of the care provided by them.

Considering the quality of healthcare services, India is ranked 145th out of 195 nations in terms of the accessibility and quality of healthcare, according to the Global Burden of Disease Study 2021 (Murray, 2024). The ideal doctor-to-population ratio being 1:1000, India will require an additional 2 million doctors by 2030 to achieve this.

For India to become a global superpower, it is of prime importance that the healthcare sector and delivery mechanisms must be improved to reach a global standard. India is on track to achieve these developments, trying its best to overcome the challenges faced in the healthcare sector.

With consistent economic growth and a growing middle class, India's insurance and healthcare services markets are growing too. This progress has brought health insurance to the forefront in addressing rising healthcare costs and ensuring financial protection. The concept of health insurance is now evolving swiftly in India, reshaping how individuals and households across India access and utilise medical care.

1.3.3 Concept of Health Insurance

In the years 2019 – 2021, the COVID pandemic taught the world how uncertain life can be. The pandemic has shown us that investing in a good healthcare system is the foundation for social, economic, and political stability and global health security. One of the most important aspects of a strong healthcare system is that it gives financial protection to people, which will enable people to avoid any financial hardships without reducing their current living standards against any health shocks.

Health insurance reforms have been at the core of economic policies of those countries, focusing on creating 'sustainable social healthcare models' for the future (Yin & He, 2018). Health insurance is one of the tools that helps a person protect themselves from financial loss that they may have to bear due to an accident or disability. A key element of financial planning is health insurance, which covers medical costs for diseases, accidents, and other health conditions. It serves as a safety net, preventing families and individuals from having to deal with excessive expenses when attending to their healthcare needs. Many services are usually covered by health insurance coverage, such as prescription drugs, hospital stays, doctor visits, preventive care, and occasionally even dental and vision care. Policyholders may access these services with lower out-of-pocket expenses by paying regular premiums, which lowers the cost of healthcare and increases its accessibility.

Health insurance offers advantages beyond financial security. Firstly, it encourages prompt medical care by decreasing the hesitation to seek care because of financial worries. The prevention of minor health conditions from becoming serious through early identification and

treatment can improve overall health outcomes. Secondly, a proactive approach to maintaining health is encouraged by the wellness programs and preventive services—such as immunisations and health screenings—that many health insurance plans provide.

Finally, insurance is often the only mechanism available for gaining access to expensive health care: there may not be enough time or income to save for an expensive health care purchase, and lending institutions may be reluctant to lend money for health care procedures when the ability of the patient to repay these uncollateralized loans is limited (Nyman, 1999).

Various studies over the globe support the fact that enrolment in health insurance improves the utilization of health care services and reduces the catastrophic health expenditure. (Kansra & Gill, 2017). Also, insurance experts believe that health insurance should be included as a part of an individual's financial planning and it should be purchased early in age as purchasing early offers various advantages like improved sum insurance coverage, lower premiums and no medical tests, etc.

The healthcare sector in India has seen significant progress since independence; however, India still lags behind many developed countries (Ahmad Mir & Singh, 2022). Health Insurance as a financing mechanism for medical costs was not trusted initially; however, health insurance has evolved to become the key contributing factor in achieving Universal Health Coverage, not just in India, but globally as well.

1.3.4 Evolution of Health Insurance in India

In India, insurance is considered a federal subject, which is governed by the 'Insurance Act, 1938' and the 'Insurance Regulatory and Development Authority Act, 1999'. Since the 1991 Liberalisation, Privatisation and Globalisation (LPG) phase, with the advent of private players, the insurance marketplace has seen considerable progress.

The origins of health insurance programs in India trace back to the early 1950s, with civil servants and formal sector employees being registered in CGHS-1954 and ESIS-1952,

respectively, both of which are contributory schemes, but also heavily subsidised. These schemes are generally called the social health insurance schemes (SHI). In 1986, a Mediclaim health insurance policy was started to compensate hospitalisation expenses on a 'pay-for-premium' basis. However, its uptake has been low because of the costly premiums (Hooda, 2020b).

Over the years, the Government of India has brought about significant milestones in public health policies and schemes, which have mostly been pro-poor. Various states have also introduced state-specific health insurance plans, particularly for low-income populations (Reshmi et al., 2021; Sriram & Khan, 2020). However, most of these government schemes provide insurance cover for hospitalisation expenses and services, not covering the OOP payments that low-income families spend on medicines, medical tests, and post-treatment care (Sriram & Khan, 2020).

Since 1999, the health insurance industry has been opened for private sector participation owing to the Liberalisation, privatisation and Globalisation driven by the Indian government. Nevertheless, as these private health insurers offer commercial or voluntary health insurance, the uptake was still very low owing to the low incomes of a significant portion of the population (Hooda, 2020b).

Traditionally, consumer attitudes toward the purchasing of health insurance in India have culturally been more reactive than proactive. Indian households would not consider it their responsibility to actively take care of their health. Such beliefs gave rise to "fatalistic" or "invincible" attitudes that prevent people from accepting risk (Sen et al., 2012).

Such attitudes have led people to view health insurance as a necessity since they are not aware of its benefits of health insurance. Indian households have also viewed health insurance as an investment with no return rather than life insurance. Hence, Indians have historically preferred to invest in a bank, pay out-of-pocket for health expenditures, rather than invest in health insurance (Sen et al., 2012).

However, slowly these attitudes are changing with the changing socio-economic conditions. With rising incomes and more nuclear families, individuals are realizing the importance of having health insurance. The increasing acceptance of Universal Health Coverage (UHC) as one of the important global goals by countries all over the world has brought "healthcare financing" into the limelight. Health policymakers and supporters have been emphasising how health insurance can provide low-income families a coverage, saving them from financial hardships, and also, how it can provide better access to quality care, leading to 'better health outcomes' (Hooda, 2020b).

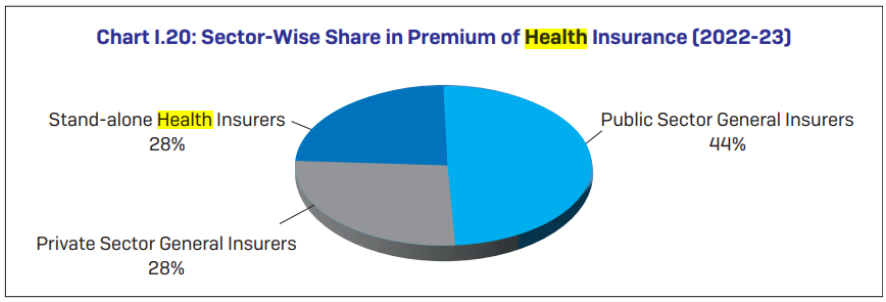
1.3.5 Current Health Insurance Landscape in India

The Indian healthcare sector has grown manifold in the last decade. According to the annual report (2022-23) of IRDAI (Insurance Regulatory and Development Authority), the health insurance industry is the largest of the non-life insurance business , accounting for 38.02 percent (36.48 percent in 2021–2022) of the total premium. The health insurance segment saw growth of 21.32% (compared to 26.27% in 2021–2022), with premiums rising to 97,633 crores from 80,502 crore in 2021–2022. As of March 31, 2023, the insurance industry in India consists of 55 registered insurers in total, out of which there are 25 life insurers, 25 general insurers, and five stand-alone health insurers.

In 2022–2023, general and health insurance companies received 89,492 crores in health insurance premiums (not including personal accident and travel insurance), representing a 23 percent increase from the year before. While Five States, Maharashtra, Karnataka, Tamil Nadu, Gujarat, and Delhi contributed about 64 per cent of total health insurance premium in 2022-23, the rest of the States have contributed the remaining 36 per cent.

Figure 1.1

Sector-wise share in the Premium of Health Insurance



Source: IRDAI Annual Report (2022-23)

However, the private health insurance sector still has considerable potential to (Figure 1.1), provide for a huge underserved market. Indians finance most of their healthcare costs through OOPE rather than through insurance. Such expenditures are a leading cause of household debt, impoverishing their lives and pushing people into poverty. More than 40% of hospitalised patients either sell assets or take out loans to pay for their care. India's OOPE is significantly higher (63%) than the world average (Jain et al., 2022) and is also inversely correlated with income, even within India (Sen et al., 2012).

According to the National Sample Survey (NSSO), from July 2017 to June 2018, 80% of the urban and rural population each were not covered under any health insurance schemes. Approximately 514 million people across India were covered under health insurance schemes in 2021, which merely covers 37% of the people in the country. Nearly 400 million individuals in India have zero access to health insurance. Around 70% of the population is estimated to be covered under public health insurance or voluntary private health insurance. The remaining 30% of the population – over 40 crore individuals- are devoid of any health insurance (Sarwal & Kumar, 2021).

In India, the insurance sector is either state-funded or publicly funded (Kautish et al., 2022). The private sector health insurance market has also been a game-changer and has taken a significant share of the Indian health insurance market. The Indian government, too, has introduced various policies and schemes to achieve financial protection and equitable access in health care delivery and allied services.

1.3.5.1 Government Schemes

Government health insurance schemes are essentially those healthcare plans curated by the government to protect individuals and their families from significant health issues. Government schemes are based on various categories of people and their eligibility.

Health policies in India have always been guided by the 'principle of equity', for the benefit of the poor and the underprivileged. The government of India has always been working in this direction to reduce any 'health-related inequalities' in the country. Initiatives like 'Janani Suraksha Yojana' and the public-funded health insurance (PFHI) schemes such as 'Rashtriya Swasthya Bima Yojana (RSBY)' were also introduced to address 'the health inequalities, improve health outcomes and provide financial risk protection'. (Reshmi et al., 2021).

(a) Social Health Insurance Schemes

The idea of social health insurance revolves around pooling resources from public sources as well as from contributions made by employers and by employees or beneficiaries. Social Insurance originated initially in Europe, using payroll taxes from the formal sector to finance health insurance, and the same financing arrangement was being followed by many low and middle-income countries like Zambia, Nepal, India, etc (Osei Afriyie et al., 2022).

In India, the first social health insurance scheme was launched in 1952, and it was called the "Employee State Insurance scheme" (ESIS) under the Employee State Insurance (ESI) Act,1948. It provides coverage for health care services for the employees of any non-seasonal factories and is one of the largest social health insurance schemes in Southeast Asia. ESIS provides comprehensive coverage, including inpatient and outpatient benefits, to private establishment workers and their families for any sickness, maternity, disability, and death that occurred as a result of work-related injury. It covers workers earning less than Rs. 21,000 per month (Rs. 25,000, in case of a person with disability) in most industries with 10 or more employees and is funded by compulsory contributions from both employers and employees

(NITI Aayog, 2021). This scheme is administered at the state level by an autonomous body called the Employee State Insurance Corporation (ESIC).

Employees contribute around 0.75% of their income under the ESI plan, while employers contribute approximately 3.25% of beneficiaries' wages to premium payments as of 2024, as per official sources. Factories and other establishments that essentially operate under the jurisdiction of the State or Central governments and whose workers get other social security benefits are effectively exempt from the ESI Act (Padala, 2022).

Workers who earn up to Rs. 176 per day are exempt from paying their contribution share. According to the Act's requirements, the State Governments pay one-eighth of the medical benefit costs, up to a maximum of Rs. 1500 per insured person annually. The State Governments concerned are responsible for covering any additional costs they incur that are beyond the limit and do not fall under the shared pool. As of 31st March, 2023, the number of insured persons is 3.42 crores, and the total number of beneficiaries is 13.30 crores, according to the official ESI website.

The next government scheme, the Central Government Health Scheme (CGHS), was launched in 1952 to provide coverage to central government employees and pensioners at a very low monthly cost to the enrolled employees. The four pillars of India's democratic system—the legislature, judiciary, executive, and press—are all served by CGHS in catering to the healthcare needs of eligible employees from these branches.

It is a self-funded scheme using no external insurance companies or third-party agents. This scheme was financed by the Central Government – Ministry of Health and Family Welfare, becoming the first form of employer–based health insurance in India. Presently, approximately 42 lakh beneficiaries are covered by CGHS in 80 cities all over India. CGHS provides healthcare through Allopathy, Homoeopathy and any other Indian systems, such as Ayurveda, Unani and Yoga.

Like ESIS, CGHS both finances and delivers healthcare services through its own facilities. However, both schemes suffer from underutilization of their services by enrolees owing to poor quality. Other government organisations like the Railways and Defence also offer other health services through their managed health facilities, which their employees can use at no cost.

The General Insurance Corporation introduced a voluntary Mediclaim policy in 1986. This Mediclaim insurance policy reimbursed inpatient and domiciliary (at home) hospitalisation expenses for specific illnesses and injuries. A Mediclaim is a type of insurance in which the insurers pay the policyholder's potential medical expenses incurred during the policy period. At the hospitals in the insurer's network, the insured can either use fully cashless services or submit the necessary bills for reimbursement.

(b) Government Fully Subsidised Schemes

Rastriya Swasthya Bima Yojana (RSBY), a national health insurance programme, was implemented by the Indian government in 2008, which provides an annual cover of Rs. 30,000 per family. The scheme was launched by the Ministry of Labour and Employment (MoLE) to provide access to hospitalisation and ensure greater financial protection from financial obligations arising out of health issues that required hospitalisation for households below the poverty line (BPL) in the unorganised sector.

The scheme is funded by both the Central and State governments, wherein the central government contributes 75% of the estimated annual premium, not exceeding Rs. 565 per family per annum, whereas the state governments contribute 25% of the estimated annual premium, in addition to bearing any related costs that would be incurred while administering the scheme. The scheme stands to be different from those of the previous schemes implemented by the government by providing the individual a choice to select from public or private healthcare providers, and also with the usage of smart cards for claiming, it offers a technological edge to the stakeholders involved.

Ayushman Bharath is a flagship scheme of the Indian Government, as recommended by the National Health Policy, 2017. It was started to put India on the global front and to achieve the Sustainable Development Goal of Universal Health Coverage.

The Indian Government implemented a two-pronged strategy with the help of Ayushman Bharat. To fight the rising prevalence of non-communicable diseases, disease prevention and health promotion were the first part of this strategy. This was to be made sure of by converting the current network of sub-centres and primary health centres into health and wellness centres. (HWC). Over 1,50,000 HWCs are envisioned to be set up in India in the near future.

The second part was the introduction of the Pradhan Mantri-Jan Arogya Yojana (PM-JAY), which aims to develop a system of demand-led health care reforms that meets the eligible beneficiary family's immediate hospitalisation needs in a cashless manner, protecting the family from severe financial shock. Through its system of incentives, the PM-JAY seeks to increase the accessibility of its services in the long run. The private sector will probably grow in underserved parts of Tier-2 and Tier-3 cities as demand rises. For public hospitals, PM-JAY will offer an incentive to prioritise treating low-income patients as well as ways to raise extra money for improving their facilities and filling in any service gaps. The current RSBY has been absorbed by PM-JAY, and it also works along with other health insurance schemes funded by the State government.

PM-JAY is the largest health insurance/assurance programme in the world. It provides health coverage to about 10.74 billion poor families, or 50 billion Indians, who make up 40% of the world's poorest people. It offers financial security for a variety of secondary and tertiary care hospitalisations and is entirely funded by the government. The main goal of PM-JAY is to increase access to high-quality healthcare for its poor population to decrease catastrophic out-of-pocket medical expenses.

Despite measures and schemes like this, India still has nearly 40% of its population without any health insurance. According to the Brookings India survey (2004-2014), every year, 7% of the Indian population is pushed into poverty due to healthcare costs.

The Indian government, historically, has always given a low priority to healthcare promotion and prevention as part of developing the country's health system. With the advent of liberalisation, private insurance players have captured a considerable segment of the population through their effective services and high quality.

1.3.5.2 Private Health Insurance

During the liberalisation era, the privatisation of the health insurance sector and the establishment of the Insurance Regulatory and Development Authority of India (IRDAI) in 1991 have widened the scope of health insurance in India. This is a milestone in the evolution of health insurance in India (Sen et al., 2012). Since then, the private players have pushed the horizon for this market and have shown its growth potential.

Historically, in the 1990s, according to the World Bank report on "Investing in Health" in 1993, it rejected the idea of healthcare being recognised as a public good. It encouraged the governments of developing countries to play a limited role in the health and health insurance sectors. It insisted that individuals and households having different health needs should be able to choose without restrictions. So, in line with these guidelines, India opened the health insurance marketplace to private companies in 1999, capping the foreign direct investment (FDI) in health insurance at 26% (Hooda, 2020a).

Though the Private Voluntary Health Insurance (PVHI) market has nearly doubled from 6.1 crore in 2013-14 to 11.5 crore in 2018-19, it only covers 9% of the total population. Without health insurance, many families are pushed into poverty owing to catastrophic health shocks because of the costly private healthcare services, ultimately leading to low financial protection and increased expenditure out of their own pockets.

1.3.6 Impact of Out-of-pocket Expenditures (OOPE)

OOP healthcare expenditure is defined as personal health expenses paid by individuals from their own pockets through their borrowings, savings, and income. It covers payments made informally as well as formally. It does not include pre-payments (like taxes, contributions, or premiums) and reimbursements from third parties like the government or private insurance companies. OOP payments can be made by individuals for any type of care, whether it is preventive, curative, or rehabilitative, for any kind of health condition, and in any type of treatment setting, be it outpatient, inpatient, or at home (World Health Organization, 2023).

The World Health Organisation defined two categories of OOPE, namely catastrophic and impoverishing expenditures. The SDG indicator 3.8.2 measures the financial hardship people face in accessing healthcare. It defines the incidence of catastrophic health spending as the "proportion of the population with large OOP health spending, in effect, those exceeding 10% and 25% of the household's total consumption or income". Catastrophic OOP health spending reduces households' capability to spend on other vital goods and services such as "food, shelter, clothing, or education". Impoverishing health spending is defined as the "proportion of the population impoverished and further impoverished by OOP health spending" (Wang et al., 2018). People are considered impoverished when "the total per capita consumption of their household, including OOP health spending, is above a poverty line, but per capita consumption net of OOP health spending lies below it". Catastrophic and impoverishing health spending are not exclusive of one another; people can incur either one of them or both.

The catastrophic OOP expenditures reached 13.5% in 2019, surpassing 1.04 billion people in 2019. Globally, "population living in extreme poverty or close to extreme poverty with impoverished health spending" reduced significantly to 4.4% in 2019. However, this important development was offset by the increase in the "impoverished health expenditure of population living in relative poverty or close to relative poverty".

India is categorised as a lower-middle-income country by the World Health Organisation. The WHO and the existing literature observed that the lack of affordable healthcare services is more profound in lower and middle-income countries (Sangar et al., 2022). The National Health Accounts by the Government of India for 2019-20 also reports that the percentage of OOPE as a part of the Total Health Expenditure is 47.1 % and as a part of Current Health Expenditure is 52 %. The OOPE as a percentage of GDP is as low as 1.54 %, and the per-capita OOPE is Rs. 2,289.

This shows that making healthcare payments is a crucial health system goal. OOP payments push households into the trap of poverty, much of which depends on how countries finance their health systems (Shahrawat & Rao, 2012). Globally, countries should focus on developing financing and service delivery policies that reconsider the massive implications of OOP payments to achieve the triple billion targets of UHC by 2030.

A critical aspect in this endeavour would be to focus on the benefits of improving the health insurance systems as a protection mechanism. However, having health insurance alone is not enough; it is imperative to have an understanding of how health insurance works to be able to enable individuals to make informed choices and utilise available financial protection.

1.4 Concept of Health Insurance Literacy (HIL) – An Overview

HIL comprises health insurance knowledge, cognitive skills, self-efficacy, information seeking, and document literacy concerning the health insurance plans (Paez et al., 2014). Paez et al., (2014) developed the most widely used Health Insurance Literacy measure, which was tested as a "population assessment of health literacy". Their research identified four components that critically evaluate an individual's HIL skills. The components are as follows: " (i) health insurance knowledge, (ii) information seeking, (iii) document literacy and (iv) cognitive skills and include self-efficacy as an underlying domain". These components help in understanding and evaluating an individual's confidence in choosing and using a health insurance plan that is most beneficial to their financial and family circumstances.

While both health insurance literacy and health literacy call for an awareness of health services and one's health status, in addition to the ability to utilise this information to make decisions, health insurance literacy is different from health literacy in that it emphasises understanding the structure of health insurance benefits and understanding and estimating cost-sharing responsibilities (Paez et al., 2014).

Previous research in this area has been quite scant and particularly for the lower middle class individuals who are not covered under any government schemes or private voluntary health insurance (Patel et al., 2019).

1.5 Other Key Concepts in the Study

Cognitive Style: Cognitive Style is the way an individual prefers to collect, process and evaluate data. It refers to how individuals are involved in "problem-solving and decision-making" (keersmaecker et al., 2020). There are different styles of thinking, mainly two categories: intuitive thinking style, which is automatic and analytical or rational thinking style, which is calculated and systematic (Kahneman, 2011).

Financial Knowledge: The ability to comprehend and use financial procedures and concepts to solve financial challenges is known as financial knowledge. Having increased financial knowledge may also result in the purchase of more appropriate insurance plans (Xiao & Porto, 2019). Financial knowledge is often differentiated into two different segments, namely, objective and subjective financial knowledge. Objective financial knowledge is based on test scores, etc, measuring the knowledge in basic financial concepts, whereas subjective financial knowledge is based on the individual's self-assessment or perception about their financial knowledge. Financial knowledge is an important contributing factor in an individual's financial decision-making and financial well-being, as it helps them increase their awareness about the consequences of their financial decisions (K. T. Kim et al., 2022).

Sources of Information: Asymmetrical information has been a long-standing problem in the insurance industry. How information is collected and made available to consumers is a crucial aspect of the choice architecture, helping individuals improve their decisions (Thaler & Sunstein, 2008). Individuals will gain from detailed knowledge about health insurance literacy, plans that are offered, and advice on how to select a plan based on personal circumstances. Having access to and understanding of relevant information from trustworthy sources that can aid in decision-making is necessary for making informed decisions (Colón-Morales et al., 2021).

Risk Aversion: Risk Aversion is the individual's preference for low uncertainty over high uncertainty, even if the outcome with high uncertainty has an expected value that is higher than the one with lower uncertainty. The need for insurance and the likelihood of facing the insured risk are shaped by choices such as risk aversion (Schmitz, 2011). Individuals' willingness to take risks influences their choices in financial decisions like saving, investing or taking insurance (Browne et al., 2022).

Loss Aversion: Loss Aversion is a psychological concept where losses are economically perceived to be more severe than gains, i.e., "losses loom larger than gains" (Kahneman, 2011). This approach leads to low insurance demand in many insurance markets owing to the perception of narrow framing concerning the net insurance payoff (Zheng, 2020).

Health Insurance Purchase Intention: The decision to purchase health insurance is a complicated one. Customers' perceptions and intentions about insurance play a crucial role in their purchase decisions (Mamun et al., 2021). The theory of planned behaviour states that an individual's intention to perform a behaviour determines their intention to engage in that particular behaviour (Ajzen, 1991a).

These key concepts in this work cannot be studied in isolation. When considered in relation to each other, few theoretical underpinnings help us navigate through these concepts.

1.6 Theoretical Foundations of the Study

1.6.1 Theory of Planned Behaviour

Research on consumer choices is usually driven by two types of information on consumers' preferences. The preferences are categorised into stated and revealed. Stated preferences gather information on consumer choices in hypothetical situations to study their willingness to pay (WTP), whereas revealed preferences gather information from real-time choices made by individuals (Hanley & Czajkowski, 2019). Individuals' intentions to perform a particular behaviour disclose their stated preference and the direction of their behaviour, which is caused by such intentions.

This is strengthened by the theory of planned behaviour (Ajzen, 1991a) which proposes that the intentions of an individual towards a particular behaviour decide their actual behaviour. This theory is an extension of the Theory of Reasoned Action (TRA) and is one of the well-established theories of psychology. Both these theories state that attitudes of an individual impact their behaviour, and the intervening variable between attitudes and performance of a behaviour is the person's intention to do so (Ajzen et al., 1988).

The intentions of an individual refer to " a person's motivation in the sense of her or his conscious plan, decision or self-instruction to exert effort to perform the target behaviour" (Conner, 2009). Three essential elements of the theory of planned behaviour (TPB) are perceived behavioural control, subjective norms, and attitude towards the behaviour. These factors collectively describe the behavioural intention to engage in a certain behaviour. Attitudes are the favourable or unfavourable viewpoints that the individual holds towards a particular action. Subjective norms represent the "beliefs" about whether other important people to them think they should engage in a particular behaviour. Perceived behavioural control is the extent to which the individual perceives he or she will perform a particular behaviour.

This theory is prevalent in various domains, including financial planning and health. In the context of health behaviours, TPB "is significant, but limited". It is significant because it offers a deeper understanding of certain health behaviours, and is limited as it includes perceived behavioural control and not the actual behavioural control. Also, it does not take into account the different social pressures that impact an individual's health behaviour (Conner, 2009). Applying the same context to health insurance purchase behaviour, research finds that TPB helps in showing the significant influence of intentions on insurance purchasing behaviour (Dragos et al., 2020; Mamun et al., 2021).

1.6.2 Expected Utility Theory

Expected Utility Theory (EUT), developed by Daniel Bernoulli in the 18th century and later formalised by von Neumann and Morgenstern, is a foundational model in decision-making under risk. According to this theory, individuals make choices by evaluating the expected utility of different outcomes rather than the expected monetary value (Bernoulli, 1954). Utility reflects the subjective value or satisfaction an individual derives from a particular outcome. A key concept within EUT is risk aversion, which describes a preference for certain outcomes over uncertain ones with the same expected value. Risk-averse individuals have a concave utility function, meaning the disutility of losing a certain amount outweighs the utility of gaining the same amount. This explains why many people are willing to pay a premium for insurance—to avoid the uncertainty associated with potentially large financial losses.

In the context of health insurance decision-making, Expected Utility Theory offers a useful framework for understanding why individuals choose to purchase or forgo insurance. Health insurance involves evaluating potential health risks and the associated financial consequences. A person with higher health insurance literacy (HIL) is better equipped to understand the probabilistic and financial aspects of insurance products, which may help them estimate utility more accurately. Moreover, more risk-averse individuals are expected to show a stronger intention to purchase health insurance, as the utility loss from being uninsured during a health

crisis outweighs the cost of the premium. Thus, EUT provides a theoretical basis to explore how cognitive traits like HIL and psychological factors such as risk aversion interact to influence insurance purchase intention (PUI).

1.6.3 Prospect Theory

In social sciences research, the Expected Utility Theory is considered one of the important theories to understand consumer decisions under risk, and it assumes that all individuals are rational and will choose the optimal choice for themselves. However, this is not always the scenario, as consumers or individuals are human beings who cannot be rational all the time. Most of the time, individuals' preferences violate the expected utility theory, especially under risk.

Therefore, an alternative to this theory was proposed by (Kahneman & Tversky, 1979)called the “prospect theory” or the “loss aversion theory”. According to this theory, individuals view losses and gains from a different perspective. If they are faced with two alternatives with equal levels of consequences, but one presented with perceived gains and the other presented with perceived losses, they prefer the former one. This theory is a part of behavioural economics, since it deals with the reasoning of why individuals prefer gains over losses, as losses cause a greater emotional impact.

It emerged as an alternative to the expected utility theory, as the utility theory was not able to completely explain the risk attitudes of individuals in the context of their insurance ownership (Eling et al., 2021). In the context of insurance, individuals perceive insurance as a risky investment and will only purchase insurance if the benefits received exceed the premiums paid (Gottlieb & Mitchell, 2020). Most of the time, people might have other motives while purchasing insurance, other than just using it as a risk management tool. People can perceive insurance as a risky investment or a poor investment depending on behavioural biases, which divert them from the rational behaviour in insurance purchase (Zheng, 2020). This behavioural bias is often called the narrow framing bias.

Narrow Framing bias occurs when individuals focus on one alternative or decision, rather than evaluating the set of alternatives to arrive at the optimal decision, which is also referred to as broad framing (Kahneman, 2011). In the context of insurance, research found that broad framing bundles risks together, whereas narrow framing does not diversify the risks as much, making it a sub-optimal decision for the individual (Burkovskaya et al., 2022).

1.7 Motivation of the Study

The motivation for this study comes from the personal experience of the researcher during the COVID-19 pandemic in 2020. The pandemic has affected a huge number of people, including some people close to the researcher. The researcher‘s mind started to backtrack on the happenings of the pandemic. The worst health outcomes, deaths, and increased health expenditures all pointed in the direction of the lack of some form of financial protection for the affected individuals and their family members.

Having financial protection in the form of health insurance is the best way to overcome the financial consequences of healthcare expenditure. According to the World Health Organisation, globally, the percentage of people with impoverishing OOP payments towards healthcare experienced by those living in relative poverty or close to relative poverty increased from 11.8 in 2015 to 16.7 in 2019. This impoverished spending is more prevalent, according to the WHO, in lower-income and lower-middle-income countries. When financial protection is provided, people need not forgo essential healthcare services owing to financial hardships. Reducing OOP payments towards healthcare is possible through tax-funded health systems or affordable and accessible health insurance (Kazibwe et al., 2024).

A health insurance plan shields individuals against excessive, unforeseen medical expenses, the risk of expensive healthcare by sharing it among a large number of people (Kazibwe et al., 2024). It consists of a prepaid arrangement for getting the required access to healthcare products and services. It also gives individuals access to health services that might have looked “unaffordable” to them previously (Nyman, 1999). The importance of having health insurance

was significantly brought out during the time of the pandemic, with the increase in poverty rates globally, and also, the economic and health impacts weakening the financial protection for the global population, with more people facing financial hardships owing to catastrophic and impoverishing out-of-pocket health expenditures.

The motivation for this research was further strengthened with the report on Health Insurance for India's missing Middle by NITI Aayog in 2021. This report critically examines the segment of the Indian population that is not covered by any health insurance, be it government-provided, employer-provided provided or private voluntary purchase. This "missing-middle" population does not have coverage despite having the ability to pay for the affordable premiums of at least some health insurance schemes. It states that a lack of awareness is a major reason for the non-enrolment of people for health insurance.

There have been studies previously that focused on awareness about insurance, in general, or health insurance, in particular. However, there is scant research available on Health Insurance Literacy in India, and especially in the context of the "Missing Middle Population". Health Insurance Literacy is conceptually a novel and new construct that is not just about having awareness about health insurance. It is a holistic concept that includes confidence in comparing various health plans, choosing the most appropriate plan, and the behaviour and experience in using the plan. It identifies individuals with limited cognitive skills, self-efficacy, and document literacy skills who struggle to decide on the best health insurance scheme for themselves and their family members.

This research work aims to understand the impact of health insurance literacy on health insurance purchase intention in the missing middle. It also proposes to understand the impact of cognitive, financial, and information factors on the health insurance literacy level of an individual. Another important part of this work is to examine the impact of framing bias on health insurance purchase.

1.8 Problem statement

Prior research has emphasised the significance of health insurance in reducing the out-of-pocket payments for lower and middle-income households. Research has brought out various factors that influence enrolment in health insurance. Although awareness was stated as one of the most prominent reasons, there is little empirical evidence in India that focuses on the specific type of awareness required for the purchase of health insurance. Health Insurance Literacy has to be explored more in the Indian context, as it includes the aspect of not just the confidence in choosing a plan, but also the behavioural aspect of the consumers.

Also, previous studies that have focused on the HIL did not consider its potential impact on insurance purchase as a mediator. There is insufficient evidence on the factors that affect HIL significantly. Although there has been increasing research done on framing bias in the domain of insurance, there is still a lot to be done in the field of health insurance to understand how framing bias affects health insurance purchases. Examining the role of Health Insurance Literacy in the purchase intention of health insurance, in the presence of framing bias and other related factors, is of utmost importance.

Additionally, most of the previous studies focused on either people with any health issue or people who are insured to study health insurance and its literacy. There is one segment of the Indian population, called the “Missing Middle” population, which has been neglected not just in research but also potentially in policy-driven solutions as such. This missing middle population is characterised by uninsured individuals working in both urban and rural areas, despite having the ability to pay reasonable premium amounts for private voluntary health insurance. They are not covered by the government insurance schemes nor by their employers. It is of considerable importance to understand the health insurance literacy levels of such individuals to gauge their intention to purchase health insurance. The main purpose of this study is to address this research gap by exploring how health insurance literacy of this missing middle population is being affected by various cognitive and financial factors, and how, in turn, it

affects their intention to purchase health insurance in the presence of framing bias. Primarily, this research aims to help in understanding a neglected segment of the Indian population and aid in developing any relevant policies for their benefit, thereby contributing in a small manner to the grand challenge of achieving the Sustainable Development Goal of Universal Health Coverage.

1.9 Scope of the Study

The research in the field of health insurance and the importance of achieving SDG 3.8 of Universal Health Coverage both emphasise the significance and timeliness of this study. This study focuses on health insurance literacy, which is part of financial literacy but has not seen the light as financial literacy has in the existing literature. Each dimension explored in this study addresses specific areas like the effect of cognitive style and financial knowledge on an individual's health insurance literacy, the role of sources of information in health insurance awareness, the impact of HIL on purchase intention, and the intertwining role of framing bias, highlighting the diverse aspects in this domain. This study aims to further develop these numerous aspects by exploring how different factors of health insurance literacy affect an individual's insurance decision. The present research aims to provide a substantial understanding of the relationship between health insurance literacy and purchase decisions. It also gives a holistic analysis that will augment current understanding and provide noteworthy insights for individuals, insurance companies, and policymakers aiming to reduce their financial hardships.

The research scope, which outlines the study's limitations and area of interest, is influenced by contextual factors, important constructs, and underlying conceptual dimensions. The key construct, which is health insurance literacy, is explained using the determinants that affect it, like cognitive style and financial knowledge. For example, the construct of an individual's health insurance literacy is examined by an understanding of their confidence in their skill and knowledge regarding health insurance, as well as their behaviour towards a health insurance

plan and their judgment about its usefulness. Specifically, this research focuses on the missing middle population in both urban areas of Telangana, which was not targeted in previous research. Hence, this work offers a unique standpoint on the concept of health insurance literacy as it focuses on the uninsured population in the missing middle segment, which is defined by their characteristics of capability to pay, but no health insurance coverage, providing different insights into the issues of this specific demographic with respect to their health insurance decisions.

1.10 Key Contributions of the Study

Scientific knowledge advances through an ongoing process in which new studies expand on the previously established framework of earlier studies, deepening our understanding and perspectives. Thus, before delving into detailed nuances, it is essential to determine how a particular study adds to the corpus of literature and practice currently in existence and its applicability to the readers.

The study explores health insurance literacy as a new concept using the theory of planned behaviour, prospect theory, and expected utility theory. It provides insights into how individuals' intentions lead to their behaviours, factors influencing their decisions, and provides an understanding of their choices to invest in their health. The research shows how an individual's confidence in choosing and using a health insurance plan impacts their intention to purchase a suitable health insurance plan for themselves. Ultimately, this research may delve into making health insurance literacy (HIL) a critical pillar for enrolment in health insurance and bring out the significance of HIL, especially for the Missing Middle population.

The study is driven by a practical problem existing in today's India, where a huge chunk of India's population is not covered by any type of health insurance, which needs to be addressed. Hence, this research is of particular importance to policymakers, insurance companies, and other key stakeholders as it tries to understand the factors influencing health insurance literacy beyond the general demographics. Understanding the psychological perspectives of the missing

middle will give practitioners, insurance companies an edge as it will help them focus on creating more inclusive health insurance policies and strategize accordingly.

1.11 Organization of the Thesis

Chapter 1 (Introduction): The first chapter offers a brief outline of the important concepts of the thesis. The research begins by providing the background information, the broad research area, and specifying the scope of the study. Furthermore, the chapter gives insights into the theoretical underpinnings governing the study and also the contributions, both theoretical and practical the current work intends to make, accordingly preparing the ground for the subsequent research.

Chapter 2 (Literature Review): This chapter reviews the existing health insurance and its purchase-related research, including conceptual, theoretical, and empirical studies. The investigation delves into the existing literature on health insurance, outlining the evolution of the concept and defining its scope. Furthermore, the chapter also illuminates related concepts applicable to the study, including financial knowledge, cognitive styles, and loss aversion, establishing the foundation for examining these variables within the thesis. Moreover, it recognizes and highlights research gaps revealed through the literature review for exploring unaddressed areas in the field of health insurance literacy.

Chapter 3 (Research Methodology): This chapter provides a comprehensive explanation of the research methodology adopted in the current study. Firstly, it explains the assumptions that align the research questions and the selected methodology, the specific research questions studied, and the research objectives of the research. Thereby, it helps in generating the conceptual framework of the current study and also in deriving the hypothesis that needs to be tested empirically as part of addressing the research objectives of the study. Secondly, the chapter provides a thorough explanation of how all the aspects being considered for the study were put into practice, the sampling plan, the instruments used for research, the data collection

methods used, and the tools used for analysing the data. Finally, it provides a detailed account of the ethical guidelines followed during the research process.

Chapter 4 (Data Analysis and Results): This chapter summarizes an overview of the statistical tools used in data analysis. Also, the chapter illustrates the findings of such statistical analysis and their interpretation.

Chapter 5 (Discussion and Conclusion): The final chapter presents a complete analysis of the reported results. Additionally, it explains the study's inferences, limitations, and provides the direction for further research.

CHAPTER 2

LITERATURE REVIEW

This chapter discusses the existing literature on Health Insurance Literacy and its related antecedents and outcomes. Based on this literature, research gaps have been identified and discussed in detail.

2.1 Indian Demographics

As of December 2024, the Indian population is 1,456,472,781 based on an elaboration of the United Nations Data. The Indian population represents 17.78% of the global population, out of which 36.6% is the urban population. The life expectancy is 73.9 years for females and 70.7 years for males. The median age in the country is 28.4 years.

India is growing immensely and has the potential to become a global superpower. This growth is driven not just by the consistent growth rate and increasing annual disposable incomes but also by the growing middle class in the country. The size of the Indian middle class is estimated to grow to 61% of the total population by 2047 from 31% in 2020-21.

The 2021 Report on "The Rise of India's Middle Class" by an independent tank, People Research on India's Consumer Economy (PRICE), and India's Citizen Environment categorizes income-earning households of India into four categories, namely:

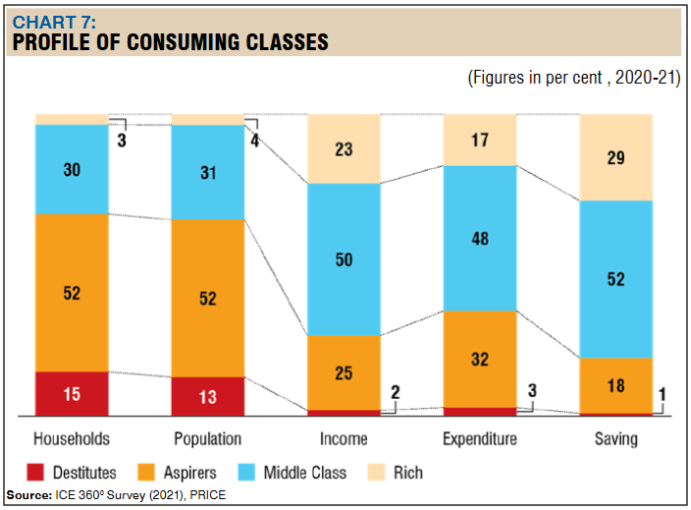
1. Affluent households earning more than Rs. 30 lakhs a year.
2. Middle-class households earning between Rs 5 lakhs to Rs 30 lakhs per year.
3. Aspiring households earning between Rs 1.25 Lakhs to Rs 5 lakhs per year.
4. Destitute households earning below Rs 1.25 lakhs yearly.

Estimates from their report suggest that by 2046-47, India will consist of a huge chunk of the Middle-Class population, around 1.02 billion, up from 715 million in 2030-31 and 432 million in 2020-21. In the categories they classified, the Middle-class group is found to be the

country's biggest contributor concerning "income (50 per cent), expenditure (48 per cent) and savings (52 per cent)" (Figure 2.1). By the end of this decade, it is estimated that there will be fewer destitute people and more people will transition from the aspiring group to the middle-class group.

Figure 2.1

Profile of Consuming Classes



Source: PRICE – ICE 360° Survey (2021)

In the context of income, around 56 per cent of Indian households are run by a single person as the sole breadwinner of the household, whose employment is not always permanent. These households include both the middle class and the aspiring class groups. The benefits accruing to such households in the form of bonuses or provident fund are not noteworthy. Also, health insurance benefits are available only to 35 per cent of these households where there is a single income-earning individual.

It was also observed that at least ten per cent of all Indian households take informal loans for various needs, and almost 25 per cent of such loans are spent on catering to medical emergencies and health-related issues. The lower-income households spend about 30 per cent of such loans on medical emergencies.

Despite India's growing workforce, the ability of this growing middle class to spur investments and growth by way of its aggregate purchasing power will not shine through unless this working-age population has a good education, which will enable them to make informed choices and contribute to the long-run productivity and economic growth of the nation. Such education will only help them in not making decisions such as taking informal loans for medical reasons, and instead, enable them to choose financially beneficial alternatives, such as health insurance.

2.2 Barriers to Purchasing Health Insurance

Health Insurance covers both the objectives of SDG 3.8, Universal Health Coverage, as it consists of both financial risk protection and access to quality healthcare services. Despite these benefits, countries are facing difficulties in meeting the health needs of their citizens. With rising healthcare expenditures, individuals are spending more from their own pockets, raising the country's OOPE, which is considered to be one of the significant hindrances to healthcare service consumption in Low and middle-income countries (Merga et al., 2022).

Indian government has taken many steps in introducing various insurance schemes catering to the needs of different age and social groups. In India, the insurance system is almost entirely funded by the government with no to minimal voluntary contribution from the beneficiaries. Research done on the impact of such schemes suggests that though they increased the utilisation of healthcare services than before, these schemes did not reduce the OOP expenditures substantially or increase financial risk protection. (Hooda, 2020b).

Health policy in India has always been based on " the principle of equity", mainly focusing on the poor and vulnerable population groups (Reshmi et al., 2021). These social insurance schemes ensure coverage and reduce OOPE for poor households. However, poor households are not earning enough income to spend on the extra services suggested by healthcare providers, also known as "supplier-induced demand". This shows the importance of understanding the

effect of health insurance on different income groups to achieve the goal of UHC (Al-Hanawi et al., 2021).

A direct relationship exists between the income of a person and enrolment in health insurance (T. K. Thomas, 2016). Research has also shown that as the level of economic inequality increases, it is difficult for public health insurance to meet all the needs of an average person, as the population is becoming more diverse and has different financial and health needs. As a result of this, many middle-income and wealthier households tend to resort to purchasing private health insurance (Pinilla & López-Valcárcel, 2020).

The demand for voluntary private health insurance also depends on cost, the health status of the person, and the awareness of individuals. For low and middle-income households, purchasing health insurance is not feasible if the premiums are very high. However, if the person is a high-risk individual suffering from existing illnesses, in that case, even higher premiums do not make health insurance less affordable. Since they may incur increased medical expenses without insurance, they prefer to purchase health insurance even when their premiums are higher than those of low-risk individuals, as it helps them to avoid high out-of-pocket payments (Bundorf & Pauly, 2006).

Another important factor concerning the purchase decision of health insurance is the attitude of individuals towards health insurance. Behavioural insurance is the new shift in the market nowadays. Behavioural biases can influence the demand for insurance. For example, narrow framing can lower insurance demand even if, in reality, that particular insurance is actuarially fairly priced (Corcos et al., 2020). Emotions also have a profound impact on the economic decisions of individuals. In the context of insurance, it was observed that individuals who were encouraged by positive emotions chose to purchase less insurance coverage, especially after loss events (Richter et al., 2019).

Awareness about health insurance-related aspects is of paramount importance; however, having more information does not always lead to the best decision. Lack of awareness of health needs

and the benefits offered by a health insurance plan induces low demand for health insurance products, especially for the "Missing Middle" population (Jain et al., 2022). However, this problem of asymmetrical information is a cause for concern in situations when there is "information overload". Information overload occurs when individuals have access to an overwhelming amount of information, which can create problems in their decision-making process (Gasimova, 2015).

Health Insurance is a dynamic and complicated product with many options and sub-categories of specific details related to coverage to be chosen. Oftentimes, a consumer might get confused by the number of layered decisions to make. This gives rise to the problem of "choice overload" as well. This situation can lead to dire consequences, such as "a decrease in the motivation to choose, to commit to a choice, or to make any choice at all" (Scheibehenne et al., 2010).

2.3 Health Insurance Literacy (HIL)

The effectiveness with which individuals use healthcare services and insurance is significantly impacted by "Health Insurance Literacy" (Levitt, 2015). This ability of the individuals to obtain, process, and understand health insurance-related information will have implications on the insurance purchase decision, insurance plan chosen, use of in-network providers, and perceived costs of care. These skills are necessary for understanding health insurance plan documents and terms, understanding insurance cost-sharing design (deductibles), and communicating with the insurance providers. Research has shown that most individuals in the young adult group have poor health insurance literacy levels (Tilley et al., 2018).

The concept of Health Insurance Literacy (HIL) is slowly gaining momentum in the research domain because of its significance in understanding the scope of health insurance purchase decisions, financial literacy, and financial well-being. Recently, researchers and policymakers have also emphasised the importance of having adequate health insurance knowledge and the lack thereof (Brown et al., 2023; Jain et al., 2022). Research has also shown that having HIL

will improve the performance of insurance companies and the insurance sector as a whole (Weedige et al., 2019).

It is crucial to understand the importance and scope of HIL in insurance purchase decisions. The scope of HIL can be looked at from two different lenses. Firstly, HIL is not the same as having general mathematical and numeracy skills. Having insurance literacy is not the same as having general literacy skills. Health Insurance Literacy can be defined as having the conceptual, technical, and procedural knowledge about health insurance and its benefits (Mathur et al., 2018).

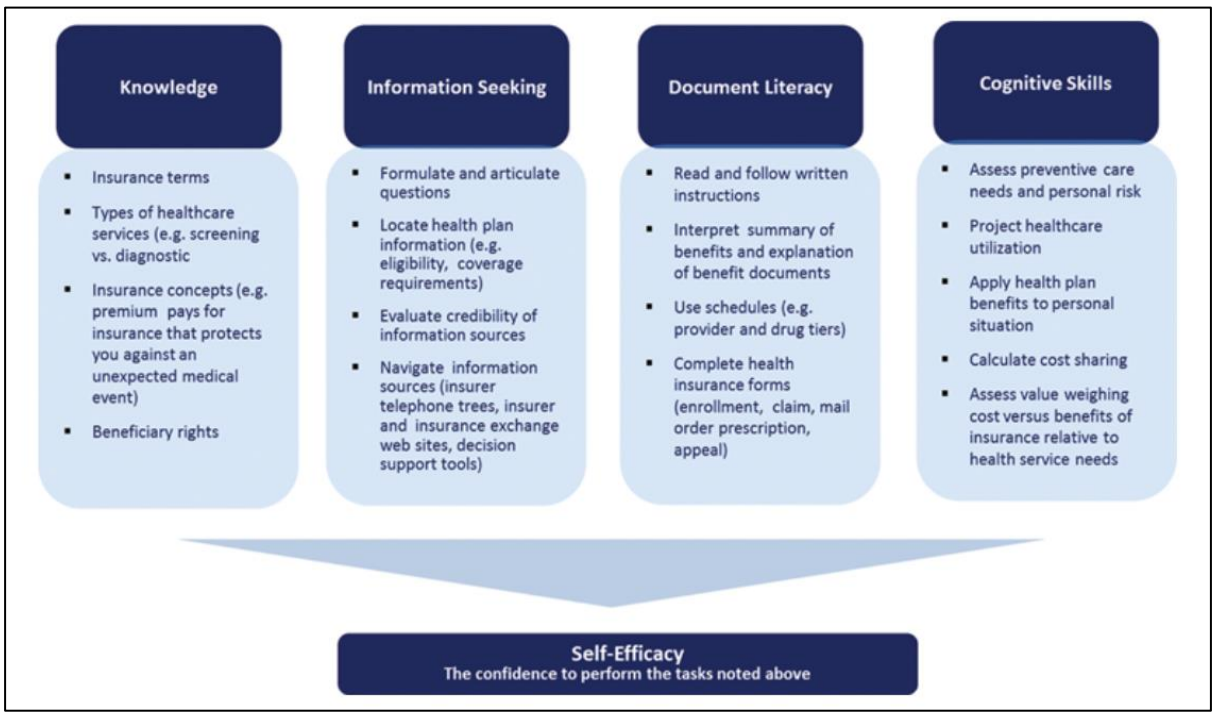
Secondly, Health Insurance Literacy is different from health literacy (Adepoju et al., 2019) or financial literacy. Many studies have explained health literacy as a concept that evaluates an individual's "degree to which he/she can obtain, process, understand, and communicate about health-related information needed to make informed health decisions" (Berkman et al., 2010). Whereas, Health Insurance Literacy has a wider scope as it portrays a larger perspective in promoting population health. Health insurance literacy has been a less-studied theme or area in research (Adepoju et al., 2018) which is garnering attention in recent times.

Lin et al. (2019) surveyed post-graduate students who were divided into two groups: one with actuarial education and one with only financial education and no actuarial education. This study focused on bringing about the difference between having financial literacy and having insurance literacy. It identifies that students with actuarial education outperformed the students with only financial literacy. So, only having financial literacy and no insurance knowledge will not help in making informed decisions in the case of insurance.

HIL is defined as "the degree to which individuals have the knowledge, ability, and confidence to find and evaluate information about health plans, select the best plan for their own (or their family's) financial and health circumstances, and use the plan once enrolled" (Quincy, 2012). HIL comprises health insurance knowledge, cognitive skills, self-efficacy, information seeking, and document literacy concerning the health insurance plans (Paez et al., 2014). (Figure 2.2)

Figure 2.2

The Health Insurance Literacy Framework proposed by (*Paez et al., 2014)*



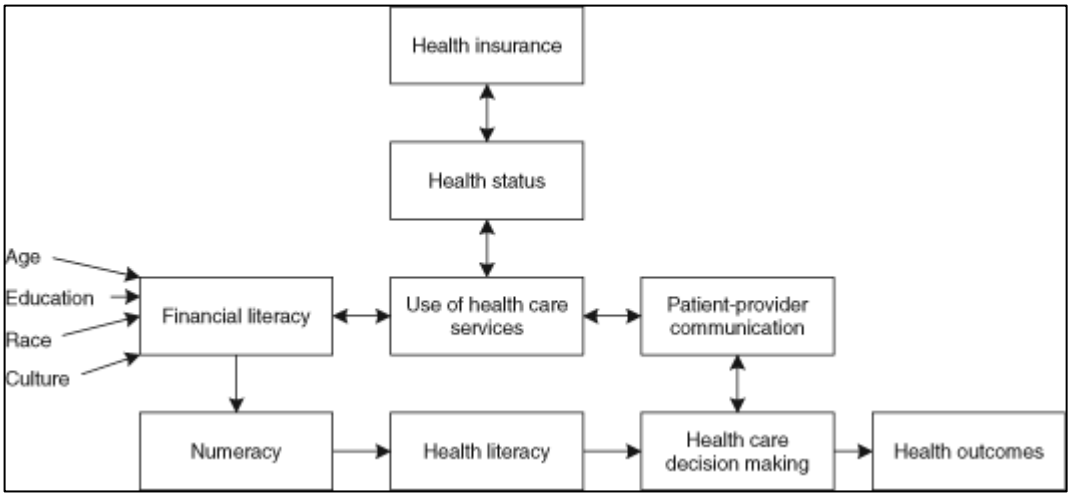
The framework proposed by Paez et al. (2014) focuses on confidence and likelihood of behaviour to assess the level of ease or difficulty with which an individual chooses and uses a health insurance plan. However, other frameworks offer a different perspective on the dimension of health insurance literacy.

2.3.1 Other Frameworks for HIL

McCormack's model for Health Insurance Literacy proposes a skill-based approach that integrates both individual-level and health system-level variables into the framework. It also accounts for the impact of an individual's age, education, race and culture on their level of financial literacy, which would thereby impact their health numeracy and health outcomes (Figure 2.3). It focused on older adults as the target sample, so it included questions to assess expertise in using the Medicare insurance system in the United States. It also compiled existing research on the principles of financial literacy and health literacy to assess health insurance literacy (McCORMACK et al., 2009).

Figure 2.3

Conceptual Framework of Health Insurance Literacy proposed by (McCORMACK et al., 2009)

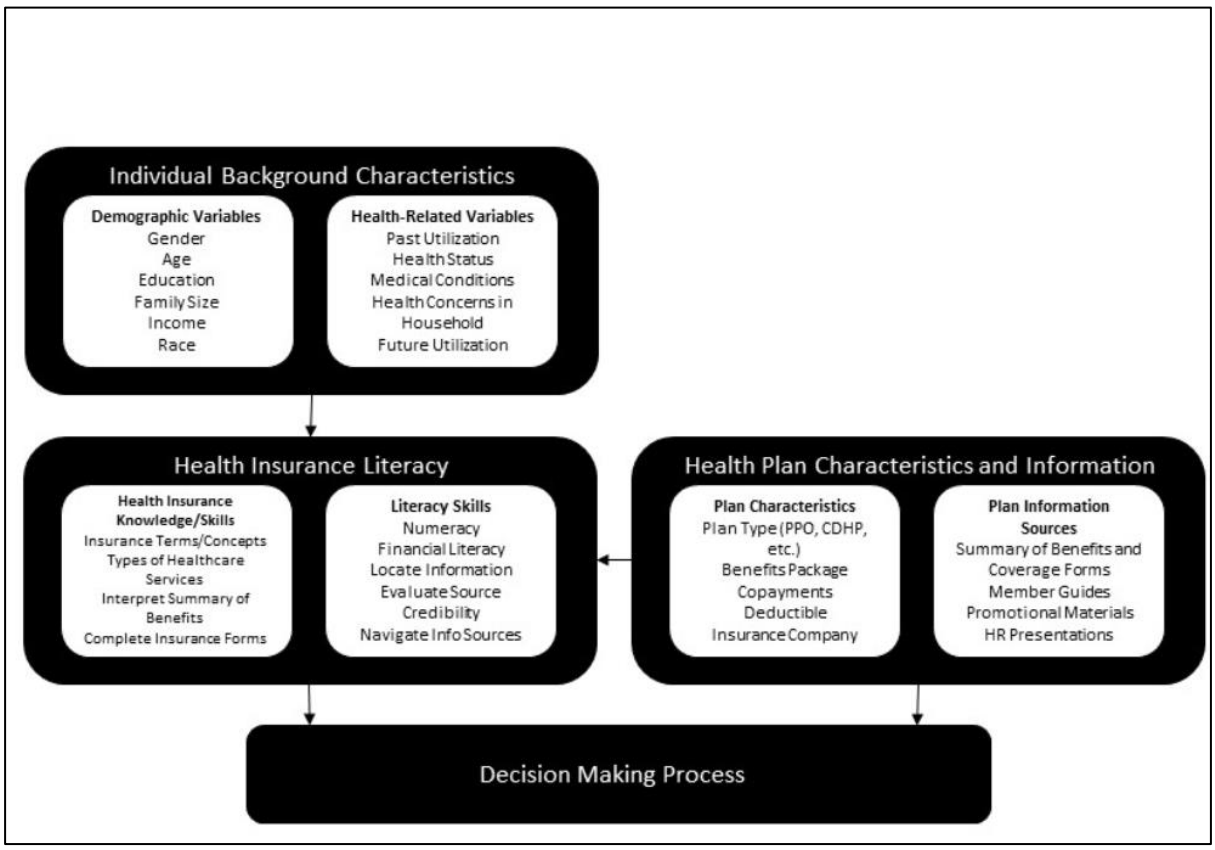


These are the only two documented models to measure health insurance literacy. However, Vardell, (2019) has proposed an integrative framework (Figure 2.4) for Health Insurance Literacy, combining these two frameworks with two health insurance decision-making models.

This integrated framework proposes that an individual's demographic and background characteristics lead to their health insurance knowledge and literacy skills. The framework further demonstrates how an individual's capacity to use their abilities efficiently is impacted by the information and features of their health plan. The features of a health plan influence a person's capacity to use their health insurance literacy knowledge and abilities, as well as their decision-making process.

Figure 2.4

Integrated Conceptual Framework of Health Insurance Literacy by (Vardell, 2019)



In all three frameworks, there is one common understanding that health insurance literacy goes beyond merely choosing a health insurance coverage plan. Health insurance literacy levels of an individual help them in "effectively navigating the health care system" (Tilley et al., 2018; Vardell, 2019).

2.3.2 Significance of Health Insurance Literacy

The Consumers Union, American Institutes for Research (AIR), and University of Maryland Extension (UME) organised a discussion in 2011 where the notion of Health Insurance Literacy was defined. The ability, confidence, and understanding to select and utilise health insurance wisely is known as health insurance literacy, and it is a relatively recent concept (J. Kim et al., 2013).

The combination of abundant health insurance choices and the limited knowledge of consumers in choosing the plan that is most suitable for them almost always results in the choice of a sub-optimal health insurance plan by the consumers, which not only leads to inadequate coverage and dire financial consequences, but also hurts the individual's health (Holst et al., 2022). Little to no understanding of health plans can lead to excessive spending on healthcare or affect the health of the consumers, and hinder progress towards the SDG goal of Universal Health Coverage (Adepoju et al., 2019).

Individuals with lower levels of HIL have greater difficulties in selecting an appropriate insurance plan than individuals with higher levels of HIL. And, often having lower levels of HIL is prevalent in population groups with "a high risk of unmet medical care needs, those of lower socioeconomic status, racial/ethnic minorities and older adults" (Bartholomae et al., 2016; Yagi et al., 2022). HIL enables individuals to engage in "information-seeking behaviour" that will help them to make informed decisions and "reasonable risk transfer to participating in health insurance". However, the concept of Health Insurance Literacy (HIL) is comparatively new in many developing countries (Nzowa et al., 2022).

Most of the research on Health Insurance Literacy was focused on the United States. There is a dearth of research on the same in developing countries like India. Especially now, more than ever, when almost 30% of the Indian population is not covered by any health insurance (Jain et al., 2022). India has a rich legacy of big private players in the health care segment, along with the government and its initiatives. Still, access to quality healthcare services is a distant dream for many sections of the vast Indian population. Health insurance, both private voluntary and government sponsored can play a vital role in increasing affordability and access to quality health care services (T. K. Thomas, 2016).

In the total expenditure on health care in India, 40 per cent of this population borrows money and sells assets to meet the expenses, and 25 per cent of the hospitalised population falls below the poverty line after catastrophic spending on healthcare. In India, a significant 70 per cent of

the population spends out of pocket on healthcare expenditure. Health Insurance can be an alternative mechanism to protect people from these catastrophic expenses (Kansra & Gill, 2017). For the effective utilisation of health insurance, individuals must have the required knowledge for understanding, evaluating, choosing and using an appropriate health insurance plan suiting all their needs. To assess the health insurance literacy level of an individual, understanding the factors affecting this literacy level is of paramount importance.

Understanding determining factors of HIL will help policymakers in planning "individual-centric interventions" for better health and well-being (O'Connor & Kabadayi, 2020). Different factors affect an individual's health insurance literacy, which is integral to their financial well-being and which differ for each individual.

2.3.3 Determinants of HIL

Individual characteristics influence their ability to choose, compare and utilise health insurance. Identifying factors that impact HIL levels will enable taking efforts towards improving insurance literacy among healthcare consumers and ultimately, will lead to better healthcare outcomes and the achievement of the SDG goals of UHC and good health (Adepoju et al., 2019).

Research has found that consumers often find it uninteresting to choose a health plan and sometimes, avoid such decisions. This is referred to as "Decision Avoidance", explained by Anderson as "a tendency to avoid choosing by postponing it or by seeking an easy way out that involves no action or no change" (Holst et al., 2023). The decision taken by an individual whether to purchase or not depends largely on their decision-making style.

Cognitive Skills or cognitive styles correspond to the decision-making styles of individuals, which considerably alter their lives. "The term 'cognitive style' refers to individual differences in the representation, organisation and processing of information during thinking (Messick, 1984, 1996). The objective of understanding individual differences is gaining importance in

research in social sciences, as cognitive styles are connected to “preferences” and “behavioural outcomes” across numerous areas (Akinci & Sadler-Smith, 2013) . The decision-making styles, according to earlier research, are categorised into two groups, namely analytical (logical) and intuitive (emotional) (Allinson & Hayes, 1996; Sagiv et al., 2014). These styles significantly drive an individual’s personal financial planning and resource allocation (Guzman et al., 2019). These two decision-making styles are in contrast with each other.

According to (E. R. Smith & DeCoster, 2000), those who think logically, i.e. analytically, typically employ systematic reasoning. They try to determine underlying rules by analysing the situations and weighing the pros and cons of different options. These rules assist individuals in arranging their world into patterns that they can depend upon when deciding how to respond to various alternatives to make decisions. Whereas, Intuitive thinking style, also known as experiential or associative thinking, is used by individuals who consider context, sentiments, and facts in addition to integrating associations and depending on intuition (Sagiv et al., 2014).

Apart from the fact that consumers might be overwhelmed with the options they need to choose from, there is also evidence that consumers should have certain skills to choose a health insurance plan (Holst et al., 2023). Another critical component, other than literacy skills, to have insurance literacy is financial knowledge (Mare et al., 2019). Any individual, according to the behavioural life cycle models, follows a similar household life cycle savings pattern (Lusardi & Mitchell, 2017). Individuals divide their wealth into three different mental accounts: namely, current income, current assets and future income, according to the behavioural life cycle theory (Shefrin & Thaler, 1988). The urge to spend is highest for the current income, which hampers households' savings potential and leads to wealth inequity.

Lusardi & Mitchell, (2011) state that some degree of lack of financial knowledge is rational, as consumers can't have full financial knowledge from the start of their economic lives. So, financial knowledge can be improved throughout life by individuals, and it changes with age,

education and other uncertainties in life. When consumers are provided with no-cost social security schemes, they prevent households from falling into poverty. However, they reduce the consumers' precautionary savings motive, which does not let them purchase insurance, despite having the ability to do so (Lusardi & Mitchell, 2017). In such situations, having financial knowledge will positively affect their financial behaviours (T. Kaiser & Menkhoff, 2017).

Financial knowledge is an integral part of financial decision-making (Asandimitra & Kautsar, 2020; O'Connor & Kabadayi, 2020). Financial knowledge enhances the ability to deal with financial information and understand the consequences of financial decisions such as investing, saving, and borrowing (K. T. Kim et al., 2022). Studies have operationalised financial knowledge into two distinct segments, namely objective financial knowledge (OFK) and subjective financial knowledge (SFK) (Allgood & Walstad, 2016; Lusardi & Mitchell, 2011b; O'Connor & Kabadayi, 2020). While OFK deals with the actual information and skills possessed by the individual, SFK refers to the "consumers' assessment of their knowledge" (Hadar et al., 2013). Individuals with a higher degree of financial knowledge deal with their finances more efficiently than those with no or less financial knowledge (Saurabh & Nandan, 2018). In the context of insurance, research has found that the more financial knowledge, the more the chances of choosing the appropriate insurance products (Xiao & Porto, 2019). So, individuals with higher financial knowledge will have a higher level of HIL, which will give them confidence in their ability to ultimately purchase health insurance.

Consumers must have an awareness of basic financial skills to understand health insurance concepts such as cost-sharing and deductible payments (O'Connor & Kabadayi, 2020). They will be able to purchase an appropriate plan and make better financial decisions with the help of this financial knowledge. Choosing a health insurance plan might be confusing for those with inadequate health insurance literacy (Nobles et al., 2019). Their understanding of finance gives them the skills and self-confidence needed to change this story. Also, very little research has been done to look at how OFK and SFK affect HIL and how HIL functions as a mediator.

Another important factor affecting the insurance decisions of consumers is the information they have access to, obtain from various sources and ultimately use to make informed decisions. The information used for such purposes is called the "Knowledge Capital" and is used to make health-enhancing decisions. Information bridges the gap between the haves and the have-nots. In the context of health insurance, information about health insurance products and the confidence of individuals in using this information is referred to as health insurance literacy. Without health insurance literacy, individuals lack the required knowledge to enrol for health insurance (Colón-Morales et al., 2021).

Previous research has shown that individuals purchasing health insurance not only experience healthier lives but are also financially secure enough to take care of their well-being (Whitsel et al., 2023). The World Bank also enlisted Universal Health Coverage as one of its triple billion targets, which were aimed to be achieved by 2023. As per the Global Monitoring Report (2021) of the World Bank, UHC is far below its target, with a shortfall of 731 million. With the right information at the right time, individuals can make the right decisions about insurance purchases as well as other financial decisions. The sources through which individuals gather information and process it can affect their purchase intention accordingly (Colón-Morales et al., 2021).

In the context of the definition of health insurance literacy by Quincy, (2012) where individuals are considered health insurance literate when they can confidently find and utilise the required information, it is evident that various sources of information through which the consumers gain knowledge significantly affect their health literacy and purchase decisions. In the process of acquiring knowledge, the type and quality of the source are important factors. Making informed choices will be facilitated by gaining access to and understanding of relevant knowledge from many sources. Newspapers and television are the most prevalent official sources, whereas friends and family are the most prominent unofficial sources (Colón-Morales et al., 2021; Unnikrishnan et al., 2021). Insurance agents are among the official sources who are crucial to

consumers' decision-making when it comes to buying health insurance (Karaca-Mandic et al., 2018). These sources of information have a profound influence on consumers' decision-making when it comes to following preventive healthcare behaviours.

Asymmetric information, moral hazard, and adverse selection are some of the many issues that characterise the insurance sector. Due to their informational advantage over customers with limited insurance literacy, insurance companies hold a strong position in the market. Therefore, insurance literacy is crucial in influencing people's decisions and minimising this information imbalance (Cucinelli et al., 2021). Due to incomplete information, customers frequently make decisions that later prove to be unwise. Accurate and helpful information obtained from reliable sources will raise consumer health insurance literacy and knowledge, which will increase demand for health insurance.

In conclusion, insurance knowledge is a key determinant in the willingness to purchase health insurance of an individual (Donfouet et al., 2011). Only individuals with a higher HIL can value the risk taken in purchasing insurance, as they are aware of the benefits the insurance plan holds for them (Lin et al., 2019). The intention to purchase health insurance is also positively influenced by health insurance literacy (Mamun et al., 2021).

However, the fact that it has become necessary to understand individual characteristics to understand their perception or knowledge about health insurance literacy has made insurance a behavioural concept as well. Recently, the research in the insurance domain has turned towards a concept called “behavioural insurance”.

2.4 Insurance and Insights from Behavioural Economics

Research in the field of economics has largely been using the theory of expected utility to explain individuals’ or consumers’ behaviour. The expected utility theory posits that individuals use their analytical and logical thinking skills to maximise their utility to the fullest.

While Expected Utility Theory is normative, behavioural economics is descriptive. It tries to describe, understand and predict how people behave in reality. In the context of health insurance, too, with their limited information processing capabilities, and depending on the context in which information is presented to them (Richter et al., 2019), consumers make decisions that may or may not lead to favourable circumstances in the long run.

Behavioural economics as a field focuses on explaining the impact of psychological biases that affect consumers' decisions. According to traditional or normative economic theory, human beings are always rational and make logically right decisions all the time; however, that is not the case in reality. Most of the time, consumers make random financial decisions based on their intuition, emotional and psychological biases. This tends to happen because of the existing limitations surrounding them while they make a decision. Taking decisions within these limitations suggests that rationality is limited and, under these limitations, individuals will select a decision that is satisfactory rather than optimal, which is referred to as bounded rationality (Simon, 2000). Bounded rationality theory posits that consumers use their gut and intuition to drive their purchase behaviour. Behavioural economists like Kahneman and Tversky have approached these behaviours through the lens of various biases like confirmation bias, status quo bias, hindsight bias, etc.

Many times, individuals do not purchase insurance policies voluntarily. Sometimes, it is a mandatory requirement, like automobile insurance, or it is done by employers to obtain tax incentives. Among those individuals who do purchase it voluntarily, the decision often does not follow the standard benchmark economic models. Hence, to understand consumers in the insurance industry, a shift towards behavioural economics is made to focus on systematic biases and heuristics that drive consumers towards choices that do not follow the classical economic models (Kunreuther et al., 2013).

While behavioural science is a relatively new field in the insurance industry, it has the potential to revolutionise underwriting, foster customer trust, incentivise customers for healthy actions,

and much more. The future direction for the sector has evolved recently, moving from goal-focused insurance policies to incentivising based on lifestyle. Regulating bodies like the IRDAI (Insurance Regulatory Development Authority of India) have also acknowledged this, in terms of making guidelines that ensure policyholders stay fit as key features in the health policy. This also strengthens their goal to achieve " insurance for all" by 2047.

In the insurance domain, many concepts make the behavioural aspects within it visible. Firstly, consumers are risk-averse. Secondly, in purchasing insurance, consumers often have certain beliefs about losses and gains they would get in terms of buying an insurance policy. And thirdly, consumers decide on purchasing insurance depending on their time preferences. They would not buy an insurance plan if they see it as a time-limited contract (Harrison & Ng, 2019).

In this context, it becomes important to understand selected behavioural biases that are a major part of health insurance purchase decisions.

2.4.1 Risk Aversion and Its Relation to Health Insurance

Risk aversion is a vital concept in behavioural economics. It shows that individuals are ready to sacrifice their anticipated payoffs in exchange for reduced risk (Ert & Haruvy, 2017). The preferences of individuals in terms of risk determine their demand for insurance as well as many other financial decisions. Insurance reduces uncertainties with respect to financial losses. However, the welfare gains from such a decrease in uncertainties are dependent on an individual's degree of risk aversion, which in turn depends on several background risks like income risk (which cannot be avoided). Such background risks make a risk-averse individual vulnerable, whereby they take steps to reduce their avoidable risk by increasing insurance demand (Van Winssen et al., 2016).

Insurance has seen the presence of adverse selection as a longstanding problem in the industry. However, when the insurer does not observe risk aversion, it becomes a boon to the insuring individuals as it drives the problem of information asymmetry to lead to advantageous selection

and not adverse selection. Risk aversion shapes the individual's demand for insurance as well as their probability of experiencing the risk for which they are insured (Schmitz, 2011).

Risk-averse individuals usually pay a price higher than the actuarially fair price of the insurance contract (O'Donoghue & Somerville, 2018). Consequently, only people with a higher HIL can value the risk taken in purchasing insurance, as they are aware of the benefits the insurance plan holds for them (Lin et al., 2019).

2.4.2 Loss Aversion and Its Relation to Health Insurance

The classical expected utility theory suggests that individuals with a preference for risk aversion should fully insure themselves against all avoidable risks. However, the level of insurance take-up is far below the predicted numbers. This deviation is attributed to another behavioural bias called "Loss Aversion". It originates from the prospect theory (Kahneman & Tversky, 1979) and it suggests that individuals assess a potential prospect from a gain or loss perspective from a reference point, and not from the overall effect of the prospect on their final wealth (Hwang, 2021).

The basic philosophy underlying this concept is that "losses loom larger than gains" and that individuals experience greater disappointment when they face a loss of a certain amount as compared to gaining the same amount. Also, loss aversion impacts individuals only in the case of mixed prospects, where the outcome is either a gain or a loss. In such types of insurance contracts, loss aversion depends on the individual's reference point and potentially provides for a welfare gain for the insured (Van Winssen et al., 2016).

In the case of insurance contracts, the individuals treat these contracts as risky investments, and the premiums paid are considered losses. So, an individual with a high degree of loss aversion may reject investing in the insurance contract owing to its gain-loss structure (Hwang, 2021; Richter et al., 2019).

Not just in insurance, but in other domains as well, such biases can be overcome with solutions that alter the choices individuals make. Insurance may significantly improve consumer well-being and the state of the economy if it is correctly purchased and sold. Hence, it is imperative to improve the decision-making environment of consumers, so that they make wise choices that will not just improve individual welfare, but also the social welfare of the economy as a whole (Kunreuther et al., 2013).

2.5 Choice Architecture

Choice architecture involves "organising the context in which people make decisions". Institutions or individuals who act as choice architects are responsible for this. Choice architecture drives people's decisions in the right direction to improve their lives, but only through subtle nudges that lead to self-conscious efforts and not any forced efforts (Thaler & Sunstein, 2008).

Choice architecture is the process of framing information and options in such a way as to encourage decision-makers to make a choice closer to the benchmark model. It helps individuals to choose the best alternative for themselves despite having imperfect information and behavioural biases, and is referred to as the "soft paternalistic" model (Kunreuther et al., 2013). Policymakers can organise decision-making conditions to encourage decisions that serve society's interests as well as the interests of the decision-makers by using choice architecture (Bang et al., 2020).

In the context of health insurance, consumers face difficulty in choosing the right plan relative to their usage. To select a suitable plan, many times consumers fail to make the required calculations. Johnson et al. (2013) conducted an experiment-based study to understand the same, and their research has brought out interesting insights that for consumers to choose the right alternative, they need to have the right "mental model" and the ability to make the required calculations. Consumers need help "in deciding how to decide" when given the choice between two decision-making environments. Consumers' choices can be improved through " just-in-

time education, smart defaults and cost calculators, etc". This list of design interventions includes many other ways as well, like "sorting by cost, presence of quality cues and limiting the number of options", which improve cost-effectiveness (Johnson et al., 2013).

These subtle interventions are called "nudges". Any feature of the choice architecture that modifies people's behaviour predictably without eliminating options or drastically altering their financial incentives is referred to as a nudge. The intervention must be inexpensive and simple to avoid qualifying as a mere nudge. A nudge is not the same as a tax, fee, obligation, subsidy, or prohibition (Thaler & Sunstein, 2008).

2.5.1 Nudges

Choice overload has been a longstanding problem in the area of healthcare policy, especially in matters of health insurance (Ericson & Sydnor, 2017). Too many choices confuse consumers, in addition to their behavioural biases and affect their decisions considerably.

Choice architecture and designing decision environments are unavoidable for policymakers and choice architects in various sectors. Policymakers and industry players who are in sectors like insurance that affect public welfare must design such environments with utmost care and responsibility so that they encourage efficiency, effectiveness and public acceptance. Choice architecture, if used in the form of a nudge, can influence and improve behavioural outcomes. It can promote such choices that benefit both decision makers and society. It also offers tools through which the decision maker can focus on important information and integrate it (Bang et al., 2020).

Nudges are typically designed in such a manner that the choice architects design the choice environment to encourage the selection of a better alternative without changing any incentives or prices. They should help individuals facing behavioural biases due to bounded rationality to overcome them, and at the same time, they should not affect the decisions of people who are already adequately rational (D. H. Thomas & Jona, 2018).

Nudges can take the form of 'overt or covert' decision-making. Overt nudges refer to a conscious process using higher-order thinking skills to make better choices. Covert nudges refer to a subconscious process using lower-order skills (Felsen et al., 2013). Previous research (Bang et al., 2020; Sunstein, 2015) has found that overt nudges (placing healthy food at eye level in a supermarket) are more effective than covert nudges (donation to charity being a default option while paying bills). Overt nudges are more favourable in the eyes of consumers as they give individuals the autonomy to make better decisions rather than forcing default options on them (Bang et al., 2020). In health insurance, mostly covert nudges, which fix default options, are preferred by a good majority; however, the approval rate is higher for overt nudges, which provide 'informational reminders and educational opportunities' as people are more comfortable with them (Sunstein, 2015).

For decisions taken by individuals to be autonomous, they have to be rational and taken with sufficient time and information at hand (Felsen et al., 2013). Providing information leads to a 'conscious deliberation' and the use of higher-order thinking skills. The informational context and framing have a significant effect on the demand for various types of insurance, including flood, auto, life, social security, and health (Burkovskaya et al., 2022).

2.5.2 Framing Bias and Its Impact on Health Insurance Decisions

The term "framing" was introduced by Tversky & Kahneman, (1981) and it explains that the decisions taken by individuals are largely influenced by how choices are presented to them. All the other behavioural biases, like loss aversion, risk aversion, anchoring, etc, are extended versions of framing in one or the other way (Richter et al., 2019).

Framing of insurance contracts can lead to either underinsurance or overinsurance, depending on the effect the bias has on the insurance choices of individuals. Understanding how this framing bias affects insurance choices has significant implications for policymakers and consumer welfare (Burkovskaya et al., 2022). Framing has to be taken care of by the insurance providers at the time of product design itself, and in the presentation of the plan in brochures

and information with the financial advisors. Framing is an important aspect in understanding insurance choices of individuals as it affects their decision to purchase a plan, even when the choices available are equal in economic terms but differ in their explanations and presentation of information (Richter et al., 2019).

2.5.3 The Information Problem in the Health Insurance Industry

Asymmetric Information has been a long-standing problem in the insurance markets. The major problems in the insurance industry, moral hazard and adverse selection, are a result of asymmetric information.

When presented with too many options, consumers may become overwhelmed and make poor choices. When consumers have too many options in the insurance market, especially if they aren't screened for quality and price beforehand by an agent like an employer, they tend to use inadequate methods of decision-making, like relying on recommendations from friends and family or sticking with their current insurers (Loewenstein et al., 2013).

Consumers find it difficult to navigate through the plethora of insurance plan options available, to identify authentic information sources, to extract relevant information from the right sources, and finally, to synthesize all the information from various sources. This information problem will hamper the consumers' insurance purchase decision process and delay it further (Donfouet et al., 2011), and such a phenomenon is known as 'choice overload', which may lead to adverse consequences (Scheibehenne et al., 2010). Having too many options puts a greater cognitive load on consumers (Johnson et al., 2012) and may result in inadequate choices, like preferring sampling or disengaging entirely from the purchase behaviour (Ericson & Sydnor, 2017). Consumers also deviate from the benchmark models of demand, such as the expected utility theory, when they do not have accurate information (Kunreuther et al., 2013).

Hence, access to information can significantly affect the demand for insurance, and the more information advantage the consumers have, the easier it gets to reverse the information

asymmetries between them and insurers, which might as well bring changes in the welfare and competition in the insurance markets (Gandhi et al., 2020). In the context of health insurance, consumers can gain by having a comprehensive understanding of the plans that are offered, and advice on how to select a plan based on personal circumstances through health insurance literacy. Access to and comprehension of relevant information that can aid in decision-making are necessary for making informed decisions (Colón-Morales et al., 2021).

Without Health Insurance Literacy, consumers tend to get confused with the range of choices available and the complexities within (Harnett, 2019) especially in the case of private health insurance options (Adepoju et al., 2019). Health insurance providers typically apply insights from behavioural economics in the form of nudges to improve medical underwriting, claims, sales and marketing strategies, and product design. But it is now time for insurance providers to take cognizance of the fact that by addressing insurance literacy concerns, they need not apply nudges in product design and sales strategies. It also points out that every insurance company should be wary of not relying too much on consumer choice in designing new policies, as a majority of consumers do not have the required health insurance knowledge or literacy (Osmane & Bowen, 2017).

Table 2.1 *Overview of Literature on Health Insurance and Health Insurance Literacy*

Authors	Theoretical Framework	Key Findings	Gaps/Limitations	Country
Lusardi, Michaud & Mitchell (2017)	Behavioural life cycle model	Financial knowledge increases over the life cycle; higher education correlates with higher financial literacy. Social insurance schemes reduce precautionary savings motives.	Does not include empirical testing to validate the model predictions. Limited exploration of specific behaviours related to health insurance choices.	USA
Inwood (2017)	Human Capital Theory (HCT)	Health investments are key to human capital development. Many farmers lack insurance,	Focuses solely on the agricultural sector; lacks generalizability to other industries.	USA

		emphasizing the connection between health, human capital, and farm productivity.		
Osmane & Bowen (2017)	Not explicitly stated; focuses on financial and health insurance literacy.	Younger individuals with high perceived knowledge make efficient insurance decisions. Most consumers lack adequate health insurance literacy.	Limited generalizability due to reliance on a specific demographic (tax program participants).	USA
Zhao (2017)	Crowding-out Effect Theory	Subsidized social insurance reduces the demand for private insurance and savings. Social insurance also impacts non-eligible individuals indirectly.	Theoretical simulation lacks direct empirical testing. Limited focus on heterogeneity in consumer behaviour across demographics and income groups.	USA
Ericson & Sydnor (2017)	Behavioural Economics and Risk Aversion Theory	Excessive choices cause confusion and choice overload, leading to suboptimal decisions or no purchase at all. Risk-averse consumers value plans with more coverage.	Focuses heavily on behavioural aspects without linking them to specific real-world policy interventions. Does not address other demographic disparities.	USA
Xiao & Porto (2018)	Not explicitly stated; empirical approach using logistic regression.	Lack of financial knowledge discourages advice-seeking and positive financial actions.	Limited to life insurance; excludes health, auto, and other types of insurance.	USA
Eeckhoudt et.al (2018)	Prospect Theory vs. Expected Utility Theory	Insurance demand is influenced by perceived gains/losses, not just final wealth.	Lack of empirical validation of theoretical predictions.	Not specified
O'Donoghue & Somerville (2018)	Expected Utility Theory	Risk aversion significantly drives insurance demand; highly risk-averse individuals pay more, often higher	Predictions based on expected utility theory often fail empirical validation.	Not specified

		than the actuarially fair price.		
Mathur, Das, & Gupta (2018)	Not explicitly stated; focuses on HIL.	Private insurance demand is influenced by perceptions and HIL. Favourable perceptions increase demand.	Limited focus on private insurance. Relies on subjective self-reported measures for perceptions.	India
Dong (2018)	Not explicitly stated	Younger, uninsured individuals make severe financial sacrifices when uninsured, which can be reduced by Financial literacy.	Limited to the U.S. and lacks consideration of international health systems.	USA
Tilley, Yarger, Brindis (2018)	Not explicitly stated	Young adults have poor HIL, influenced by a heavy reliance on parental plans. Context (e.g., school transitions) affects their insurance decisions.	Focuses narrowly on young adults; excludes older and middle-aged populations facing similar challenges.	USA
Bhatia & Mittal (2018)	Not explicitly stated	Health insurance penetration in India remains low. Improvement requires microinsurance, better regulations, and service-oriented mechanisms.	Lacks primary data or new findings; focuses on sectoral trends without evaluating detailed consumer behaviour or emerging market responses.	India
Mandic, Feldman, & Graven (2018)	Not explicitly stated	Agents/brokers significantly help reduce consumer information gaps. Small firm employees receive less insurance than their counterparts in large firms.	No empirical evidence on agent impact; focus is limited to agents in the U.S.	USA
Adepoju, Mask, McLeod (2018)	Health Literacy vs. Health Insurance Literacy	HIL is distinct from health literacy; inadequate HIL is a barrier to better healthcare utilization and population health.	Limited scope focusing only on term distinctions without measurable frameworks or policy implications.	USA

Kettlewell (2019)	Not explicitly stated	Having health insurance positively influences healthcare utilization, supporting the need for informed policy reforms.	The study is specific to Australia; generalizability to other contexts is uncertain.	Australia
Vardell (2019)	Integrated Framework for Health Insurance Literacy	Limited HIL leads to disparities in healthcare access and utilization, affecting low-income populations most significantly.	Lack of primary data analysis and a lack of real-world validation.	USA
Bocoum, Grimm, Hartwig & Zongo (2019)	Information Processing and Behaviour Models	Information campaigns improved CBHI enrolment but were insufficient alone; external factors like political conditions also affect uptake.	Applicability outside Burkina Faso is uncertain due to distinct political and socioeconomic contexts.	Burkina Faso
Sane, Thomas (2019)	Consumer Behaviour Models	Insurance renewals most likely occur within two months of policy expiration; microfinance membership encourages quicker renewals.	Insights are limited to the Indian context, with no assessment of global insurance repurchase behaviours.	India
Harnett (2019)	Financial Literacy and Health Insurance Literacy	HIL and financial literacy are key to understanding health insurance plans; including these concepts in school curricula could improve decision-making.	No empirical studies validate the effectiveness of educational integration.	USA
Adepoju, Mask, McLeod (2019)	HIL and Choice Overload Theories	Younger and privately insured individuals have lower HIL due to overwhelming choices; simpler plans could improve understanding.	Context-specific focus on U.S. systems.	USA
Lin, Bruhn & William (2019)	Insurance Literacy vs. Financial Literacy	Actuarial education significantly improves insurance literacy (HIL). Students with higher HIL better understand the risks and benefits of insurance plans.	Focused only on post-graduate students; narrow demographic not generalizable to broader populations.	Not Specified

Mare, Dragoș, Dragotă (2019)	Consumer Insurance Literacy	Financial knowledge is critical for insurance literacy. Income and urbanization positively influence life insurance demand, while unemployment negatively impacts it.	Results may be influenced by regional disparities, restricted to Romanian counties, without a global context.	Romania
Chandra, Handel, Schwartzstein (2019)	Behavioural Economics in Health Insurance	Consumer uncertainty and behavioural biases limit effective plan selection; informed consumers are more likely to make efficient insurance decisions.	Largely theoretical without empirical validation; applicability to real-world policy challenges is limited.	USA
Hero, Sinaiko et al. (2019)	HIL	HIL significantly impacts consumer satisfaction in health insurance; brokers' assistance in off-market purchases, but low HIL leads to negative purchasing experiences.	Relies on self-reported data from surveys, which may lead to response biases.	USA
Harrison & Ng (2019)	Behavioural Economic Theory in Insurance	Risk and loss aversion are key influences in insurance behaviour; social capital affects insurance adoption. Highlights unmet research on consumer risk preferences.	More theoretical than practical; limited quantitative validation or innovative product development strategies offered.	Global Perspective
Pardo (2019)	Impact of Healthcare Reform on Insurance Choices	Higher-income groups prefer private insurance for higher returns; risk-tolerant consumers opt for public insurance; women and older adults select private insurance.	Focused on Chile, limiting global relevance. Examines behaviour without exploring broader systemic healthcare issues.	Chile
Patel, Israel, Song, et al. (2019)	Intervention-Based Study	"Insuring Good Health" intervention improved attitudes toward seeking assistance and preventive care in underserved areas of Detroit and Michigan.	Region-specific intervention may not generalize to other geographical or cultural settings.	USA

Li, Liu, Shi, Sui (2020)	Risk Attitudes in Insurance Decisions	Higher risk aversion reduces financial risk-taking even with insurance. Households with less risk aversion are more willing to reduce medical expenditure risks.	Focused only on medical expenditure risks, leaving other types of insurance decisions unexplored.	Not Specified
Nagy, Alt et al. (2020)	Loss Aversion & Technology in Insurance	Loss aversion reduces insurance demand; technology acceptance positively influences insurance behaviour. Individual aversion behaviours vary contextually.	Technological bias may not be applicable in low-tech societies, lack of real-world implementation validations.	Romania
O'Connor & Kabadayi (2020)	Determinants of Health Insurance Literacy	Factors like locus of control, cognitive style, and financial knowledge determine HIL; those with stronger HIL tend to reduce healthcare costs by purchasing insurance.	Focus on measuring HIL, but lacks strategies for improving it across diverse groups.	Not Specified
Gottlieb & Mitchell (2020)	Narrow Framing in Insurance Demand	Narrow framing leads to lower demand for long-term care insurance; individuals perceive it as a risky investment only if benefits exceed premiums.	Primarily derived from U.S. population surveys, results may not apply to all insurance types.	USA
Zheng (2020)	Narrow Framing and Insurance Demand	Mathematical modelling shows that narrow framing explains low insurance demand, especially in disaster and health insurance, influenced by behavioural biases like loss aversion.	Mathematical modelling may oversimplify real-world decision-making. Results may vary with other types of insurance or real-world data applications.	Not Specified
Purohit (2020)	Public and Private Healthcare Economics	India's healthcare system has gaps despite policies like Ayushman Bharat. Government health schemes focus more on secondary care, neglecting outpatient care.	Focuses only on India; lacks a comparative global perspective on policy implementations and outcomes.	India

Janzen, Carter, Ikegami (2020)	Index Insurance and Social Protection	Integrating index insurance into social protection systems reduces poverty and social protection costs.	As a theoretical model, it lacks empirical support from real-world data, limiting its applicability.	Developing Countries
Corcos et.al. (2020)	Behavioural Insurance, Framing Effects	Framing biases affect insurance demand; they determine and leverage insurance demand.	Theoretical focus makes it hard to test across different insurance markets or regions.	Not Specified
Janzen et al. (2020)	Behavioural Factors in Insurance and Social Protection	Different types of insurance are influenced by risk aversion, ambiguity aversion, and inconsistent time preferences; social protection systems must be proactive.	It may not apply to non-agricultural or non-index insurance schemes and lacks geographic contextualization.	Not Specified
Guber, Kocher, Winter (2020)	Moral Hazard & Adverse Selection in Insurance	Insured individuals tend to have greater self-confidence than the uninsured; moral hazard and adverse selection are experimentally analysed.	Experimental settings may not fully capture real-world decision-making.	Not Specified
Courbage, Nicolas (2020)	Education, Trust in Insurance, and Insurance Literacy	Higher education increases insurance literacy but lowers trust in insurance. Individuals tend to trust insurance more via print than the internet.	Limited to high-income countries; cross-sectional data limits generalization.	High-income countries
Bhatia, Bhat, & Tikoria (2021)	Consumer Purchase Behaviour for Life Insurance	Perceived risk negatively affects life insurance purchases. Dual process theory integrates rational and intuitive decision-making.	Dependent on previous studies, methodological flaws may exist.	Not Specified
Quiroga Gutiérrez (2021)	Systematic literature review	Paez's HIL tool is comprehensive, while most tools measure only knowledge. Most tools are specific to Medicare (U.S.).	Tools are focused on Medicare, limiting their application to private health insurance and other countries.	USA

Eling, Ghavibazoo & Hanewald (2021)	Financial risk-taking behaviour, Expected utility theory	Risk willingness correlates with higher insurance ownership, especially life and long-term care insurance.	Examines mainly life insurance, limiting the application to health insurance and other risk attitudes.	14 countries
Mamun, Rahman et al. (2021)	Theory of Planned Behaviour	Perceived usefulness, insurance literacy, and income affect health insurance purchase intention.	Focused on the Malaysian working population, excluding other demographics and countries.	Malaysia
Jaspersen et al. (2021)	Loss aversion, traditional structural risk models	Risk attitudes and loss aversion impact insurance decisions.	Limited to traditional models; further exploration of non-classical risk models needed.	USA
Morales, Giang, Alvarado (2021)	None directly; explores information asymmetry	Employer-sponsored health insurance and family/friends as key information sources for decisions.	Does not consider all possible information sources or other socio-economic factors.	USA
Browne, Jager, Richter, Steinorth (2021)	Decision theory, Bounded rationality, prospect theory	Life events like birth or separation influence risk preferences and insurance decisions.	Does not provide insights into long-term insurance behaviours or possible interventions.	Germany
Burkovskaya et al. (2022)	Framing Theory	Broad framing promotes risk diversification, while narrow framing discourages it, influencing insurance purchases.	Limited analysis of narrow versus broad framing impact needs more variation in sample types.	General
Kadoya et al. (2022)	Social learning theory	Social learning impacts insurance literacy; lower socio-economic status correlates with low literacy, particularly among older women.	Limited focus on the elderly population; more attention needed to diverse demographic groups.	Japan
Holst et al. (2022)	None Explicitly, Correlational Analysis	Lower education and income result in lower health insurance literacy and participation.	HIL is under-researched in diverse representative samples, especially from lower educational backgrounds.	Netherlands

Baillon, O'Donnell (2022)	Time Preference, Bounded Rationality	Time preferences and liquidity constraints discourage insurance ownership, particularly in low-income households.	Limited to one country; does not explore broader international variation in time preference and liquidity effects.	Philippines

2.6 Research Gaps

The extant review of health insurance literacy literature reveals noteworthy gaps that drive the motivation to conduct the current study.

2.6.1 Need to increase awareness about the health insurance literacy (HIL) concept

HIL as a concept is defined as the ‘‘knowledge, ability, and confidence to find and evaluate information about health plans, select the best plan for his or her family for their own or their family’s financial and health circumstances, and use the plan once enrolled’’ (Bartholomae et al., 2016; Quincy, 2012). Without HIL, consumers will make sub-optimal insurance decisions. There could be two consequences in such a scenario. Firstly, when consumers take a small insurance cover than required, they may end up paying more out-of-pocket expenditure, which may lead to grave financial consequences. Secondly, if consumers take a bigger insurance cover than required, they may end up paying more premiums and may be insured for some costs that they probably might never incur (Holst et al., 2023).

HIL is a holistic concept that encompasses various dimensions, namely, knowledge, information seeking, document literacy, cognitive skills, and self-efficacy underlying these dimensions according to the HIL conceptual model proposed by Paez et al., (2014). This model is widely accepted and applied in the health insurance literature and domain. It brings out two dimensions of health insurance, which are choosing and using a health insurance plan. These dimensions are further divided into two types of sub-scales, which are confidence and behaviour sub-scales.

While a lot of research has focused on health insurance, there is a dearth of studies that focus on health insurance literacy (Patel et al., 2019), especially in India. In India, there are still gaps in the health care and health insurance systems despite policies like Ayushman Bharat and "Health for All" (Purohit, 2023). As HIL is concerned with applying the knowledge, the utilization of health care becomes an important objective. Research has found that the use of primary care and other preventive treatments was linked to a higher level of HIL (Yagi et al., 2022). Not only this, HIL is also positively linked with the purchase of health plans (Mamun et al., 2021).

Nevertheless, consumers' health insurance purchase decisions are not always rational, as human beings are not "Econs", a term used to describe humans who always make rational decisions as per the economic theory. However, in reality, individuals are subject to many behavioural biases when they make a decision (Thaler, 2018). The only solution in such a case is to make individuals as aware as possible of the relevant information being given to them, to help them make the optimal decision through HIL. Information about the health insurance plans in the form of brochures or any other printed or digital media material is a part of imparting the required health insurance literacy to the consumers. Sometimes, information can also come through various other sources, like friends and family, colleagues, agents, etc.

However, there is little to no research on whether various sources of information that are available and are trusted by the individual affect one's health insurance literacy (Dror et al., 2016), purchase intention (Mican & Sitar-Taut, 2023) and thereby, their health outcomes (Colón-Morales et al., 2021). There is also significantly less research done on the influence of sources of information on the health insurance purchase intention via the health insurance literacy of consumers (O'Connor & Kabadayi, 2020).

Prior research also suggested that financial education does have a role to play in the insurance advice-seeking behaviour of individuals (Xiao & Porto, 2019) as well as in their overall financial management behaviours (Dwiastanti, 2015). But little has been done on the impact of

financial knowledge (both subjective and objective) on the HIL of consumers (O'Connor & Kabadayi, 2020).

Despite these developments in the domain of health insurance literacy, research still needs to be done in various other related perspectives to arrive at a more enriched framework. HIL should also be understood through the lens of framing bias, as financial decisions like insurance are often inherently taken by consumers through narrow framing (Gottlieb & Mitchell, 2020). Policymakers and insurance companies should focus on a greater need to impart the essential HIL to the consumers in a simpler way, as it is very critical for making the right decision. Another option, which is superior to just imparting knowledge, would be to create simple insurance products that are not difficult to understand for the consumers (Vardell, 2023).

2.6.2 Need to assess the health insurance literacy among an underrepresented demographic – "The Missing Middle"

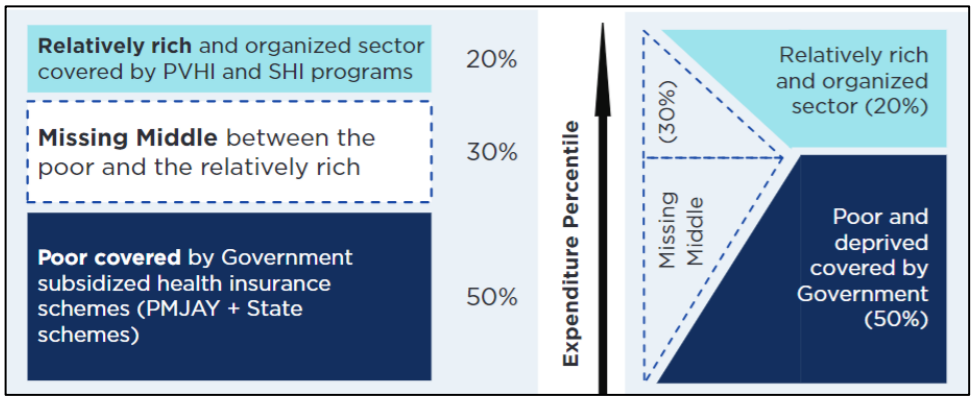
Another major limitation of the research in the health insurance literacy domain is that, firstly, there is a lack of studies in India. Most of the studies conducted on HIL are not based in India, as here, it is still in its nascent stage. And secondly, there exists a practical gap, as has been brought out by India's think tank NITI Aayog in their report titled "Health Insurance for India's Missing Middle", wherein they stressed the fact that as of 2021, 30% of the Indian population is devoid of any type of health insurance (Sarwal & Kumar, 2021). The genesis of the present study has been from this statistic, as it is important to understand the reasons for this significant rate of uninsured population who are not covered, despite having the ability to pay for premiums.

NITI Aayog defines the missing middle population as "a broad category which lacks health insurance, positioned between the deprived poorer sections, and the relatively well-off organised sector". In India, the government gives health cover to the poorest segments of society through various central, state, and social health insurance schemes. While the organised sector employees are covered by their employers for health. The presence of high out-of-pocket

expenditure on health points out that there are still about 40 crores of the Indian population who are low or devoid of any financial protection on health, which are referred to as the "missing middle population". This category of population is not limited to one but expands to more than one group across all expenditure quintiles. (Figure 2.5)

Figure 2.5

Representation of the Missing Middle population (NITI Aayog)



Source: Health Insurance for India's Missing Middle, NITI Aayog, 2021

This category of people is mostly informal workers who are not "poor enough" to benefit from the government schemes for the poorer segments of society. There are two ways to extend coverage to the missing middle: (i) expansion of subsidised public services, (ii) contribution-based cover, provided either by the government or by private insurers, with or without public subsidies (Mahal et al., 2024). Also, the NITI Aayog report comes up with a solution to introduce a simpler product, which could be adopted initially by the private insurers to expand health insurance coverage. However, to implement any solution, it is of paramount importance to expand consumer awareness to create a "large and diversified risk pool at low premiums", as awareness is a critical element when it comes to especially, voluntary contributory health insurance (Sarwal & Kumar, 2021).

Acknowledging this gap, the current research work seeks to assess the level of health insurance literacy of the missing middle population and study its impact on their purchase intention

towards health insurance. It also aims to take into consideration the determinants of HIL and the role of framing bias in the purchase decisions that the missing middle population makes. This will offer an opportunity to do an in-depth analysis of the reasons, other than financial, to understand why a certain segment of the Indian population is not protecting themselves financially from health expenditures despite the capability to pay for nominal premiums.

Chapter Summary

This chapter presented a comprehensive overview of the literature on health insurance literacy and its related constructs. It further provided an extensive elaboration of the research gaps that this study aims to address, outlining the direction of the research.

CHAPTER 3

THEORY AND HYPOTHESES DEVELOPMENT

The present chapter delves into the fundamental principles underlying the concepts of health insurance and health insurance literacy. It seeks to understand the theoretical underpinnings, namely the Theory of Planned Behaviour, Prospect Theory and Expected Utility Theory. Inferring from the existing literature, it develops hypotheses to address crucial research gaps and further creates a comprehensive conceptual framework to test the same.

3.1 Financial Risk Protection, Access and Health Insurance

The Sustainable Development Goal 3 (SDG 3), which focuses on Good Health for All, has a sub-target, SDG 3.8, which is achieving Universal Health Coverage (UHC). This goal is mainly concerned with providing financial risk protection and access to quality and essential healthcare services for the global population. However, the cost of healthcare places a strain on households' finances. According to survey data from 133 countries, 808 million people had catastrophic health expenses in 2010, 97 million people were impoverished as a result of health spending, and some people chose not to seek healthcare at all because it was too expensive, resulting in significant medical needs that were unmet (Merga et al., 2022).

Financial risk protection from the healthcare costs and, thereby, universal health coverage is the ultimate goal of an efficient health system. Policy reforms aimed in this direction hail health insurance as one of the healthcare financing reforms, which increase " available healthcare resources and decrease the risk of the household financial crisis" (Anjorin et al., 2022; Merga et al., 2022).

Health Insurance not only addresses the challenge of financial protection, but also can make health care services available that would otherwise be unaffordable. This access value of insurance is different from financial protection, as it provides access to expensive and

unaffordable healthcare and is often the only mechanism to do so. Often, individuals do not have enough savings to purchase costly healthcare, and lending institutions may not lend for such healthcare procedures when the ability of the patient to pay back these uncollateralized loans is inadequate (Nyman, 1999).

Two indicators are used to evaluate and measure financial protection: impoverishing health spending, which is defined as spending on health care that causes households to fall below the poverty line, and catastrophic health spending, which is defined as household health expenditure exceeding 10 or 25% of consumption or income (World Health Organization, 2023).

Individuals without access to insurance end up incurring high out-of-pocket payments (OOPE) for healthcare and push their households into poverty. The concept of financial risk protection is threatened by health-related OOPE, which also makes healthcare more inaccessible and expensive for the underprivileged (Reshmi et al., 2021). Despite these difficulties that may arise, still, a significant portion of Indian households still do not have any form of health insurance coverage.

3.2 Influence of Social and Psychological Factors on Health Insurance Purchasing Behaviour

Social and psychological factors play a critical role in the health insurance purchasing behaviour of individuals, as they offer a perspective of two different dimensions in understanding the health insurance decisions taken. Social factors are external influences that arise from the broad societal context in which the individual lives and can shape their identities and guide their choices. Psychological factors are internal emotional elements that contribute to individuals' thoughts, feelings and behaviours. Both sets of factors have a profound impact on people’s lifestyles and overall well-being.

Social factors like the cultural background of the individuals affect how they think and process external information, and how they face health challenges in their lives. It decides the outlook they have towards purchasing health insurance (Huang & Lee, 2023). For example, cultures that emphasise traditional ways of medicine may not encourage health insurance. Similarly, cultures that prioritise collective well-being, for example, like Asian and African countries, focus on relying on family or peer support and do not encourage the purchase of health insurance. On the other hand, individualist cultures like the United States focus on self-responsibility and encourage proactive measures such as purchasing health insurance.

Another factor that affects health insurance purchasing behaviour is the role of media and availability of information, as it directly impacts individuals' awareness, perception and decision-making regarding health insurance. Informed decision-making requires an understanding and access to various sources of information that can aid such a decision-making process. There are many such sources of information for individuals, for example, television, print media, social media, websites, peers, etc. However, owing to limitations like a lack of completeness in the information, individuals often tend to use more than one source to arrive at a decision (Colón-Morales et al., 2021).

These sources of information can be further divided into interpersonal and impersonal. Advertising, TV shows, e-mails, and published performance ranking databases are all examples of impersonal sources of information. Interpersonal is further divided into formal and informal sources. Advice from brokers, agents, and bankers and recommendations in newspapers and journals are interpersonal formal sources, while recommendations from friends, relatives or peers are interpersonal informal sources of information (Gupta, 2013).

To understand customers, it is crucial to recognise the impact of not just their social factors but also psychological factors. Decisions are influenced by psychological factors, such as behavioural attitudes, emotional states, and thought processes. Some psychological factors include trust, perceived risk, psychological cost, attitudes, awareness and knowledge.

Trust in insurance is a critical driver for insurance, as it not only influences the perception of individuals about insurance but also explains why people are willing or not to buy insurance (Courbage & Nicolas, 2021). The attitudes and beliefs of individuals also influence their insurance purchase. For example, belief in self-sufficiency or the notion of "I won't get sick" may decrease the probability of buying insurance (Purohit, 2023; Taylor et al., 2016). Lack of proper awareness of policy terms and coverage options can hinder the process of insurance decision-making and can also lead to significant psychological costs arising from the complexities and perceived difficulties in choosing an appropriate insurance plan.

These social and psychological factors often interact with each other to further complicate individuals' behaviour. To mitigate these challenges, it is important to understand the relevance of health insurance literacy as it can drive individuals towards purchasing health insurance by balancing the complexities of both sets of factors. It will enable people to "access, understand, assess and act upon information related to health insurance policies (Holst et al., 2023).

3.3 Theoretical Underpinnings

3.3.1 Theory of Planned Behaviour

An extension of the Theory of Reasoned Action (TRA), the Theory of Planned Action (TPB) (Ajzen, 1991b) is a widely utilised psychological theory to comprehend and predict human action. According to TPB, a person's desire to carry out a specific activity is connected to the behaviour itself. Subjective norms, perceived behavioural control, and attitude towards the behaviour are the three essential elements of TPB that describe the behavioural intention to engage in a certain behaviour.

Firstly, the values of the behaviour are connected to the attitudes. An assessment of a specific behaviour may be favourable or unfavourable. For example, the intention to engage in the action is linked to positive attitudes. Beliefs, namely behavioural and normative beliefs, are thought to have an impact on attitudes as well as subjective norms. Attitudes are influenced by

behavioural beliefs. Social expectations based on certain circumstances that impact societal pressure or subjective norms are known as normative beliefs. Finally, the control over opportunities, resources, and abilities is the focus of perceived behavioural control (PBC), an addition to TRA that leads to the creation of TPB.

The TPB is relevant to various domains, including health and financial behaviour as well. In this study, the future intention to purchase health insurance can be grasped with the help of this theory. In general, "the stronger the intention to engage in a behaviour, the more likely should be its performance" (Ajzen, 1991b). This theory helps in understanding that the TPB plays a significant role in predicting behavioural intention, especially health intentions and reveals the strength of the intention to purchase health insurance. Intention to perform a behaviour is considered to be a central or dominating factor of the theory (Brahmana et al., 2018) as it shows the extent an individual is willing to make the effort to perform a particular behaviour (Mamun et al., 2021). In this study, for example, the concept of Health Insurance Literacy (HIL) explicitly assesses the attitudes and perceived behavioural control of individuals towards health insurance by measuring their confidence in choosing, comparing and using an appropriate plan for themselves and also implicitly captures the pressure or support social interactions can give individuals as they navigate through the process of understanding health insurance terminology and choose a plan.

3.3.2 Expected Utility Theory

Risk is an integral part of every economic decision, especially for the informal groups of developing economies (Kagaigai & Grepperud, 2023). Risk is inherent in all actions with uncertain outcomes. A rational consumer would prefer to choose the action that gives the maximum expected utility.

David Bernoulli first formulated the expected utility theory in the 18th century, and Savage later developed it to include subjective probabilities. In economics, this theory is often used to explain "the purchase of insurance policies and the relation between saving and spending"

(Eling et al., 2021; Tversky, 1975). Generally, the expected utility value is calculated by combining the products of potential outcomes with the probability of the action/event's occurrence.

In the context of insurance, this theory is applied to understand how consumers behave in such situations where the payback is not immediate. However, according to this theory, individuals still purchase insurance policies because the benefit of having coverage for several risks outweighs the payments made towards insurance premiums. A utility-maximising individual buys insurance expecting that it will provide good coverage rather than remaining uninsured and suffering huge losses (Belissa et al., 2020).

Nevertheless, different individuals have different risk attitudes. They can be risk-neutral, risk-averse or risk-seeking. These risk preferences depend on the concavity of the utility function. The utility theory states that a person's wealth has diminishing marginal utility. So, losses cost more utility than gains with the same expected payoffs. A risk-averse individual would prefer a certain gain, even if there is an alternative available with higher expected utility but has uncertain outcomes (Von Neumann & Morgenstern, 1944). Similarly, in insurance, an individual who dislikes risk would be willing to let go of some expected value in return for a risk reduction, and thus, the willingness to pay for insurance is higher. The more risk-averse the person is, the more willing they are to pay for insurance (O'Donoghue & Somerville, 2018).

3.3.3 Prospect Theory

Decision-making under risk is always viewed as a choice between gains and losses. Traditionally, economists have suggested that all reasonable people will make decisions according to the expected utility theory, where choices are weighted by their probabilities (Kahneman & Tversky, 1979). However, an alternative approach that would be realistically more generalizable was proposed. Daniel Kahneman, regarded as the father of behavioural finance and economist Amos Tversky proposed the Prospect theory, according to which individuals value perceived gains more than perceived losses. According to this theory,

individuals value certain outcomes more than outcomes with a probability of gains, but with greater risk, also called the "certainty effect" (Kahneman & Tversky, 1979).

Prospect theory is a part of behavioural economics and is also known as the loss aversion theory, as people choose perceived gains over losses, as suffering losses creates a greater emotional impact. An individual's decision is influenced by how the available choices are framed in terms of gains or losses. An interesting observation in the context of insurance that previous studies emphasised is how individuals are willing to even overpay to safeguard themselves from losses (Rice, 2013).

Essentially, loss aversion implies that for individuals "losses loom larger than gains" and research has found that in some contexts, like social health insurance (SHI), the welfare gains from SHI in the presence of loss aversion is significantly greater than in its absence in the presence of a default option that subtly nudges individuals to purchase SHI (Van Winssen et al., 2016). It shows that individuals are willing to insure against moderate risks at high premiums but are not willing to insure against low probability events with high losses at considerably low premiums (Schmidt, 2016).

3.4 Hypothesis Development

3.4.1 Cognitive Style, Financial Knowledge, Sources of Information and Health Insurance Literacy (HIL)

Cognitive Style and Health Insurance Literacy

Cognitive style has been defined as 'consistent individual differences in preferred ways of organising and processing information and experience' (Messick, 1976). Exploring these differences has been of great interest to psychologists worldwide as cognitive styles enable understanding of preferences and behavioural patterns in numerous domains, including management, organisation and education (Akinci & Sadler-Smith, 2013). In organisations, cognitive style is a determining factor for both individual and organisational behaviour, and is

also critical in various organisational activities like recruitment and selection, communication and conflict management. In the domain of education, it predicts academic achievements more than general levels of intelligence. So, cognitive style is seen as a better predictor of an individual's success in a particular situation than their common intelligence and other situation-based factors in many applied fields (Kozhevnikov, 2007).

One of the many cognitive style indices that have been developed is the Allison and Hayes Index of Cognitive Style (CSI). Various indices use different approaches but are ultimately different perceptions of the same dimensions (Allinson & Hayes, 1996). Their index consists of two extremes of a continuum that depict an individual's cognitive style. The preference to develop understanding through reasoning and focus on detail relates to the left hemisphere of the brain and represents an analytic cognitive style. And, drawing immediate insights without proper reasoning based on feelings or emotions stems from a right-brain orientation and represents an intuitive cognitive style (Allinson & Hayes, 1996; J. Hayes & Allinson, 1994). However, more recently, these two perspectives are viewed as not two extremes but as two approaches to decision-making that an individual might use depending on the situation (Guzman et al., 2019).

The concept of cognitive style intertwines with Health Insurance Literacy (HIL), wherein the type of cognitive style an individual has will determine the level of health insurance literacy they manage to possess (O'Connor & Kabadayi, 2020). While making an insurance purchase decision, most individuals do not understand or have access to information, and so, they rely on mental shortcuts or heuristics to make decisions which might not always be favourable in the long run (Richter et al., 2019). Another interesting connection is that cognitive style affects mental accounting for an individual, and research also shows that this effect is more pronounced for utilitarian goods (Guzman et al., 2019). Research also shows that people with an analytical style understand health insurance terms more in detail as they are reason-oriented, logical, and so have better HIL than those with an intuitive style, for whom it is difficult to process and

understand health insurance-related information based on their gut feelings. There exists an unexplored gap in understanding the relationship between cognitive style and its impact on health insurance literacy and financial decision-making (Guzman et al., 2019; O'Connor & Kabadayi, 2020).

Therefore, the following hypothesis is proposed :

H1a: Individuals oriented towards an intuitive cognitive style have a lower Health Insurance Literacy (HIL) level.

H1b: Individuals oriented towards an analytical cognitive style have a higher Health Insurance Literacy (HIL) level.

Financial Knowledge and Health Insurance Literacy (HIL)

Financial knowledge can be understood as being aware of financial phenomena and procedures and applying this knowledge to solve financial challenges. It is the cognitive part of financial literacy. Financial knowledge is an integral part of sound financial decision-making making and consumers who lack basic financial knowledge are at a greater risk of financial instability and vulnerability. Consumers who are not aware of their level of financial knowledge make sub-optimal decisions, which eventually affect their well-being (O'Connor, 2019).

It is practically impossible for consumers to have full awareness and financial knowledge from the beginning of their economic lives. Some degree of lack of financial knowledge is rational. And, according to the behavioural life cycle model, over the lifetime of an individual, their financial knowledge increases (Lusardi & Mitchell, 2017). Personal finance is a key driver for all economies and is grounded in rational economics; however, irrational personal finance behaviour is now garnering support from fields like psychology that explain its impact on consumer behaviour. Personal finance is important as it matters in our day-to-day decisions like eating, retail spending and also in our life decisions like insurance, retirement planning,

education, etc (Guzman et al., 2019). Financial knowledge is often operationalised into two bifurcations, which are objective (OFK) and subjective financial knowledge (SFK). Objective Financial Knowledge is evaluated by individuals' answers to questions on basic financial principles like investments, inflation and compounding, which is calculated as a test score. Whereas, Subjective Financial Knowledge is a self-assessment of how the individual would rate their financial knowledge (K. T. Kim et al., 2022).

Financial knowledge interlaces with Health Insurance Literacy, wherein the higher the level of financial knowledge, the higher is the level of HIL (O'Connor & Kabadayi, 2020). Financial knowledge has been identified as a critical component beyond just having literacy skills to possess insurance knowledge (Mare et al., 2019). Lack of financial knowledge prevents consumers or families from seeking advice while purchasing insurance. It is only through financial education that financial knowledge can be improved, which will in turn lead to positive financial behaviours (Xiao & Porto, 2019). It has been observed, especially in younger people, that those who have high perceived financial knowledge and high perceived health insurance knowledge are efficient insurance purchasers (Osmane & Bowen, 2017).

Therefore, the following hypothesis is proposed :

H2a: Health Insurance Literacy (HIL) is positively influenced by Subjective Financial Knowledge (SFK).

H2b: Health Insurance Literacy (HIL) is positively influenced by Objective Financial Knowledge (OFK).

Sources of Information and Health Insurance Literacy

Consumer decisions in the personal finance domain are also increasingly being understood from a behavioural perspective, as consumers are not always rational and choose insurance plans in the presence of many behavioural and psychological biases. So, it becomes of paramount

importance for insurers and policymakers to understand how people gain and process information and how this will shape the health insurance markets (Ericson & Sydnor, 2017).

Having access to the right information is driven by high insurance literacy, which also results in increased trust in insurance. Sources of information through which individuals have access to insurance can include many options, like newspapers, magazines, the internet, friends and family, etc. The study also finds that consumers trust more in information received from formal sources like newspapers and magazines, as against informal sources on the internet and family, friends, etc (Courbage & Nicolas, 2021).

Health insurance enrolment is a complicated decision with considerable financial and health impacts. It is affected by not just the lack of knowledge or health insurance literacy but also the sources of information from where the individuals seek information to support their decisions, as Information asymmetry is a longstanding challenge in the insurance industry. Research found that the most promising official source was employer-funded health insurance programs, and the most prominent unofficial source was family and friends. Participants who prefer official sources to get information will have high Health Insurance literacy, thereby affecting their final purchase decision (Colón-Morales et al., 2021).

Therefore, the following hypothesis is proposed :

H3: Formal informational sources are positively associated with HIL.

3.4.2 Health Insurance Literacy and Intention to Purchase Health Insurance

Individuals' insurance knowledge will enable them to make informed decisions regarding insurance purchases, despite having financial literacy. Individuals with higher levels of Health Insurance Literacy (HIL) value the risk involved in purchasing a health insurance plan, as they are aware of the benefits the coverage would provide them with in case of any emergency or huge health expenditure (Lin et al., 2019).

Insurance knowledge or HIL is a key determinant in the willingness to pay for health insurance of an individual (Harrison & Ng, 2019). In the context of life insurance, too, it was observed that consumers with better insurance knowledge help improve the life insurance density in the country by purchasing life insurance (R. Bhatia et al., 2021). Intention to purchase demonstrates the effort of an individual to perform a particular behaviour (Ajzen, 1991b; Mamun et al., 2021). The link between Health Insurance Literacy and intention to purchase health insurance and the behavioural aspects of this relationship are unexplored in the literature, especially in the Indian context. Hence, there is a need to understand this relationship between HIL and purchase intention.

H4: Health Insurance Literacy (HIL) has an impact on Intention to Purchase Health Insurance.

3.4.3 Mediation Hypothesis

The health insurance markets are characterised by 'information overload', which causes irrational behaviour among consumers because of the confusion created by exposure to too much information (Gasimova, 2015). Consumers may be overwhelmed with the plethora of health insurance plan choices available. This is supported by the theory of 'Decision Avoidance', which describes such actions as a tendency to avoid deciding by postponing it or by looking for an easy way that involves no action to be taken. Navigating these situations requires sufficient skills to choose an appropriate health insurance policy, referred to as 'Health Insurance Literacy' (Holst et al., 2023).

Health Insurance Literacy (HIL) is determined by an individual's cognitive and financial capabilities. Cognitive Style represents the thinking styles of an individual and determines their approach to understanding health insurance terminology and plans. Similarly, the level of Financial Knowledge of an individual determines the level of HIL (O'Connor & Kabadayi, 2020). Additionally, the sources through which individuals acquire information about health insurance plans are an important determinant of their level of HIL (Courbage & Nicolas, 2021).

Hero et al. (2019) conducted a study to understand the decision-making process of individuals purchasing health insurance both from the marketplace (which included both state and federal institutions) and off the marketplace, which included purchasing directly from individual insurance companies. It was found that consumers with low HIL had difficulties in purchasing health insurance both through the marketplace and off the marketplace. This study points out that consumers with low HIL have reported negative experiences irrespective of where they purchased the insurance plan. It shows that HIL is necessary for consumers to have a positive and successful insurance purchasing experience.

Though the impact of HIL has been understood, the mediational role of HIL has been unexplored in the literature. The mediational hypothesis suggests that the impact of cognitive style and financial knowledge on the intention to purchase health insurance is influenced by an individual's degree of health insurance literacy (HIL). This enables a broader perspective on how our cognitive and financial capabilities shape our health insurance behaviour. The mediational hypothesis is proposed as follows:

H5a: Health Insurance Literacy (HIL) mediates the relationship between intuitive cognitive style and health insurance purchase decision or the Future Intention to Buy Health Insurance.

H5b: Health Insurance Literacy (HIL) mediates the relationship between analytical cognitive style and health insurance purchase decision or the Future Intention to Buy Health Insurance.

H5c: Health Insurance Literacy (HIL) mediates the relationship between subjective financial knowledge and health insurance purchase decision or the Future Intention to Buy Health Insurance.

H5d: Health Insurance Literacy (HIL) mediates the relationship between objective financial knowledge and health insurance purchase decision or the Future Intention to Buy Health Insurance.

3.4.4 Consumer Perception as Moderator

The demand for private insurance is affected by the consumer's perceptions towards the insurance plans. Consumers perceive private insurance to be expensive and less beneficial, as even after having insurance, they still have to source money from other avenues for treatments. HIL positively influences demand for insurance, leading to the purchase of insurance if supported by favourable perceptions towards insurance (Mathur et al., 2018).

Cognitive perceptions and judgements play a key role in their risk attitudes and decisions. Consumers' perception of risk is not purely based on their feelings or fears, but also on their cognitive evaluations, i.e. how they process and evaluate information, which affects their decision outcomes. Cognitive evaluations are based on individuals' personal experiences, judgements and differences in interpretations. These differences could also lead to biases and heuristics, which will ultimately affect their risk perceptions (Weber & Milliman, 1997).

Individual differences in perception and processing depend on how the choices or options are framed (Tversky & Kahneman, 1981). In this context, analytical thinkers may recognise framing biases because of their reasoning skills, which leads them to make consistent choices. On the other hand, intuitive individuals are more susceptible to framing given their emotional thinking, leading to being more loss-averse.

An individual's risk attitudes also affect his/her insurance policy choices. These risk attitudes consequently affect financial decisions through medical expenditure risks. The less risk-averse households will show a reduction in their medical expenditure risks, which will enable their willingness to take financial risks to increase. However, households with high risk aversion have low risk tolerance and are not willing to take any financial risks even if they are insured (Ericson & Sydnor, 2017; Li et al., 2021). Behavioural factors like risk aversion are a demand driver for the insurance market (Janzen et al., 2021) and are applied in many economic decisions. The expected utility theory helps understand and quantify risk aversion to derive significant insights (O'Donoghue & Somerville, 2018). The risk attitude of a person plays a

role in their health insurance information-seeking behaviour, which is an integral part of health insurance literacy (HIL) and also, risk attitudes affect the intention to purchase health insurance indirectly as they influence factors like trust in insurance (Singh & Shah, 2024).

Similarly, loss aversion was identified as one of the key behavioural biases that deviates consumers from making optimal and rational decisions (R. Bhatia et al., 2021). Loss aversion is a prominent preference motive that influences insurance demand (Jaspersen et al., 2022). Research has found that loss aversion hurts insurance demand, as the mental model of a highly loss-averse person makes the pain of paying many small premiums more significant than enduring the pain of one massive loss (Nagy et al., 2020) which is supported by the prospect theory, which posits that "losses loom larger than gains" (Kai-Ineman & Tversky, 1979).

Both risk aversion and loss aversion are similar, yet distinct in their ways. Individuals would behave either way depending on the context of their risk attitudes (Nagy et al., 2020). There is a greater need to understand the application of risk aversion and loss aversion, how they are affected by cognitive style and their relationship with insurance ownership (Eling et al., 2021; Harrison & Ng, 2019) as it will add more depth to our understanding of health insurance literacy and the intention to purchase health insurance, in the context of this study.

H6a: The effect of Intuitive Cognitive Style on Health Insurance Literacy (HIL) is moderated by Risk Aversion, such that the indirect effect of Intuitive Cognitive Style on the Intention to Purchase Health Insurance via HIL differs depending on the level of Risk Aversion.

H6b: The indirect effect of Intuitive Cognitive Style on the Intention to Purchase Health Insurance through Health Insurance Literacy (HIL) is moderated by the type of Loss Aversion, such that the mediation effect differs across Loss Aversion groups.

H6c: The indirect effect of Analytical Cognitive Style on the Intention to Purchase Health Insurance through Health Insurance Literacy (HIL) is moderated by Risk Aversion, such that the strength of the mediation effect varies across levels of Risk Aversion.

H6d: The indirect effect of Analytical Cognitive Style on the Intention to Purchase Health Insurance through Health Insurance Literacy (HIL) is moderated by the type of Loss Aversion, such that the mediation effect differs across Loss Aversion groups.

The study's conceptual framework is developed from the existing literature to address the relevant limitations in the existing literature. Figure 3.1 illustrates the conceptual framework. The overview of the hypotheses based on the conceptual framework is presented in Table 3.1.

Figure 3.1

Conceptual Framework

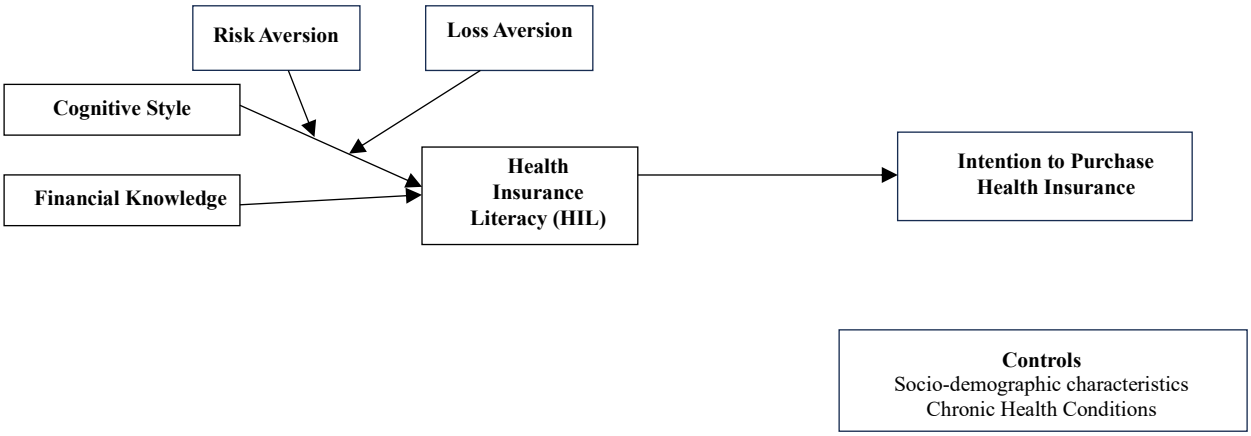


Table 3.1

Overview of Hypothesis

Hypothesis	Hypothesized relationships
H1	Individuals oriented towards an analytical cognitive style have a higher level of Health Insurance Literacy (HIL).
H2	Health Insurance Literacy (HIL) is positively influenced by Subjective Financial Knowledge (SFK)
H3	Formal informational sources are positively associated with HIL.
H4	Health Insurance Literacy (HIL) has an impact on Intention to Purchase Health Insurance.
H5	Health Insurance Literacy (HIL) mediates the relationship between cognitive style (H5a), financial knowledge (H5b) and health insurance purchase decision or the Future Intention to Buy Health Insurance.
H6	The indirect effects of Intuitive and Analytical Cognitive Styles on the Intention to Purchase Health Insurance via Health Insurance Literacy (HIL) are moderated by Risk Aversion (H6a and H6c) and Loss Aversion (H6b and H6d), such that the strength or direction of these effects differ across levels or types of these moderators.

CHAPTER 4

RESEARCH METHODOLOGY

The present chapter contains a nuanced explanation of the research methodology adopted in this study. It discusses the philosophical assumptions that are the basis for the research paradigm and provides a rationale for the methodological choice aligned with the research questions. Also, it offers a justification for choosing the research methods and addresses the issues related to reliability, validity, and generalizability, which are the basic evaluation criteria for any social science research. In the present chapter, the sampling framework and procedure followed for designing the questionnaire and collecting and analysing data are also explained. Lastly, it also describes the ethical considerations of the study.

4.1 Research Questions

The present research investigates the following research questions:

1. What effect do different cognitive styles, levels of financial knowledge (both objective and subjective) of an individual, and sources of information have on their health insurance literacy?

2. Does health insurance literacy play an influential role in the health insurance purchase behaviour of an individual?

3. What is the nature of the interplay among determinants of health insurance literacy, health insurance literacy, risk perceptions, and health insurance purchase intention among the missing middle population of India?

4. Does Consumer Perception (Risk/Loss) affect health insurance literacy and health insurance purchase decision, or the Future Intention to buy Health Insurance?

4.2 Research Objectives

4.2.1 Broad Research Objective

The fundamental objective of this research work is to explore the factors that influence an individual's health insurance literacy and its determinants and impacts.

4.2.2 Specific Research Objectives

1. To study the relationship between cognitive style, financial knowledge, sources of information, and health insurance literacy of an individual.

2. To evaluate the role of health insurance literacy on the decision to purchase health insurance, and also to analyze the dimensions of health insurance literacy.

3. To investigate the nature of the dynamics of the relationship between HIL, its determinants, and health insurance purchase intention.

4. To analyze the moderating role of consumer perception (Risk/Loss) on the relationship between cognitive style and health insurance literacy, affecting an individual's health insurance purchase decision.

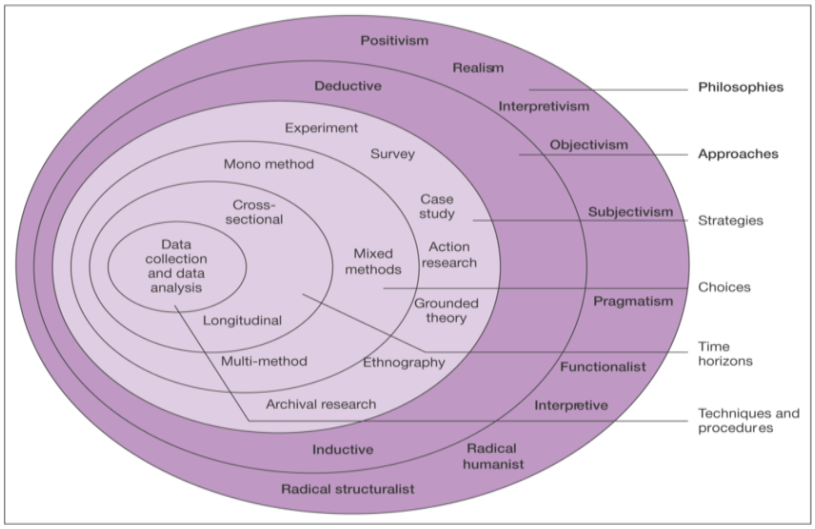
4.3 Research Design

Research design is considered a blueprint consisting of guidelines for conducting any research project. It is defined as "the procedures necessary for obtaining the required information, and its purpose is to design a study that will test the hypotheses of interest, determine possible answers to the research questions, and provide the information needed for decision-making" (Malhotra, 2010). The methodological choice based on the epistemology and ontology of given research questions needs further consideration, as different techniques, sampling methods, analytical tools, and procedures are available. Thus, any study that has clarity about the proposed research methodology and basis for its selection is deemed desirable.

4.4 Research Typology

Figure 4.1

Research Typology Framework by Saunders et al. (2012)



Saunders et al. (2012) proposed a framework that is commonly referred to as the "onion framework", which illustrates the research elements. This framework guides the researcher in positioning their research in the vast research context by providing reasoning for the assumptions and choice of methodologies. Figure 4.1 displays the six critical layers of the onion that represent the elements of the research: "philosophy, approach, strategy, choice, time horizon, and data collection and analysis". The elements and positioning of the present study are discussed in subsequent sections.

4.5 Research Philosophy

Research philosophy elucidates the nature and advancement of knowledge in the context of the research questions. Research in the management domain and other such fields of social inquiry is driven by assumptions about what fosters an explanation and understanding of the underlying social phenomenon (Keat & Urry, 1992). The three types of assumptions are as follows: ontological assumptions, which align with observed reality; epistemological assumptions, which deal with human understanding; and axiological assumptions, which take into account how one's beliefs may impact the course of the investigation or research. Every element of the

study, including the research questions and the interpretation of the results, is essentially shaped by these premises.

As a multidisciplinary field originating from social sciences, natural sciences, and applied sciences, management research has incorporated various ideologies, research methodologies, perspectives, and approaches to which the present study conforms. The two ways of examining the social phenomenon in management research and other allied areas of social inquiry are ontology and epistemology, drawn from the seminal research by Burnell and Morgan (1979). Ontology denotes the nature of reality, while epistemology deals with what constitutes acceptable knowledge. Burnell and Morgan (1979) specified four paradigms: positivism, pragmatism, realism, and interpretivism. For effective social research, the research design and questions must be designed based on certain ontological and epistemological assumptions.

The fundamental questions researchers have to deal with are: Can a social phenomenon be explained by deducing observable facts? (Positivism), Should the explanations be embedded through narratives and their interpretation? (Interpretivism); or whether the explanations can be derived from the factors that influence changes in the world's status? (Deductivism and Instrumentalism) (Shapiro & Wendt, 1992). Due to the complex nature of the social context, it is highly challenging and tricky to provide answers to these concerns. Therefore, by addressing these fundamental issues, the overall research process can be enriched, culminating in the preference for a more appropriate procedure and methodology. The purpose is to examine whether social entities can be regarded as objective entities that represent reality irrespective of social actors.

The literature on insurance literacy falls under the purview of personal finance and financial literacy derived from multiple disciplines such as finance, economics, and psychology. Like most management research, the insurance or financial literacy domain also leans towards positivism due to the influence of the above-mentioned disciplines. This condition prompted researchers in management to strike a chord with characteristics of natural sciences such as

rationality, universality, and objectivity (Leitch et al., 2010). This study can be categorized within the positivist paradigm as it aims to use scientific methods to investigate the relationship between important factors and determine causality.

4.6 Research Approach

The present study applies a hypothetico-deductive approach, which implies that the hypotheses are deduced from the existing literature in a specific area (insurance literacy and purchase intention in the study's context) and then converted into operational definitions for measurement (Bryman et al., 2007). Operationalization consists of developing measures of a construct or concept to be studied with maximum possible objectivity. This is followed by data collection and analysis of the proposed hypotheses. The finding emerging from this process contributes to the existing body of knowledge and can be utilized by other researchers to advance the knowledge.

4.7 Selection of Research Methodology

The preference for a suitable methodology for any research depends on the research philosophy and approach. The research methodology could be quantitative, qualitative, or mixed, which exhibits the unique approach selected. The present study is situated within a positivist paradigm and employs a deductive approach.

The two study approaches, quantitative and qualitative, are distinguished by their fundamental research philosophy. The quantitative technique follows a positivist outlook and adheres to a particular framework. On the other side, the qualitative approach holds an interpretive viewpoint where subjective interpretations and opinions of researchers are interpreted through the social context. Furthermore, in the quantitative approach, the theory is empirically tested, thus following a deductive approach, while the qualitative approach complies with an inductive approach.

Also, the quantitative method can either be a mono-method or a multi-method. It is referred to as a mono-method when a single data collection technique (like a Survey questionnaire) and a

suitable statistical analysis are performed. When a study uses multiple data collection techniques and succeeds with relevant analysis techniques, it is called a multi-method study. In this context, the current study employs a mono-method quantitative research design.

4.8 Research Strategy

A research strategy refers to the comprehensive plan that a researcher has created for carrying out their research project. It connects the methodological decision made for data collection and analysis with the underlying philosophy of the research (Denzin & Lincoln, 2011). Researchers commonly utilize several research methodologies based on the specific nature of the study. These include archival research, action research, case studies, narrative inquiry, ethnography, survey, and grounded theory.

The principal nature of this study is quantitative and descriptive; thus, the survey method as a research strategy has been adopted, which is among the most suitable methods for quantitative studies, along with experimental studies. This strategy is widely used in the management research domain, and the questionnaire method is a preferred method most of the time in social sciences research, as it is an efficient tool to collect data from a large sample and makes generalization feasible. Using the data gathered, models of the interactions between the study constructs can be created, and probable causes for certain relationships between the constructs can be found. If the researcher takes the necessary time and steps to guarantee that the sample is representative, the data instrument is established and correctly piloted, and the response rate is satisfactory, this technique aids in drawing out findings that are statistically representative of the population.

4.9 Time Horizon

The empirical research designs can broadly be categorized into two categories: longitudinal and cross-sectional, based on time horizon. Longitudinal studies collect data from the same participants at several time intervals, while cross-sectional studies accumulate data from multiple participants at a single time point. Cross-sectional designs examine the relationship

between the variables and cannot establish the direction of causality, which is a key shortcoming of this design.

Indeed, though this study understands the worth of a longitudinal design, it employs a cross-sectional design instead due to constraints regarding time, data availability, respondents, and resources. Also, to ensure the heterogeneity of the sample, data were collected from respondents across Telangana working in various domains or self-employed at a single point in time.

4.10 Data Collection

As mentioned above, the study adopts a survey methodology for data collection. A survey can be defined as a "method of data collection that utilizes questionnaires" (Ghauri & Grønhaug, 2005). A survey is a mechanism used to gather individuals' standpoints and perspectives. The sub-section below discusses the steps recommended by Bryman (2007) for surveying the context of this study:

4.10.1 Sample Design

4.10.1.1 Sampling frame

The target population for the present study was the "missing middle" population in Telangana. This missing middle population, as defined by NITI Aayog, is those who are not eligible for government health insurance schemes and who are not from the organized private sector population, wherein they are covered by either employers or have private voluntary health insurance. They lie between these two segments of society and do not have any health insurance coverage despite having the ability to pay for the premiums.

The occupations to which the missing-middle belong were decided based on the NSSO's 75th Round (2017-18) health survey by NITI Aayog, using two methods : (1) Based on PMJAY eligibility and existing coverage status, (2) Based on expenditure quintile and existing coverage status for both urban and rural areas.

This study focuses on urban areas where the list of occupations includes:

1. Service and market sales workers
2. Clerks
3. Crafts and related trade workers
4. Elementary Occupations
5. Technicians and associate professionals
6. Professionals
7. Senior Officials and Managers

For this study, the following were considered: domestic workers, workers in the manufacturing sector, sales employees, self-employed, teachers, banking professionals, & IT professionals.

The study followed purposive sampling, a non-probabilistic method, as it is a better approach in the context of the sample for this study than probability sampling. Purposive sampling allows the researcher to consciously choose the elements of the sample to be included from the target population. It is not the same as convenience sampling, where the characteristics among populations are not differentiated, and the sample selection is based on ease of access and proximity to the researcher. It is strategic in nature and makes it important to have specific inclusion/exclusion criteria to be included as part of the sampling population, overcoming the shortcomings of convenience sampling.

Accordingly, inclusion criteria were established to improve the identification and consistency of the sample. The eligibility conditions to participate in the survey are as follows:

(1) To be eligible, you should not have any health insurance coverage/ ESI/ employer-provided insurance/reimbursement option from employers
(2) Should be a resident of Telangana
(3) Should be working for any private or public companies or startups, or can be self-employed

4.10.1.2 Sample Size Justification

Non-probability sampling techniques lack a standardized method for determining the right sample size. The decision is usually dependent upon the suggestions of researchers and other factors, such as financial constraints, feasibility, etc. (Malhotra, 2010).

An online tool provided by Soper (2023) was used to calculate the minimum sample size on an a priori basis and avoid Type I and Type II errors (Beck, 2013). This tool was designed by referring to the literature on sample requirements for structural equation modelling (Westland, 2010) based on statistical power analysis (Cohen, 2013). As per the results given by the tool, a recommended sample size of 460 was given for this study based on 9 latent variables (excluding one objective variable), 3 observed variables, a power level of 0.8, a probability level less than 0.05, and an effect size of 0.2 (Cohen, 2013).

Subsequently, a total of 584 responses were received, of which only 452 complete responses were considered for further analysis, which exceeded the lower bound of the sample size requirement.

4.10.2 Mode of administration

The study adopts a cross-sectional research design based on the survey collected with the help of a self-administered and structured questionnaire. The survey was distributed in an online format using purposive sampling to the Indian working adults located in Telangana. Owing to the unique characteristics of the sample, which means they must belong to the Missing Middle population of India, the researcher has visited the suitable people in person, and most of the time, the questionnaire has been distributed and collected in person or by telephone.

The study targeted a sample using two distinct approaches. Firstly, personal connections were used to gather information from employed individuals within known networks. Secondly, employees from organizations located nearby were approached with prior authorization, and working adults in varied fields like tailoring, cleaning, and boutiques, who were self-employed, were approached. In such instances, individuals who stated a willingness to participate were

provided with a survey link via popular communication platforms such as WhatsApp, or the researcher personally collected the information. The survey description mentioned the study's objective and the survey respondents' inclusion criteria. The survey description made sure the respondents understood the necessary background of the study.

4.10.3 Questionnaire generation

The study uses the approach, Churchill and Iacobucci (2006) recommended for developing and validating the questionnaire. According to their perspective, the first stage in creating a questionnaire is to clearly define the necessary information. The questionnaire of the study is given in Appendix A.

The questions were drawn from the study's constructs, explained in the conceptual framework of the study. The key constructs include Financial Knowledge, Cognitive Style, Sources of Information, Health Insurance Literacy, Risk Aversion, Loss Aversion, and Purchase Intention towards health insurance. Furthermore, some preliminary questions on demographics and the presence of chronic health conditions were also included to better assess the respondent's profile.

4.10.3.1 Selection of questionnaire type and method of administration

A structured questionnaire consisting of closed-ended questions was considered suitable for the study. This selection allowed the researcher to control the length of the questionnaire and ensured that all respondents were asked the same questions, resulting in consistent results. Saunders et al. (2012) recommend two methods of administering the survey, i.e., interviewer-administered and self-administered. The interviewer-administered survey is conducted through face-to-face/telephonic interaction with the respondents. A self-administered survey is sent through mail or the Internet. The present study is both interviewer-administered and self-administered.

4.10.4 Operationalisation of Constructs

Operationalizing the study's variables is essential to test the hypothesis and accurately quantify them. Operationalization refers to the transformation of abstract theoretical entities into concrete and quantifiable variables. All the key variables were multi-item scales, except Sources of Information, as it was only a preference of the respondents. The measurement scales utilized in the study were derived from pre-existing literature and modified to align with the specific setting of the research and the Indian conditions. The subsequent sections describe the definitions and the scales used for measuring the constructs.

4.10.4.1 Cognitive Style

Cognitive Styles are defined as "consistent individual differences in preferred ways of organizing and processing information and experience". Cognitive style is considered a critical variable in the context of decision-making (Kay, 2003) and financial management (Hertzog et al, 2018). Cognitive style is measured in the context of analytical and intuitive styles, both of which are viewed as two extreme poles of one continuum. The construct was divided into analytical and intuitive cognitive styles, each of which was measured on a five-point Likert scale from Strongly Disagree (1) to Strongly Agree (5).

Analytical Cognitive Style. The analytical decision-making style is measured using the six items from Guzman (2019) adapted from Allisson (1996). The sample item is "When making a decision, I take my time and thoroughly consider all relevant factors".

Intuitive Cognitive Style. The intuitive decision-making style is measured using the five items from Guzman (2019) adapted from Allisson (1996). The sample item is "I work best with people who are spontaneous".

4.10.4.2 Financial Knowledge

Financial Knowledge improves the ability of individuals to deal with financial information, and it also increases their awareness about financial decisions like investing, saving, and borrowing,

and their consequences, thereby enhancing their financial skills and promoting positive financial behaviour (K. T. Kim et al., 2022). Generally, it is operationalized into two dimensions: objective and subjective financial knowledge.

Objective Financial Knowledge. The Objective financial knowledge measure evaluates the understanding of the individual regarding concepts such as compounding, inflation, and diversification. It was measured using three multiple-choice questions with only one correct answer, adopted from Lusardi & Mitchell, (2011). Every right answer was coded as 1, and the rest of the options as 0. Further, the sum of all the correct answers the respondents gave was calculated to arrive at a single number referred to as the Objective Financial Knowledge (OFK) score.

Subjective Financial Knowledge. The Subjective Financial Knowledge measure is a self-assessed measure that evaluates the overall financial knowledge of a person. It refers to the perceived financial knowledge of an individual and also promotes positive financial behaviour. In this study, it is measured using a three-item scale adopted from O'Connor & Kabadayi, (2020), where the items were measured on a 5-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5).

4.10.4.3 Sources of Information

Sources of Information refer to the avenues from which an individual gathers the information needed to decide whether to purchase health insurance or not. The sources can be either formal or informal. Formal sources of Information include brochures by insurance companies, agents, websites, etc. Informal sources include advice from family, friends, colleagues, etc. In the context of this study, a multiple-choice question was used to assess the dominant type of source of information for the missing middle population.

4.10.4.4 Health Insurance Literacy

Health Insurance Literacy or HIL measures the confidence and awareness an individual possesses about health insurance plans. It is defined as " the degree to which individuals have the knowledge, ability, and confidence to find and evaluate information about health plans, select the best plan for their own (or their family's) financial and health circumstances, and use the plan once enrolled" (Quincy, 2012). In the context of this study, the scale developed by Paez et al. (2014) is used to measure HIL. It is measured using four sub-dimensions, namely, Confidence choosing, Comparing Plans, Confidence Using, and Experience Using the Health plans. All the items of the dimensions were measured on a 5-point Likert Scale. This scale covers both the confidence and behavioural aspects of the health insurance decisions of individuals.

4.10.4.5 Risk Aversion

Risk Aversion is defined as "a decision maker's preference for a guaranteed outcome over a probabilistic one having an equal expected value" (Mandrik, 2005). It is typically seen as the attitude of individuals towards risk and is supported by the expected utility theory, which even enables the quantification of risk aversion derived from the diminishing marginal utility of wealth. In the context of this study, it is measured using a scale based on Mandrik (2005) and adopted from Riquelme & Román, (2014) using a 7-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (7).

4.10.4.6 Loss Aversion

Loss Aversion is a key feature of the prospect theory and conceives that for a decision maker, losses loom larger than gains even when both of them may occur with the same magnitude (Tversky & Kahneman, 1992). The impact of loss aversion, especially in the presence of narrow framing, has a profound influence on the optimal insurance demand (Zheng, 2020). In the context of this study, loss aversion is measured using a hypothetical situation-based question

given under two scenarios to understand if there is any effect of framing on the choices made by individuals. The scenario-based questions were adopted from Eckles & Schaffner (2010) and modified as per the context of the present study. The outcome variable for loss aversion is categorised into three categories, namely, coverage-focused, cost-focused, and frame-sensitive loss aversion.

4.10.4.7 Purchase Intention

Purchase intention towards health insurance demonstrates the efforts of the individual to perform that behaviour. Insurance literacy has a positive influence on the intention to purchase health insurance. Individuals' health insurance literacy levels affect their purchase intention toward insurance products. Consumers' intention to purchase health insurance is significantly high when the consumers perceive the health insurance to be useful for them (Mamun et al., 2021).

According to the Theory of Planned Behaviour (TPB), intention determines the behaviour of an individual (Ajzen, 1991a). Thus, purchase intention towards health insurance increases the demand for health insurance, which is influenced by the level of health insurance literacy or knowledge one possesses. In the context of this study, the future purchase intention was measured using a scale adopted from Dodds et al., (1991) and modified as in Chu & Lu, (2007) consisting of a 3-item scale measured using a 7-point Likert scale ranging from very low to very high.

4.10.4.8 Demographic Variables and Other Characteristics

Socio-demographic characteristics include age, per annum income levels measured in INR (< 5 lakhs, 5 to 10 lakhs, 10 to 15 lakhs, 15 to 20 lakhs, > 20 lakhs per annum), education (1=Primary education, 2=Secondary education, 3=Diploma, 4=Bachelor's Degree, 5=Master's Degree and Above), gender (1=male; 2=female), marital status (1=unmarried; 2=married; 3=divorced, 4=widowed). Additionally, questions on reason for not purchasing health insurance

(1=High Costs/Premium, 2= Already covered, 3=Lack of information about health plans and benefits, 4=Difficulty in understanding health insurance plans, 5=Other), perceived knowledge about health insurance policies and procedures (on a scale of 1 to 5) and presence of any pre-existing chronic health conditions (Yes/No) were included.

4.10.5 Form of Response

Every item from all the scales incorporated in the questionnaire was in the closed-ended form, either dichotomous or multichotomous. The closed-ended questions are easier to answer and less time-consuming, making them suitable for quantitative studies. The responses to these questions can be directly tabulated, coded, and analysed, reducing the data processing cost and effort (Dörnyei & Taguchi, 2009). The dichotomous form of questions was primarily used for demographic information and hypothetical loss aversion questions. The multichotomous questions were used from the existing scales, and variables were measured on the respective scales. The anchors of each scale were as per the existing scales and not on a uniform five-point Likert scale to counter the common method bias issue, as recommended by (Podsakoff et al., 2003).

4.10.6 Question Formulation

The quality of responses is an important concern with the survey approach since there is a greater probability of misunderstandings due to improper wording and technical jargon. The quality of the research may suffer as a result of the respondent skipping some questions or providing less thorough answers. As a result, the questions were clear and easy to understand even when the respondents had a high level of education.

The present study has used existing scales in the literature for measuring variables. The items were in English; however, given that most of the respondents are not well-versed in English, the questionnaire was also translated into the local language, Telugu. These scales were carefully chosen after a rigorous evaluation process from a range of available alternatives.

Although most of them were employed without modification, one needed adjustment to align with the specific context. The wording of the scenarios used to assess whether an individual is loss averse or not was modified as per the health insurance terminology, and no other scales were altered.

4.10.7 Sequence of Questions

The questions were divided into well-defined sections. The opening questions regarding the respondent's professional background were kept. Further, the questions were presented logically, with each section soliciting responses on one construct. Lastly, the responses to various demographic information were included between two different constructs or between subdimensions of one construct to maintain the attention of the respondent and to provide a simple question among the construct's questions, which increases their cognitive load.

4.10.8 Questionnaire Layout

The online survey was designed using a popular tool – SurveyMonkey. The questionnaires were initially planned to be distributed in an online mode. However, in some cases, the respondents were approached in person, and physical copies of the questionnaire were shared. If that was not possible, the researcher used an enumeration technique to collect their responses. In other cases, the survey link was distributed through social media platforms like WhatsApp and LinkedIn.

The initial outline of the survey mentioned the study's objective and the eligibility to participate in the survey. It also comprised the request for consent to participate, and respondents were informed that all the responses were recorded anonymously and no identifying information was being collected from them.

4.10.9 Questionnaire Pre-testing: Pilot study

To pretest the questionnaire, it was presented and discussed with select professionals and academicians to gain feedback and ensure clarity. The questionnaire received some critical

feedback regarding the length of the questionnaire and the simplification of certain items' wording. However, the survey length could not be shortened as well-established scales were used. Thus, it was necessary to retain all the items for the reliability of the study's constructs.

A pilot study was conducted with 207 working professionals from various sectors to validate the scales further. The statistical analysis was conducted using IBM SPSS version 27 software. The results of the pilot study are discussed further:

The Kaiser–Meyer Olkin (KMO) measure of sample adequacy was 0.869, and a significant Bartlett's Test of Sphericity indicated that there was a significant difference in the variances ($p<0.05$) (Table 4.1). This score exceeds the prescribed threshold value, suggesting a significant correlation among the constructs. This satisfied the assumptions of EFA (Bartlett, 1954; H. F. Kaiser, 1974).

Table 4.1

KMO and Bartlett's Test (Pilot study)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.896
Bartlett's Test of Sphericity	Approx. Chi-Square	6706
	Df	990
	Sig.	<.001

Further in factor analysis, the measurement items were extracted using principal axis factoring and varimax rotation, displaying nine distinct factors with eigenvalues higher than 1.0. (Table 4.2). Table 4.3 displays that the extracted nine factors account for 64.761% of the total variance.

Table 4.4 shows that the measurement scales are reliable, as Cronbach's alpha values (Nunnally, 1978b) exceed the threshold of 0.70. The Cronbach's alpha values ranged from 0.878 to 0.969.

Table 4.2

Rotated Factor Matrix (Pilot Study)

	Factor								
	1	2	3	4	5	6	7	8	9
P1					0.829				
P2					0.847				
P3					0.857				
CSAN1			0.701						
CSAN2			0.757						
CSAN3			0.759						
CSAN4			0.637						
CSAN5			0.738						
CSAN6			0.657						
CSIN1				0.573					
CSIN2				0.765					
CSIN3				0.618					
CSIN4				0.638					
CSIN5				0.760					
CC1	0.619								
CC2	0.474								
CC3	0.652								
CC4	0.623								
CC5	0.742								
CC6	0.804								
CP1		0.698							
CP2		0.782							

CP3		0.765				
CP4		0.737				
CP5		0.623				
CP6		0.699				
CU1	0.581					
CU2	0.637					
CU3	0.689					
CU4	0.742					
CU5	0.732					
EU1				0.732		
EU2				0.746		
EU3				0.670		
EU4		0.562		0.416		
SFK1			0.339			
SFK2			0.348			
SFK3						
RA1					0.438	
RA2					0.482	
RA3					0.438	
Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization.						

Table 4.3

Total Variance Explained (Pilot Study)

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	***% of Variance***	***Cumulative %***	***Total***	***% of Variance***	***Cumulative %***	***Total***	***% of Variance***	***Cumulative %***
1	13.927	30.949	30.949	13.604	30.232	30.232	6.119	13.597	13.597
2	4.614	10.253	41.202	4.265	9.477	39.708	5.202	11.559	25.157
3	3.030	6.733	47.935	2.668	5.929	45.637	4.192	9.315	34.471
4	2.170	4.822	52.757	1.921	4.268	49.906	3.568	7.930	42.401
5	2.144	4.764	57.521	1.814	4.031	53.937	2.692	5.982	48.383
6	1.880	4.178	61.699	1.526	3.391	57.328	2.573	5.717	54.101
7	1.582	3.515	65.213	1.124	2.498	59.826	1.783	3.963	58.064
8	1.224	2.720	67.933	0.955	2.121	61.948	1.662	3.694	61.758
9	1.092	2.427	70.360	0.667	1.483	63.430	0.753	1.673	63.430
10	0.966	2.147	72.507						
11	0.952	2.116	74.623						
12	0.847	1.882	76.506						
13	0.803	1.784	78.290						
14	0.756	1.679	79.969						
15	0.686	1.524	81.493						
16	0.647	1.438	82.931						
17	0.550	1.222	84.153						
18	0.532	1.183	85.336						
19	0.507	1.126	86.462						
20	0.482	1.070	87.533						
21	0.463	1.028	88.561						
22	0.445	0.988	89.549						
23	0.398	0.885	90.434						
24	0.386	0.859	91.292						
25	0.322	0.717	92.009						
26	0.306	0.680	92.689						
27	0.287	0.639	93.328						
28	0.277	0.615	93.943						
29	0.274	0.609	94.552						

30	0.269	0.597	95.149
31	0.239	0.531	95.681
32	0.219	0.487	96.168
33	0.198	0.440	96.608
34	0.196	0.436	97.044
35	0.184	0.410	97.454
36	0.174	0.386	97.839
37	0.161	0.359	98.198
38	0.143	0.319	98.517
39	0.133	0.296	98.813
40	0.117	0.261	99.073
41	0.104	0.231	99.304
42	0.096	0.214	99.518
43	0.084	0.187	99.706
44	0.077	0.171	99.876
45	0.056	0.124	100.000
Extraction Method: Principal Axis Factoring.			

As a result of this factor analysis on the pilot study sample, some changes were to be made before the total sample was collected. One item was eliminated from further data collection and analysis, namely, SFK3 (“I am pretty good at math”), as it may have been considered too ambiguous by the respondents and so did not have any significant loading or communalities. Also, factor loadings for two dimensions, Confidence Choosing (CC) and Confidence Using (CU), have significantly loaded onto the same factor. This could be because both these sub-dimensions are part of the same bigger dimension, Confidence in choosing and using an appropriate health plan. However, there seems to be an overlap or confusion among the respondents for these items, as both of them are very similar but distinct in their unique ways. Similarly, Item EU4 was loading significantly higher on dimension Comparing Plans (CP) than on dimension Experience Using (EU), as the dimension CP has an item CP6, which has similar wordings as EU4, which might have confused the respondents. So, after the pilot study, respondents were approached personally for the rest of the sample, and care was taken to explain the differences between these aspects, and then, the questions were posed.

Table 4.4 shows that the measurement scales are reliable, as Cronbach's alpha values (Nunnally, 1978b) exceed the threshold of 0.70. The Cronbach's alpha values ranged from 0.846 to 0.956. However, two constructs, SFK and RA, have values of 0.693 and 0.686, respectively, which are slightly below the threshold value, but are acceptable.

Table 4.4

Construct Reliabilities (Pilot Study)

Construct	**Cronbach Alpha**
PI	0.956
WTB	0.881
CSAN	0.890
CSIN	0.876
SFK	0.693
CC	0.885
CP	0.919
CU	0.925
EU	0.846
RA	0.686

4.10.10 Final Data Collection

Approximately 600 respondents were contacted to seek responses to the survey. Most of the respondents were approached personally, as it would bring a nuanced understanding regarding the concepts in the questionnaire. All the respondents belonged to the urban missing middle class, and to the organized and unorganized sectors as well. The survey was conducted over a period of ten months.

4.10.11 Data Preparation for Analysis

The data collected through SurveyMonkey and also the data that was personally collected were coded and entered into Microsoft Excel. The data was cleaned for any missing values, and only complete responses were considered for further analysis. Further analysis was done in IBM SPSS (Statistical Package for Social Sciences) Version 26.

4.11 Data Analysis

This study examines the relationships between multiple independent and dependent variables. Such kind of multiple dependence relationships among variables are analysed using multivariate data analysis techniques, such as structural equation modelling (SEM). SEM is considered to be appropriate for testing conceptual frameworks with multiple hypotheses. SEM consists of a series of interconnected steps, such as exploratory factor analysis, confirmatory factor analysis, path analysis, etc., enabling inferential data analysis and model estimation. SEM is categorised as Covariance-based SEM (CB-SEM) and Partial Least Squares SEM (PLS-SEM). The current study utilizes CB-SEM for three primary rationales: CB-SEM is more suitable when the goal of the study is to test theories rather than make predictions. Additionally, all the underlying constructs are characterised by their reflective nature, and there are no formative constructs that would lead to the testing in PLS-SEM. Third, the large number of responses with a near-normal distribution makes CB-SEM a suitable method.

Chapter Summary

The chapter discussed the research methodology utilized for the present study. The chapter outlined the research typology, philosophy, approach, and methodological choice applied in this thesis. Also, the sampling population, statistical, and data analysis techniques used were explained.

CHAPTER 5

DATA ANALYSIS

The results of the statistical analysis conducted on the collected data are presented in this chapter. The first section of the chapter presents the socio-demographic information and the respondents' perceived health insurance knowledge levels, along with descriptive statistics used to evaluate the normality of the observed data. Following this, it highlights the findings of the Exploratory Factor Analysis (EFA), model fit indices, and an evaluation of the structural model, which incorporates analyses of mediation, moderation, and direct effects.

5.1 Response Rate

Data was collected over ten months from 2023 to 2024. Approximately 600 potential participants belonging to the missing middle population, comprising private sector employees and self-employed individuals, were approached with the survey questionnaire, both personally as well as through SurveyMonkey. A total of 597 responses were received, of which 145 responses were not considered for further analysis as they were incomplete. 452 responses were complete and considered for final data analysis. The response rate was found to be 64.57 percent. Having an adequate response rate will only enable the study to have dependable, reliable, valid, and generalizable results (Baruch, 1999).

5.2 Demographic Profile of the Respondents

The final sample size for the study consisted of 251 male respondents (55.5%) and 201 female respondents (44.5%). Among them, 25.4% have completed their bachelor’s Degree, and 30% have completed their Master’s Degree. Approximately 69.2% of the sample reported an annual family income of less than 5 lakh per annum, and around 19.9% reported an annual income ranging between 5-10 LPA. Moreover, 54% of the respondents were married, and about 43.1% were unmarried. Also, 88% of the respondents had no chronic health conditions, which would

be the reason to purchase health insurance. Most respondents were from the private sector (64.4%), predominantly from the retail/consumer products sector (17.9%) and IT sector (16.4%). Most of the respondents, interestingly, belonged to the organized sector (67.7%).

An overview of the demographics of the respondents is given below:

Table 5.1

Demographic Profile of the Respondents

Characteristics		**Frequency**	**% of Total**
Gender	Male	251	55.5 %
	Female	201	44.5 %
Annual Family Income	Less than 5LPA	313	69.2 %
	Between 5-10 LPA	90	19.9 %
	Between 10-15 LPA	29	6.4 %
	Between 15-20 LPA	8	1.8 %
	More than 20 LPA	12	2.7 %
Educational Qualification	Tenth Standard	66	14.6 %
	Twelfth Standard	46	10.2 %
	Diploma	12	2.7 %
	Bachelor's Degree	115	25.4 %
	Master's Degree	139	30.8 %
	Other	74	16.4 %
Marital Status	Married	244	54.0 %
	Unmarried	195	43.1 %
	Divorced	6	1.3 %
	Widowed	7	1.5 %
Nature of Employment	Government	38	8.4 %
	Private	291	64.4 %
	Self Employed	123	27.2 %
Industry	IT Sector	74	16.4 %
	Banking & Finance	49	10.8 %
	Education	61	13.5 %
	Hospitality	30	6.6 %
	Healthcare	13	2.9 %

	Manufacturing	42	9.3 %
	Retail/Consumer products	81	17.9 %
	Brokerage Firms	26	5.8 %
	Other	76	16.8 %
Sector	Organized	306	67.7 %
	Unorganized	146	32.3 %

Table 5.2

Reasons for Not Purchasing HI and Perceived Health Insurance Knowledge

Characteristics		**Frequency**	**% of Total**
Reason for not having Health Insurance	High cost/Premium	104	23.0 %
	Lack of information about HI plans	209	46.2 %
	Difficulty in understanding HI plans	70	15.5 %
	Other	69	15.3 %
Perceived Health Insurance Knowledge	Very Low	147	32.5 %
	Low	84	18.6 %
	Moderate	115	25.4 %
	High	59	13.1 %
	Very High	47	10.4 %

Additionally, 46.2% stated lack of information about health insurance plans as the primary reason for not purchasing health insurance plans, followed by the reason of “high costs/premiums” (23%). Also, 51.1% of the respondents self-assessed their knowledge about health insurance plans and benefits to be very low (32.5%) and low (18.6%).

Table 5.3

Objective Financial Knowledge Score

		Frequency	Percentage(%)
Objective Financial knowledge	No correct answers	64	14.2
	One correct answer	130	28.8
	Two correct answers	147	32.5
	All correct answers	111	24.6

Note: n=452

The Objective Financial Knowledge (OFK) score was calculated by summing the correct answers marked by respondents (Table 5.3). The final score represents the respondent's objective financial knowledge, including questions on inflation, compounding, and investments. The results showed that only 24.6% of the respondents answered all three questions correctly. However, a significant proportion of around 42.9% of the respondents answered one or none of the questions correctly. As it is an observed variable and not a latent construct, this score has been directly used in further analysis and excluded while performing EFA and CFA.

5.3 Descriptive Statistics

The descriptive statistics offer a summary of all the sample data that is collected and their various measures, such as mean (central tendency), standard deviation (dispersion), and skewness and kurtosis (symmetry). Table 5.4 presents the descriptive statistics of all the focal constructs of the study: *Purchase Intention, Analytical Cognitive Style, Intuitive Cognitive Style, Subjective Financial Knowledge, all four sub-dimensions of Health Insurance Literacy (Confidence Choosing, Confidence using, Comparing Plans, Experience Using), and Risk Aversion*. The items were measured on either a 5-point or 7-point Likert scale depending on the existing scale from which they were adopted.

Table 5.4

Descriptive Statistics of Constructs

Items	Mean	Standard Deviation	Skewness	Kurtosis
Purchase Intention				
P1	4.19	1.75	-0.44	-0.76
P2	4.19	1.81	-0.19	-0.94
P3	4.31	1.84	-0.31	-0.96
Cognitive Style				
Analytical Cognitive Style				
CSAN1	4.07	1.00	-1.23	1.20
CSAN2	3.93	0.95	-1.24	1.90
CSAN3	3.81	0.97	-0.98	1.03
CSAN4	3.84	0.72	-1.41	3.88
CSAN5	3.98	0.84	-1.35	3.07
CSAN6	3.66	0.81	-0.87	1.52
Intuitive Cognitive Style				
CSIN1	2.97	1.16	-0.07	-0.87
CSIN2	2.24	1.31	0.60	-0.95
CSIN3	2.99	1.10	-0.04	-0.77
CSIN4	2.46	1.42	0.41	-1.25
CSIN5	2.42	1.34	0.43	-1.14
Subjective Financial Knowledge				
SFK1	3.00	0.95	-0.05	-0.44
SFK2	3.35	0.95	-0.50	-0.49
Health Insurance Literacy				
Confidence Choosing				
CC1	2.94	1.21	-0.05	-1.16
CC2	2.76	1.15	0.07	-1.02
CC3	2.95	1.15	-0.10	-1.06
CC4	2.94	1.15	-0.07	-0.99
CC5	2.97	1.17	-0.06	-1.02
CC6	3.15	1.16	-0.30	-0.92
Comparing Plans				
CP1	3.19	1.10	-0.26	-0.89
CP2	3.10	1.10	-0.18	-0.86
CP3	2.92	1.05	-0.07	-0.69
CP4	3.09	1.09	-0.06	-0.85
CP5	2.98	1.06	0.11	-0.56
CP6	3.02	1.13	0.04	-0.78
Confidence Using				
CU1	2.87	1.15	-0.09	-1.08
CU2	2.75	1.18	0.10	-1.01

CU3	2.96	1.23	-0.17	-1.13
CU4	2.88	1.21	-0.01	-1.07
CU5	2.91	1.18	-0.06	-1.00
Experience Using				
EU1	3.33	1.10	-0.60	-0.50
EU2	3.19	1.12	-0.40	-0.77
EU3	3.23	1.10	-0.43	-0.56
EU4	2.90	1.09	0.00	-0.65
Risk Aversion				
RA1	5.00	1.69	-0.82	-0.44
RA2	5.59	1.34	-1.21	1.42
RA3	5.62	1.23	-1.17	1.35
RA4	5.36	1.58	-0.98	0.11
RA6	4.62	1.45	-0.89	0.13

The above table depicts that purchase intention has a mean value above 3. The mean values of analytical cognitive style and subjective financial knowledge are above 3, whereas values for the intuitive cognitive style are above 2. The mean values of the confidence dimension of HIL are above 2, while the behaviour dimension has values above 3. Lastly, the mean values of Risk Aversion are above 5. The standard deviation for all the items ranged from 0.72 to 1.84. The mean values suggest that the respondents had positive intentions toward health insurance, but lacked confidence in choosing and using health insurance. The standard deviation values suggest that there is low variability in the data and that a significant proportion of the respondents are positively inclined toward the purchase of health insurance. The mean values for risk aversion suggest that most of the respondents are not risk-taking and would prefer certainty. The descriptive measures of the arithmetic average and dispersion depict a broader picture of the sample data that respondents intend to purchase health insurance.

Data normality is generally analysed using two statistical measures, namely, kurtosis and skewness. Skewness measures the asymmetry of the data and tells whether values are skewed marginally or significantly. Kurtosis measures the peakedness of the distribution, telling how much the tails of a distribution differ from the normal distribution, exposing outliers, if any. For a distribution to be normal, it is assumed that the kurtosis values should range between ±3,

according to Tabachnick (2007). Furthermore, the value of skewness within the range of ± 1 indicates a slight skewness, while values within ± 2 indicate a significant skewness, and values within ± 3 indicate a severe skewness, indicating that the distribution is non-normal (Byrne, 2001; Kline, 2011). In the current study, the skewness values range between -1.41 to 0.41, and the kurtosis values range between -1.25 to 3.88, indicating a slight deviation from a normal distribution. Such small deviations are usually attributed to a condition called 'acquiescence bias', which refers to the tendency of respondents to respond positively to all the items in the questionnaire (Purcell, 2014). However, a moderate level of non-normality is common and poses no harm to the validity. Despite the normality assumption being a vital criterion for making an inference, it is not a mandatory criterion for establishing the validity of linear regressions and t-tests unless there is an extreme departure from the normality (Kleinbaum et al., 1988).

A descriptive analysis of all four Health Insurance Literacy dimensions, namely, Confidence Choosing, Comparing Plans, Confidence Using, and Experience Using, was done.

Figure 5.1 (a)

Confidence Choosing

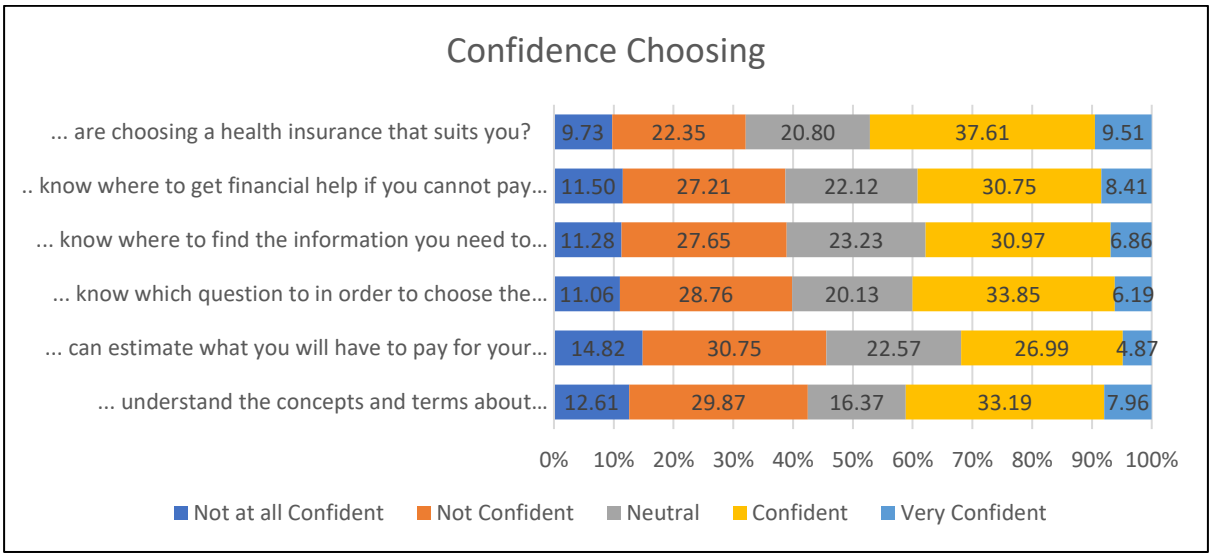
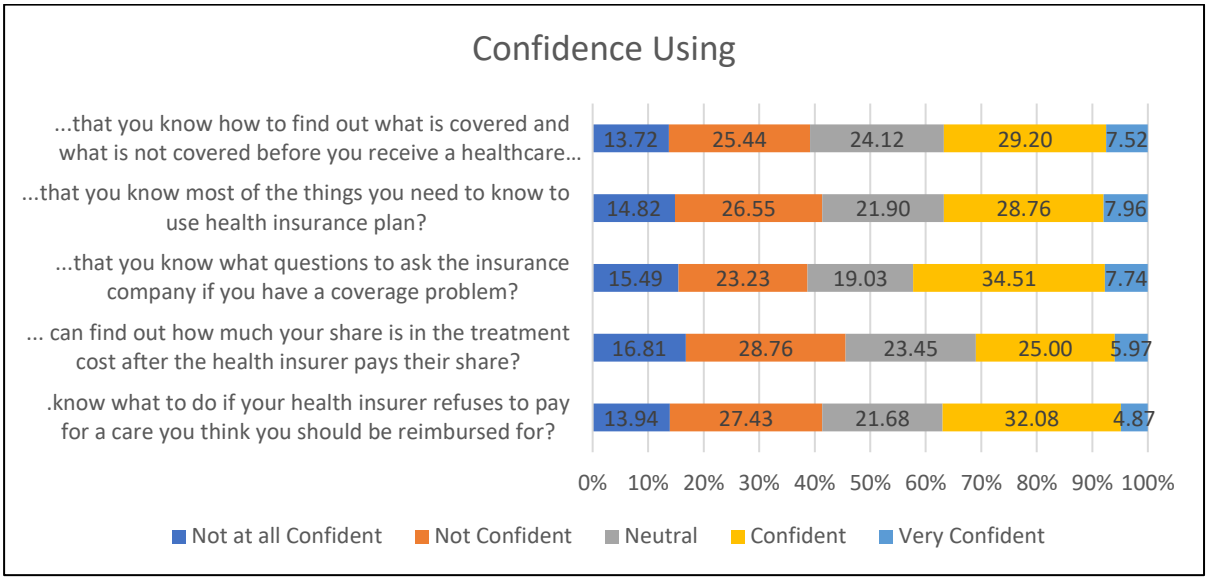


Figure 5.1 (b)

Confidence Using



These two dimensions belong to the larger dimension of Confidence in choosing and using an appropriate health insurance plan.

When choosing a health insurance plan, more than 40% of the respondents are little to not confident at all that they understand the concepts and terms of a health insurance plan. Almost one-third of the respondents do not know where to find the right information to purchase a suitable health insurance plan, and also do not know where to get financial help if they are unable to pay for the health insurance.

In terms of usage of the health insurance plans, almost 30 - 40% of the respondents are confident that they know how to navigate seamlessly through the plans. Notably, 50% of the respondents are confident that they will contact the insurance provider to find out more about the health services that are covered and not covered under the insurance plan.

Figure 5.2 (a)

Comparing plans

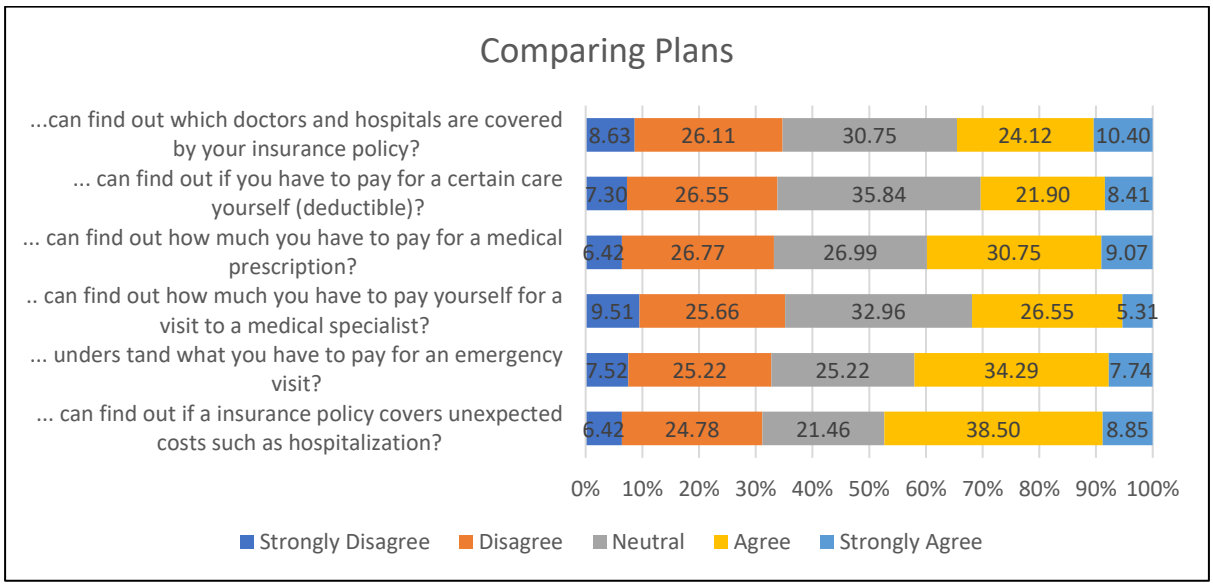
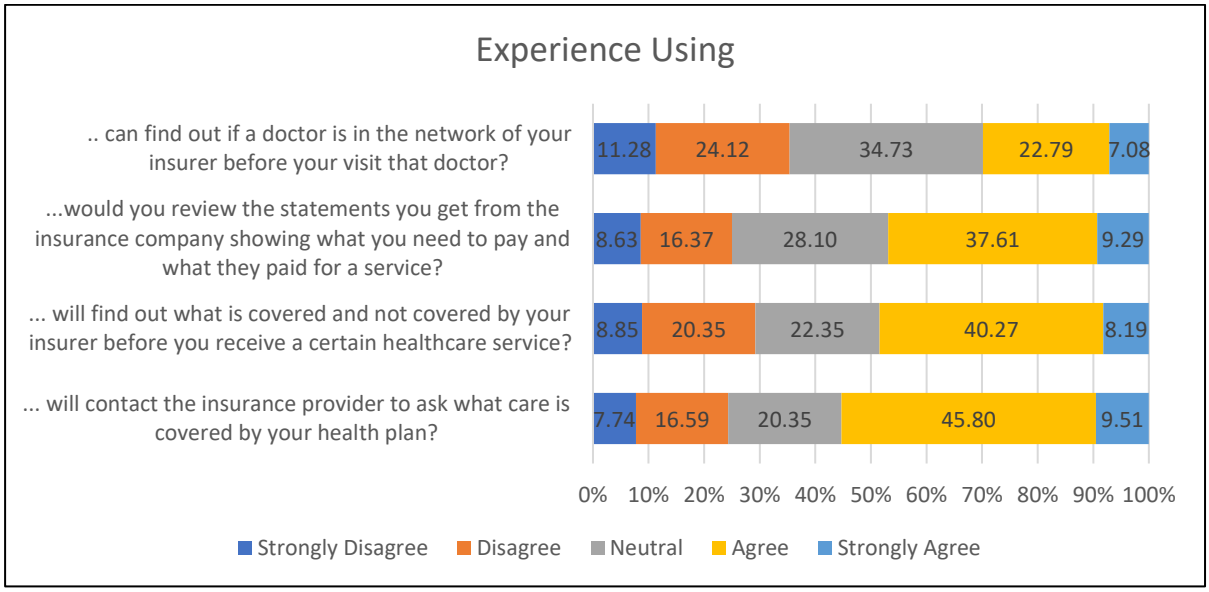


Figure 5.2 (b)

Experience Using



These two dimensions belong to the larger dimension of behaviour in choosing or using a health insurance plan.

Finding the right information is supposedly a big barrier to one third of the respondents who are little to no confidence at all in comparing various plans based on the information they can

gather on details like doctors and hospitals that are covered if unexpected hospitalization charges are covered, how much to pay for emergency or specialist visits, prescriptions, and deductibles.

However, 40% of the respondents reported that they still do not know what to do if the insurance provider refuses to pay for a care/service that they think should be covered. Also, 40% of the respondents are little to not confident at all that they know most of the things they need to know about their health insurance plan.

The information sources that individuals trust and prefer to take the insurance purchase decision can be divided into formal – insurance company website, insurance agents, other websites selling insurance like Policy bazar, and informal – family, friends, and colleagues.

Table 5.5 presents the classification of the individuals in this study into these categories. It is observed that the sample is distributed evenly across both formal and informal sources.

Table 5.5

Frequencies of Trusted Information Sources

Trusted information sources	Frequency	% of Total
Company Website	112	24.8 %
Agents	99	21.9 %
Other websites	20	4.4 %
Family/Friends	221	48.9 %

Sources of Information (SOI) have been examined separately, as they are not included in the EFA, CFA, and further analysis, due to their categorical nature. They identify which type of source has more influence on HIL, and to understand this relationship, regression is used.

Regression results are presented in Table 5.6. The study finds that there is a positive relationship between the information sources an individual trusts and their health insurance knowledge. The linear regression done using Jamovi in this study considered trusted information sources as the predictor variable and HILSum as the dependent variable. HIL Sum is calculated as a score using the choices made by individuals under the four dimensions of HIL in line with the existing literature using this scale (Mamun et al., 2021; O'Connor & Kabadayi, 2020; Paez et al., 2014). Since the predictor variable is a categorical variable with four categories, three dummy variables were created, with Family/Friends being the reference group.

The regression coefficient for each category of the information sources is positive, suggesting that all three categories, namely, company websites, insurance agents, and other websites selling insurance, contribute more to health insurance knowledge than both family and friends put together.

It suggests that individuals trusting the formal sources of information have better Health Insurance Knowledge than people trusting family and friends, and this difference is also statistically significant in the case of all three categories (p-value < 0.05).

It implies that the formal sources of information have a positive and significant impact on the health insurance literacy of an individual.

Table 5.6

Model Coefficients – HILSum

Predictor	Estimate	SE	t	P
Intercept [a]	59.39	1.20	49.46	< .001
Trusted information sources:				
Company Website – Family/Friends	8.23	2.07	3.98	< .001
Agents – Family/Friends	5.36	2.16	2.48	0.013

Predictor	Estimate	SE	t	P
Other websites – Family/Friends	9.36	4.17	2.24	0.025

Additionally, it also shows that individuals trusting agents have more purchase intention than those trusting family/friends. Trusting company websites or other websites significantly contributes to greater HIL than trusting family/friends. These findings emphasize the critical role of formal sources of information on Health Insurance Literacy and the need to develop relevant policy and outreach programs offering professional guidance in insurance decisions.

5.4 Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis or CFA is an essential component of Structural Equation Modelling (SEM) analysis. It is a statistical method that evaluates measurement models by assessing the relationship between observed variables and latent variables. It reveals the degree of confirmation for preconceived measurement theory. CFA validates how well the theoretical specification of the factor matches reality (Hair et al., 2019).

It requires specification of the proposed measurement model, hypothesized relation between factors, numbers, and patterns of indicators, and individual factor loadings. The current study uses JASP to perform CFA. The current study performs CFA separately for HIL dimensions and all the other latent constructs. The HIL scale used in this study is used to estimate the literacy scores of respondents and, hence, is treated as an ordinal variable (Paez et al., 2014). Since the estimation technique used for ordinal variables is the Weighted Least Squares Mean and Variance Adjusted (WLSMV) and not the Maximum Likelihood (ML) estimation techniques used for continuous variables, the CFA is performed separately (Bardy, 2023) using JASP. The software JASP is used as it is an open-source software that supports the estimation of ordinal variables using weighted estimation techniques. Figure 5.5 (a) shows the

measurement model for HIL dimensions, and Figure 5.5 (b) shows the measurement model for all other latent constructs proposed in this study.

The CFA is a method used to evaluate the reliability and validity of a measurement model. Reliability refers to the uniformity of the constructs, while validity assesses the construct's efficiency in evaluating the construct it claims to measure. It is very important to critically examine and report the reliability and validity of constructs with multiple items, as these are latent constructs that cannot be directly observed and are adopted from existing literature with few modifications by the researcher (Cheung et al., 2024). The study's constructs are evaluated for internal reliability and validity with the following tests:

1. Reliability

2. Discriminant and Convergent validity

3. Model fit indices

Figure 5.4 (a)

Measurement Model – HIL dimensions

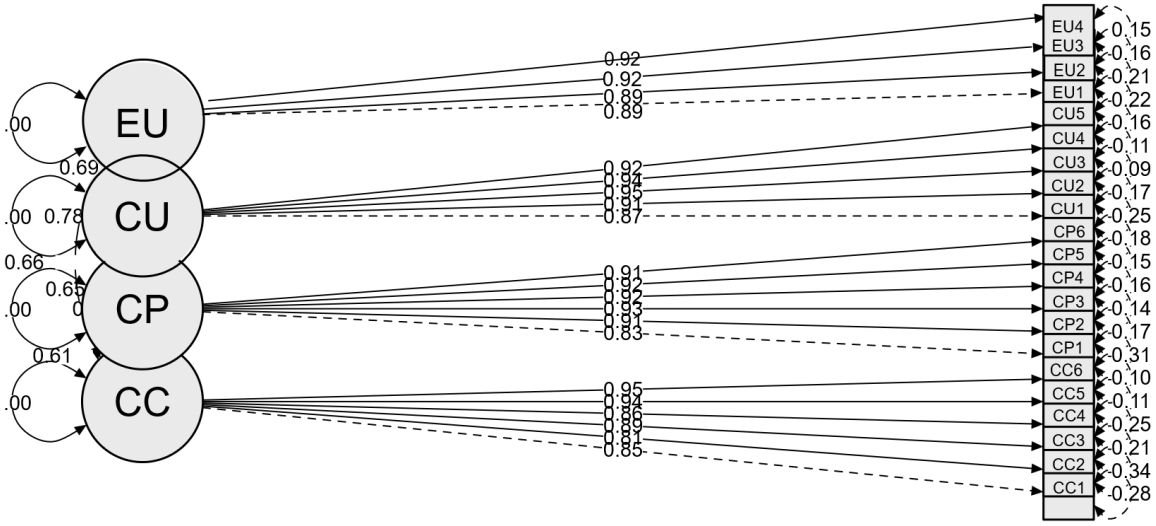
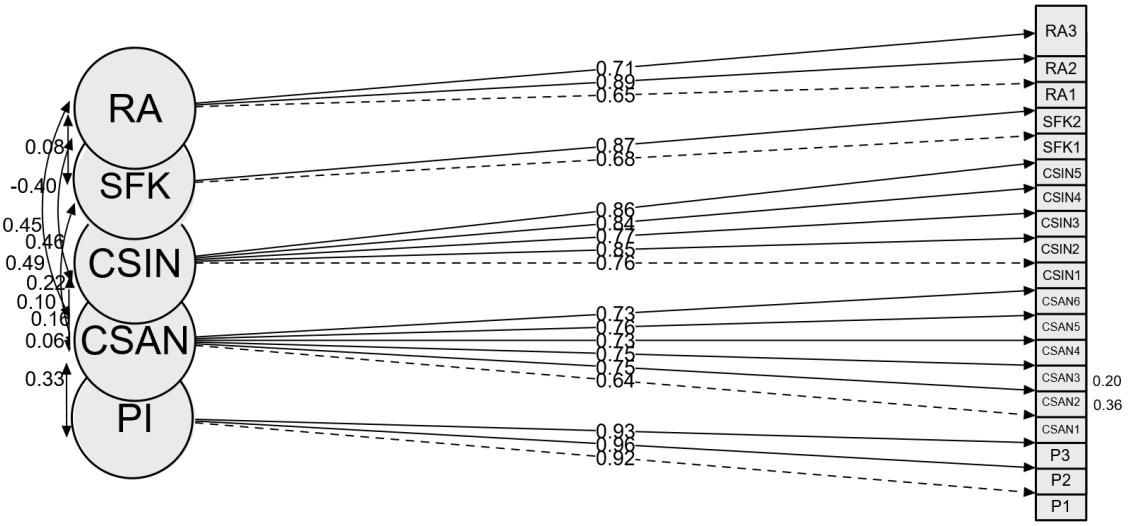


Figure 5.4 (b)

Measurement Model – All other Latent Constructs except HIL dimensions



5.4.1 Reliability

Reliability is the internal consistency of the results, which enables their generalizability. Cronbach's Alpha is the most common reliability measure in research using SEM, which assumes that all scale items are measuring the same construct. It is the most easily calculated and widely accepted standard for adequate reliability. Ideally, the Cronbach's alpha value should be more than 0.7 for sufficient reliability (Nunnally, 1978a). The Cronbach's Alpha was calculated using the reliability option in Jamovi. The values ranged from 0.742 to 0.949, indicating desirable reliability levels. Table 5.7 displays the internal reliabilities of the study's constructs.

Table 5.7

Construct Reliabilities

Construct	Cronbach's α
PI	0.954
RA	0.775
SFK	0.742
CSIN	0.907
CSAN	0.875
CC	0.942
CP	0.944
CU	0.949
EU	0.912

5.4.2 Convergent and Discriminant Validity

The validity of a construct enables us to understand if all the items of the construct are measuring what they originally intended to measure. There are two types of construct validity, namely, convergent validity and discriminant validity.

Convergent validity reflects 'the extent to which two measures capture a common construct". Measures having sufficient convergent validity enable the development of robust relationships between constructs in research. If a measure has convergent validity, it refers to the extent to which the measure correlates with other constructs measuring the same construct. Convergent validity above 0.70 is recommended (Carlson & Herdman, 2012).

The preliminary step in conducting convergent validity using SEM is to perform CFA by estimating a measurement model. In the measurement model, when the hypothesized model fits the data and all indicators measure only the constructs they are intended to measure and are not

related to any other constructs, the essential prerequisite for convergent validity is said to have been established (Cheung et al., 2024).

Convergent validity of the measurement model is established by assessing Composite Reliability (CR) and Average Variance Extracted (AVE). Composite Reliability denotes the level of internal consistency among items that are associated with a specific construct. Composite reliability, from the perspective of the model estimate, focuses on the indicators and estimates reliability values based on the factor loadings of items. The composite reliability is distinct from Cronbach's Alpha as it applies the item covariance matrix. The values for CR greater than 0.7 are desirable (Hair et al., 2019).

The Average Variance Extracted (AVE) measures the proportion of variance belonging to a construct relative to the variance produced by measurement error. The minimum acceptable values for AVE are 0.50 or above (Fornell & Larcker, 1981). The AVE for each construct is calculated by totalling the squares of the standardized factor loadings and dividing them by the total of the derived values, plus the sum of the error variances of the scale items for that construct.

Table 5.8 (a) and (b) present the CR and AVE values for all the constructs performed using Excel and JASP. Owing to the ordinal nature of the HIL dimensions, the values for CR and AVE are estimated separately in two different measurement models. The CR values range from 0.815 to 0.980, which are well within the acceptable levels. The AVE values were equivalent to 0.5 or above, and all were below the CR values as well, establishing convergent validity.

Table 5.8 (a)

Convergent Validity Results – HIL Dimensions

Constructs	AVE	CR
CC	0.784	0.956
CP	0.816	0.963
CU	0.845	0.964
EU	0.816	0.946

Table 5.8 (b)

Convergent Validity Results – Other Latent Constructs

Constructs	AVE	CR
PI	0.876	0.980
CSAN	0.529	0.970
CSIN	0.665	0.975
SFK	0.610	0.815
RA	0.575	0.897

Discriminant Validity is “the degree to which two conceptually similar concepts are distinct”. It is important to measure discriminant validity as it shows us if the test measure used is strongly correlated with measures of different constructs rather than with measures of the same construct (Hair et al., 2019).

The criteria which is widely accepted to measure discriminant validity are specified by Fornell & Larcker, (1981). According to this criterion, each construct's average variance extracted (AVE) square root should be higher than its correlation with other constructs. This rule of no

cross-loading indicators was further expanded by proposing a more modern approach to measure discriminant validity, which is the Heterotrait-Monotrait approach (HTMT) (Henseler et al., 2015; Voorhees et al., 2016).

The HTMT ratio "compares the average heterotrait-heteromethod inter-item correlations to the geometric mean of monotrait-heteromethod inter-item correlations, treating each item as a method," and the desirable level should generally be less than 0.85 (Cheung et al., 2024). The Inter-construct correlations between the research constructs and the square root values of AVE are displayed in Table 5.9 (a) and (b). The square root values of AVE exceed inter-construct correlation values by the specified threshold. This indicates no cross-loadings on constructs and suggests that they are unidimensional (Cheung et al., 2024). Thus, establishing adequate discriminant validity. The HTMT criteria results were obtained from JASP and are presented in Table 5.10 (a) and (b). All the HTMT correlation values are less than the threshold value of 0.85, thus establishing discriminant validity.

Table 5.9 (a)

Discriminant Validity Results – Fornell & Larcker Criteria - HIL Dimensions

Constructs	CC	CP	CU	EU
CC	0.886			
CP	0.607	0.903		
CU	0.780	0.658	0.918	
EU	0.648	0.780	0.687	0.903

Table 5.9 (b)

Discriminant Validity Results – Fornell & Larcker Criteria – Other Latent Constructs

Constructs	PI	CSAN	CSIN	SFK	RA
PI	0.935				
CSAN	0.334	0.739			
CSIN	0.057	0.100	0.815		
SFK	0.164	0.493	0.446	0.781	
RA	0.218	0.455	-0.396	0.082	0.758

Table 5.10 (a)

Discriminant Validity – HTMT Criteria – HIL Dimensions

CC	CP	CU	EU
1.000			
0.584	1.000		
0.776	0.644	1.000	
0.649	0.781	0.672	1.000

Table 5.10 (b)

Discriminant Validity – HTMT Criteria – Other Constructs

PI	CSAN	CSIN	SFK	RA
1.000				
0.326	1.000			
0.065	0.128	1.000		
0.182	0.486	0.461	1.000	
0.213	0.434	0.370	0.070	1.000

5.4.3 Model Fit Indices

The model fit indices assess the model fit for the data being examined. They show how well "the parameter estimates account for the observed covariances". Generally, model fit is assessed with various indices that give different information. The most accepted criteria are: "tests of the null hypothesis, tests of absolute fit, and tests of incremental fit". Tests of the null hypothesis are performed using a chi-square statistic, using maximum likelihood and generalized least squares estimation approaches in SEM (T. D. Smith & Mcmillan, 2001).

Assessing the overall model fit using the chi-square statistic had some estimation difficulties, so alternative indices were developed. These were absolute fit indices and were difficult to distinguish from the comparative fit indices. Absolute fit indices are calculated as a function of the t-test statistic, while comparative fit indices evaluate the fit of the proposed model in comparison with a baseline model. Another difference is between goodness-of-fit and badness-of-fit indices. The former increases with improvement in the fit of the model, while the latter decreases with improvement in the model fit. All comparative indices are goodness-of-fit indices, whereas all absolute fit indices could be goodness-of-fit or badness-of-fit indices (West et al., 2012).

Some popular absolute fit indices are Goodness-of-Fit (GFI) and Adjusted Goodness-of-Fit (AGFI). Incremental fit indices require the sample covariance matrix and the estimated population matrix, like the absolute fit indices, but they also require an additional third matrix, which would be used as a tool in assessing model fit. The most widely used incremental fit indices are the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Appropriation (RMSEA) (Shi et al., 2019; T. D. Smith & Mcmillan, 2001).

Table 5.11 (a) and (b) depict the model fit indices for the current study's model alongside the respective threshold values. The threshold values for various indices, which are given in Hair et al. (2019), West et al. (2012), are the recommended levels deemed to be desirable by researchers.

Table 5.11 (a)

Model Fit Indices – CFA – HIL Dimensions

Structural Model	Fit Statistics	Recommended Cut-off Value
CFI	0.974	≥ 0.95
GFI	0.997	≥ 0.90
NFI	0.970	>0.90
TLI	0.970	≥ 0.95
SRMR	0.042	≤ 0.08

Note: The RMSEA and Chi-Square values have not been reported as they are scaled high because of the ordinal nature of the data.

Table 5.11 (b)

Model Fit Indices – CFA – Other Latent Constructs

Structural Model	Fit Statistics	Recommended Cut-off Value
Chi-Square/df	2.9	≤ 3
CFI	0.950	≥ 0.95
GFI	0.914	≥ 0.90
NFI	0.926	>0.90
TLI	0.938	≥ 0.95
RMSEA	0.065	≤ 0.08
SRMR	0.061	≤ 0.08

5.4.4 Measurement Model of Higher Order Construct

In the current study, a second-order CFA was performed to examine the factor structure of "Health Insurance Literacy", where Confidence Choosing, Comparing Plans, Confidence

Using, and Experience Using were first-order factors. Weighted Least Squares Mean and Variance adjusted (WLSMV) was the estimation technique as the data consisted of ordinal responses.

Figure 5.5

Measurement Model of the second-order construct HIL

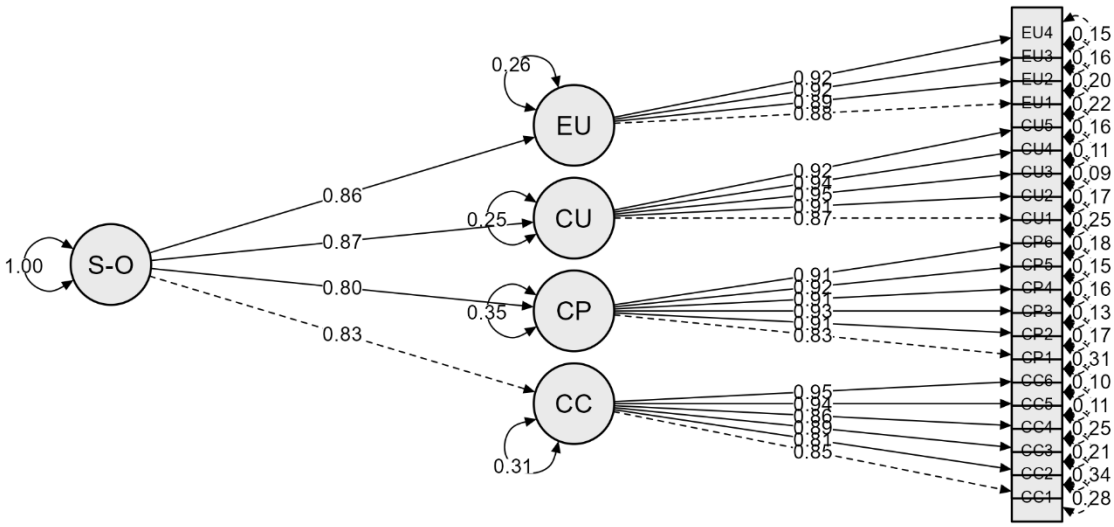


Figure 5.5 depicts the second-order model created using JASP. All the first-order factors load significantly onto the second-order factor HIL (depicted as S-O in JASP output plot), as shown in the factor loadings in Table 5.12.

Table 5.12

Factor Loadings – for Second-Order Construct HIL

Factor	Indicator	Std. estimate	Std. Error	z-value	p-value
HIL	CC	0.829	0.017	48.645	< .001
	CP	0.803	0.018	44.681	< .001
	CU	0.868	0.018	49.538	< .001
	EU	0.859	0.017	50.456	< .001

5.4.4.1 Model Fit Indices of the Higher Order Construct

The model fit indices for the second-order construct HIL have been performed, and the results are presented in the Table below.

Table 5.13

Model Fit Indices of Higher Order Construct HIL

Structural Model	Fit Statistics	Recommended Cut-off Value
CFI	0.968	≥ 0.95
GFI	0.995	≥ 0.90
NFI	0.964	>0.90
TLI	0.964	≥ 0.95
SRMR	0.060	≤ 0.08

Note: The RMSEA and Chi-Square values have not been reported as they are scaled high because of the ordinal nature of the data.

All the goodness-of-fit indices are above the accepted threshold values, and the badness-of-fit indicator SRMR is below the cut-off value. The measurement model of the higher-order construct HIL is valid and fit for further analysis.

5.5 Common Method Bias

Generally, measurement errors in research are of two types: random and systematic. Though random errors cannot be minimized, systematic errors can be taken care of, and if not, they could jeopardize the validity of the research results. This type of measurement error, which occurs as a result of the measurement method used to collect data, is called common method bias. Since this study is cross-sectional and elicits responses from a self-reporting questionnaire, there is a possibility of common method bias. Unless method variance is controlled, it biases

the relationships between constructs and estimates of the validity and reliability of the constructs. In behavioural sciences and other allied fields of research, the most common test for the presence or absence of this bias has been Harman's single-factor test (Podsakoff et al., 2024). Essentially, this test runs an unrotated EFA to obtain a dominant single factor, which, if it does not account for the majority of the variance (> 50%) in the items, suggests that CMB is not a problem in the model (Harman, 1967).

The current study conducted Harman's single-factor test using R software. It has ordinal and continuous constructs. Ordinal constructs have to be measured using polychoric correlations and not using Pearson correlations, which are used for continuous variables (Kyriazos & Poga-Kyriazou, 2023). To conduct an EFA combining these two types of constructs, a mixed correlational matrix must be created, which is possible using R software. The single-factor test accounted for only 36.64 percent of the variance, which is significantly less than the threshold of 50 percent, thus indicating the minute possibility of CMB confounding the results (Podsakoff et al., 2003).

5.6 Structural Model Evaluation

The basic multivariate techniques, like multiple regression, analysis of variance, etc, saw some key limitations, namely, (i) the inability to hypothesize a model structure, (ii) treating all variables as observable, and (iii) assuming that all variables are free of any measurement error. These key limitations led to the development of the second-generation multivariate technique called Structural Equation Modeling (SEM), which allowed researchers to "model and estimate complex relationships between multiple independent and dependent variables".

Researchers often use two techniques to estimate structural equation models: partial least squares SEM (PLS-SEM) and covariance-based SEM (CB-SEM). PLS is a causal–predictive method to SEM that prioritises prediction in estimating models, whose structures are intended to provide causal explanations, in contrast to CB-SEM, which is mostly used to validate

theories. Additionally, PLS-SEM can be used to validate measurement models (Hair et al., 2021).

SEM allows for variables to be observed or latent. Another form of looking at variables is endogenous and exogenous. Endogenous variables are dependent variables that are estimated or can be understood by several other independent variables. Exogenous variables are independent variables that explain the dependent variables. In this study, endogenous variables are purchase intention and Health Insurance Literacy, while exogenous variables are cognitive style (both analytical and intuitive), subjective financial knowledge, objective financial knowledge, risk aversion, and loss aversion.

The estimation approach used is the Maximum Likelihood (ML) estimation approach for continuous data and Weighted Least Squares Mean and Variance Adjusted (WLSMV) for ordinal data, similar to what was used in the CFA. It is crucial to maintain consistency while choosing the estimator based on the type of the variable set, whether it is ordinal or continuous, to maintain the overall consistency of the data (Kyriazos & Poga-Kyriazou, 2023).

Evaluating the structural model includes path analysis for estimating the associations between latent constructs, which includes finding regression coefficients and statistical significance for testing the study's hypothesis. Also, the theorized covariance model and the observed covariance matrix are compared to check the model fit (Hair et al., 2019). To evaluate the model fit, three different estimate types are taken into account from the analysis reports: fit indices, squared multiple correlations (R2), and path coefficients.

Structural model fit indices were assessed using a structural variable modelling module in JASP. HIL is an ordinal mediator, so the analysis used an estimation technique as WLSMV, which does not support bootstrapping for categorical data. However, when WLSMV is used, JASP by default uses the delta parameterization. Delta parametrization is used to obtain the standard errors and test for the significance of indirect effects (MacKinnon, 2012). It can also be inferred

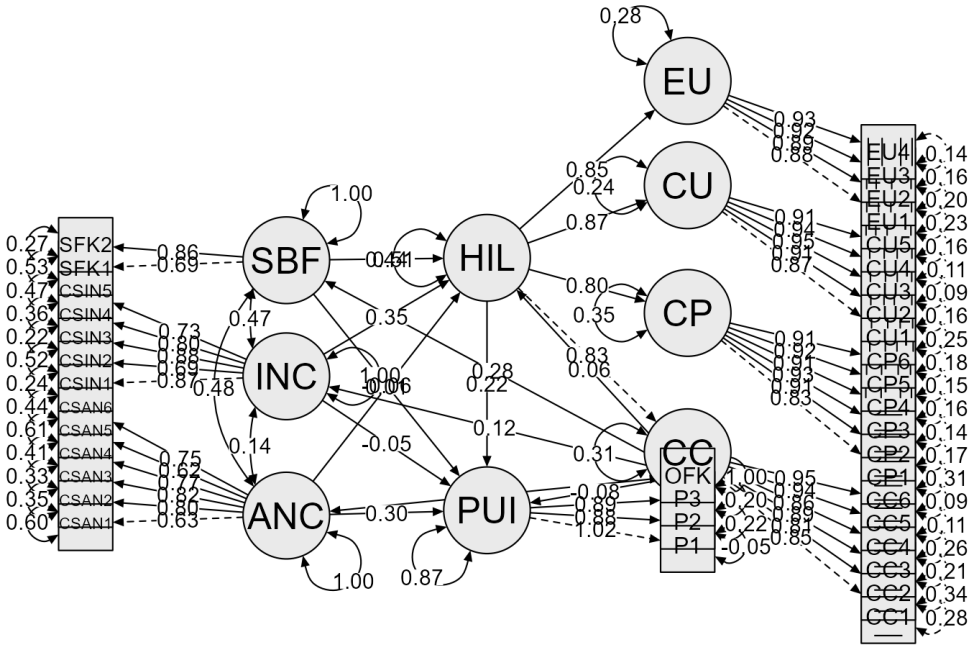
as an alternative to bootstrapping in the case of using ordinal variables and WLSMV estimation (Muthén & Muthén, 2017).

Due to software limitations in assessing bootstrapped indirect effects within the full latent model, factor scores from the validated measurement model were used for the mediation analysis. This two-step approach ensured both accurate assessment of model fit and reliable estimation of indirect effects through bootstrapping. Using JASP, one model was used to test for full and partial mediation to estimate indirect effects through bootstrapping. However, two models were tested with the SEM module to check for model fit indices separately for full and partial mediation models. The difference is that the full mediation model did not involve any direct relationships between the independent and the dependent variables.

The full mediation model displays a good model fit with the data: CFI = 0.960, TLI = 0.957, GFI = 0.992, SRMR = 0.069, and RMSEA = 0.072. The partial mediation model has direct paths from exogenous to endogenous variables. This model showed a better model fit than the full mediation model: CFI = 0.961, TLI = 0.958, GFI = 0.993, SRMR = 0.063, and RMSEA = 0.071. The RMSEA values for both models are slightly higher but still fall below the threshold of 0.08 commonly used for social science research. Hence, the partial mediation model results were used for reporting and interpretation purposes. The values of model fit indicate an acceptable fit of the conceptual model as they fall within the suggested thresholds. The structural model for model fit indices is given in Figure 5.6.

Figure 5.6

Structural Equation Model



The direct and indirect effects of the independent variables on the dependent variables, as well as the mediating effect of health insurance literacy, were tested using the WLSMV approach as HIL was treated as an ordinal construct (Bardy, 2023; Paez et al., 2014). While using WLSMV, bootstrapping cannot be performed. However, JASP has a default estimation technique called the delta method, which is treated as an equivalent to the bootstrapping technique. The estimates and the significance values from the results are reported in Tables 5.14 and 5.15.

Table 5.14

Results of Direct Effects

Exogeneous Construct	Endogenous Construct	Std. estimate	p-value	LLCI	ULCI	Interpretation
Intuitive Cognitive Style	Purchase Intention	-0.046	0.459	-0.168	0.076	Not Significant
Analytical Cognitive Style	Purchase Intention	0.300	< .001	0.200	0.400	Significant
Subjective Financial Knowledge	Purchase Intention	-0.061	0.416	-0.209	0.86	Not Significant
Objective Financial Knowledge	Purchase Intention	-0.081	0.104	-0.179	0.017	Not Significant

These findings from the direct effects (Table 5.14) demonstrate that only the analytical cognitive style has a positive and significant relationship with purchase intention. The remaining independent variables, which are intuitive cognitive style, subjective and objective financial knowledge, showed an insignificant impact on purchase intention.

The results of the unstandardized estimates from independent variables to mediators and mediators to the dependent variable (Table 5.15) showed that intuitive cognitive style displayed a positive and significant relationship with health insurance literacy ($b=0.310$, $p<0.05$), not supporting hypothesis H1a, while analytical cognitive style displayed no significant relationship with health insurance literacy though it showed direct impact on purchase intention, thus not supporting H1b.

Also, the results show that subjective financial knowledge had a significant and positive impact on HIL, whereas objective financial knowledge did not have any impact on HIL, thus

supporting H2a but not H2b. And, HIL had a significant effect on purchase intention, supporting H4, which shows its growing importance in insurance decisions.

Table 5.15

Results of Hypothesis Testing

Hypothesis	Exogenous construct	Endogenous Construct	Estimate	LLCI	ULCI	p-value	Interpretation
H1a	Intuitive Cognitive Style	Health Insurance Literacy	0.349	0.271	0.427	< .001	Significant
H1b	Analytical Cognitive Style	Health Insurance Literacy	0.008	-0.087	0.104	0.866	Not Significant
H2a	Subjective Financial Knowledge	Health Insurance Literacy	0.442	0.329	0.556	< .001	Significant
H2b	Objective Financial Knowledge	Health Insurance Literacy	0.062	-0.015	0.138	0.113	Not Significant
H4	Health Insurance Literacy	Purchase Intention	0.221	0.083	0.358	0.002	Significant

Furthermore, the analysis reported R^2 values, also known as the coefficient of determination. These values are produced through multiple regression analysis of hypothesised relationships between independent and dependent variables. It indicates the proportion of variation in the dependent variable that is explained by the independent variables. The R^2 values are given in Table 5.16.

Table 5.16

Squared Multiple Correlations

	Estimate (R^2)
Purchase Intention	0.132
Health Insurance Literacy	0.493

The output shows that the independent variables, cognitive style and financial knowledge, accounted for 13.2% of the variance in purchase intention and 49.3% of the variance in Health Insurance Literacy.

5.6.1 Control Variable Analysis

Various social and demographic factors may influence the endogenous variable. To account for such effects, a control variable analysis is generally conducted. The control variables considered in the study are gender, education, age, income, and marital status. Additionally, another variable, the presence of any chronic health conditions, was included to rule out the consideration of purchasing health insurance in the presence of any chronic health conditions.

The data regarding all the demographic variables were transformed into an ordinal scale due to their categorical nature. Meanwhile, chronic health conditions were recorded as dummy variables. This was followed by a regression analysis on the control variables against the dependent variable to assess their effect on health insurance purchase intention.

The outcomes of the regression show that none of the control variables exhibited a significant association with the endogenous variable. Therefore, these control variables found to be non-influential were excluded from any further analysis. Table 5.17 depicts the results of the analysis.

Table 5.17

Control Variable Analysis

Dependent Variable: Purchase Intention	S.E.	Estimate	C.R	p-value
Chronic health conditions	0.159	-0.069	-1.420	0.156
Age	0.008	0.001	0.021	0.983
Annual Family Income	0.087	0.041	0.819	0.413
Gender	0.156	0.056	1.134	0.258
Marital status	0.131	-0.075	-1.488	0.138
Educational Qualification	0.046	0.048	0.990	0.323
Nature of Employment	0.148	-0.080	-1.449	0.148
Sector	0.195	-0.032	-0.546	0.585

5.7 Mediation Analysis

Mediation refers to a process in which "at least one causal antecedent is influencing an outcome variable through an intervening variable (mediator)" (Hayes, 2022).

This study consists of a single mediator, Health Insurance Literacy (HIL). The impact of cognitive style and financial knowledge is proposed to affect the dependent variable, purchase intention, through this mediator. Table 5.18 illustrates the results of indirect effects accompanied by lower-level and upper-level confidence levels and p-values.

Table 5.18

Indirect Effects with Confidence Intervals

Hypothesis	Paths	Std. estimate	p-value	LLCI	UPCI	Interpretation
H5a	INCS → HIL → PUI	0.077	0.004	0.025	0.129	Significant
H5b	ANCS → HIL → PUI	0.002	0.866	-0.019	0.023	Not Significant

Hypothesis	Paths	Std. estimate	p-value	LLCI	UPCI	Interpretation
H5c	SBFK → HIL → PUI	0.098	0.004	0.031	0.165	Significant
H5d	OFK → HIL → PUI	0.014	0.155	-0.005	0.032	Not Significant

Note. INCS: Intuitive Cognitive Style, HIL: Health Insurance Literacy, PUI: Purchase intention, ANCS: Analytical Cognitive Style, SBFK: Subjective Financial Knowledge, OFK: Objective Financial Knowledge

The analysis estimated the potential mediating role of health insurance literacy between cognitive styles and financial knowledge. The results revealed that health insurance literacy fully mediated the influence of intuitive cognitive style, subjective financial knowledge on purchase intention. Each unit of intuitive cognitive style corresponded to a 0.077-unit increase ($p<0.05$) in purchase intention, with full mediation by health insurance literacy. Similarly, each unit of subjective financial knowledge corresponded to a 0.098-unit increase ($p<0.05$) in purchase intention, with full mediation by health insurance literacy. Further, the results also revealed that health insurance literacy did not mediate between analytical cognitive style and objective financial knowledge on purchase intention. Consequently, hypotheses H5a, H5b, and H5d were not supported, and hypothesis H5c was supported.

This indicates that the impact of an individual with a predominantly intuitive cognitive style and a good level of subjective financial knowledge on their health insurance plan purchase intention is explained by their level of health insurance literacy.

5.8 Moderation Analysis

Moderation, also known as interaction, shows the influence of the moderator variable on the extent of the causal effect of an antecedent variable on a dependent variable. The strength of the relationship between an independent variable and a dependent variable depends on the value of the moderator. Moderation analysis enables the identification of boundary conditions and whether the relationship between two variables differs across groups. A moderation model

answers the "when and for whom" of an antecedent variable that explains the dependent variable. A moderator can amplify or weaken the effect between the predictor and the dependent variable.

Moderation and mediation are two of the most widely used methods in social sciences, behaviour, and health sciences (A. F. Hayes, 2022). To assess the moderating effect, it is imperative to establish an interaction between the independent and moderator variables and to see if this particular interaction has a significant impact on predicting the dependent variable. So, moderation analysis consists of including an interaction effect into the model and testing for the significance of this interaction effect.

In this study, the analysis is done on a model which is referred to as the moderated mediated model. When a mediation effect is moderated – i.e., when the strength of the mediation path changes across levels of a moderator- it is referred to as moderated mediation. When the relationship between a dependent variable and the mediator variable is moderated, it is also called first-stage moderation (A. F. Hayes, 2022). In the current study, Andrew Hayes' PROCESS model 7 was used for moderation analysis. The current study has two moderators: Risk Aversion, which is a continuous variable, and Loss Aversion, which is a categorical variable with Hypotheses H6a to H6d.

Also, the mediator HIL was converted into a second-order factor score using the factor scores of the four-order constructs, which are sub-dimensions of HIL. The factor scores generated during EFA in JASP were used, and no standardization was done, as they are already standardized by default in JASP. The categorical variable "Loss Aversion" was categorized into three categories based on the response patterns in the study. Responses given to the four hypothetical scenarios were used to classify the individuals. The categories are as follows:

1. Coverage-focused Loss-Aversion – Respondents who focused on maximum coverage and even chose to pay extra to avoid losing coverage.

2. Cost-focused Loss-Aversion – Respondents who focused on reducing cost, even if it gives low coverage.
3. Frame sensitive Loss-Aversion – Respondents whose decision differs depending on the framing of the options. When savings are emphasised, they protect coverage. And, when cost is emphasised, they avoid extra payment.

These three categories were further dummy-coded to be used in further analysis. Other independent variables were included as covariates in the process models. The moderating effects of the given variables are tested between cognitive styles, health insurance literacy, and purchase intention towards health insurance.

5.8.1 Moderated Mediation Effect of Risk Aversion on the Impact of Cognitive Style on Purchase Intention through Health Insurance Literacy (HIL)

The interaction effect of Risk Aversion was analysed separately for the mediation relationship of both intuitive and analytical cognitive styles on purchase intention through HIL.

The first process model tested in SPSS was the impact of intuitive cognitive style on purchase intention through Health Insurance Literacy, conditional on the level of Risk Aversion. The output and results are as follows:

The main effect of intuitive cognitive style (INCS) on HIL ($b = 0.2621$, $p < 0.001$) was significant, while the effect of RA on HIL ($b = 0.0308$, $p = 0.3462$) was not significant. Further, the interaction path is also significant ($b = 0.1427$, $p < 0.001$). This shows that the effect of INCS on HIL is moderated by Risk aversion. As Risk Aversion increases, the positive influence of INCS on HIL becomes stronger. This shows that as RAV increases, the effect of INCS on HIL also strengthens. At low RAV, the effect of INCS on HIL is also low as compared to higher RAV (Table 5.19, Figure 5.7).

Table 5.19

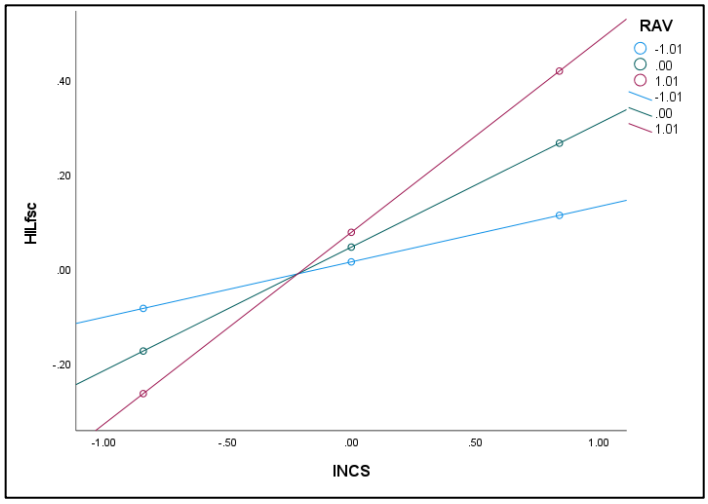
Moderating Effect of RA on INCS-HIL Relationship

	Direct and interaction path	Estimate	p-value
	INCS → HIL	0.2621	0.0000
	RAV → HIL	0.0308	0.3462
	INCS*RAV → HIL	0.1427	0.0000
R	0.6541		
R^2	0.4278		
R^2 change	0.0350		0.0000

Notes: INCS = Intuitive Cognitive Style, HIL = Health Insurance Literacy, RAV = Risk Aversion

Figure 5.7

Interaction Plot of INCS and RA effects on HIL



Further, to test for moderated mediation, we test for both direct and indirect effects on the outcome variable, which is Purchase Intention towards health insurance (PUI).

Table 5.20

(a) Direct Effects on Purchase Intention

Paths	Co-efficients	p-value	LLCI	ULCI	Significance
INCS→PUI	-0.0072	.9446	-0.2103	0.1960	Not Significant
HIL→PUI	0.3894	0.0040	0.1246	0.6542	Significant

(b) Conditional Indirect Effects on Purchase Intention

Indirect Relationship	**Direct Effect**	**Indirect Effect**	**LLCI**	**ULCI**	**Significance**
INCS→HIL→PUI	-0.0072	0.1021	0.0343	0.1899	Significant
Moderated Indirect Relationships	***Effect***	***SE***	***LLCI***	***ULCI***	***Significance***
Low level of RAV	0.0457	0.0321	-0.0069	01190	Not Significant
High level of RAV	0.1584	0.0577	0.0546	0.2798	Significant
Index of Moderated Mediation	0.0556	0.0233	0.0176	0.1075	Significant

Notes: INCS = Intuitive Cognitive Style, HIL = Health Insurance Literacy, PUI = Purchase Intention towards Health Insurance, RAV = Risk Aversion

The analysis shows that the direct effect of INCS on PUI was not statistically significant (β = –0.0072, p = .9446), indicating that INCS does not directly influence purchase intention towards health insurance (PUI). However, a significant indirect effect was observed through health insurance literacy (HIL) at moderate and high levels of the moderator RAV. Specifically, the conditional indirect effects of INCS on PUI via HIL were significant at average and high levels of RAV but not at the low level. Also, the index of moderated mediation was statistically significant, suggesting that the strength of the indirect effect of INCS on PUI through HIL increases with higher levels of RAV. These findings support the presence of a significant moderated mediation, where RAV amplifies the mediating role of HIL in the relationship between INCS and PUI.

The second process model tested in SPSS was the impact of analytical cognitive style on purchase intention through Health Insurance Literacy, conditional on the level of Risk Aversion. The output and results are as follows:

The main effects from Analytical Cognitive Style (ANCS) to HIL (b = 0.0132, p = 0.8099) and from Risk Aversion (RAV) to HIL (b = 0.0608, p = 0.0769) were not significant. Also, the interaction was not significant (b = 0.0039, p = 0.8748), indicating no evidence of a moderating

effect of RAV on the ANCS–HIL relationship (Table 5.2). Although the moderation is not significant, it points toward a stronger influence of ANCS on HIL under higher risk aversion.

Table 5.21

Moderating Effect of RA on ANCS-HIL Relationship

	Direct and interaction path	**Estimate**	**p-value**
	ANCS → HIL	0.0132	0.8099
	RAV → HIL	0.0608	0.0769
	ANCS*RAV → HIL	0.0039	0.1577
R	0.6268		
R^2	0.3928		
R^2 change	0.0000		0.8748

Notes: ANCS = Analytical Cognitive Style, HIL = Health Insurance Literacy, RAV = Risk Aversion

Further, to test for moderated mediation, we test for both direct and indirect effects on the outcome variable, which is Purchase Intention towards health insurance (PUI).

Table 5.22

(a) Direct Effects on Purchase Intention

Paths	**Co-efficients**	**p-value**	**LLCI**	**ULCI**	**Significance**
ANCS→PUI	0.8435	0.0000	0.5885	1.0985	Significant
HIL→PUI	0.3894	0.0040	0.1246	0.6542	Significant

(b) Conditional Indirect Effects on Purchase Intention

Indirect Relationship	**Direct Effect**	**Indirect Effect**	**LLCI**	**ULCI**	**Significance**
ANCS→HIL→PUI	0.8435	0.0051	-0.0420	0.0578	Not Significant
Moderated Indirect Relationships	***Effect***	***SE***	***LLCI***	***ULCI***	***Significance***
Low level of RAV	0.0036	0.0236	-0.0426	0.0558	Not Significant

High level of RAV	0.0067	0.0304	-0.0510	0.0717	Not Significant
Index of Moderated Mediation	0.0015	0.0117	-0.0210	0.0271	Not Significant

Notes: ANCS = Analytical Cognitive Style, HIL = Health Insurance Literacy, PUI = Purchase Intention towards Health Insurance, RAV = Risk Aversion

The analysis shows that the direct effect of ANCS on PUI was statistically significant (β = 0.8435, p = 0.0000), indicating that ANCS directly influences purchase intention towards health insurance (PUI). But the indirect effect observed through health insurance literacy (HIL) was not significant at all levels of the moderator RAV. Specifically, the conditional indirect effects of INCS on PUI via HIL were not significant at low, average, and high levels of RAV. This result is consistent with the earlier mediation analysis, which revealed no mediation between ANCS and PUI through HIL. Further, the index of moderated mediation was not statistically significant, suggesting that the strength of the indirect effect of ANCS on PUI through HIL did not significantly vary by RAV.

5.8.2 Moderated Mediation Effect of Loss Aversion on the Impact of Cognitive Style on Purchase Intention through Health Insurance Literacy (HIL)

The interaction effect of Loss Aversion was analysed separately for the mediation relationship of both intuitive and analytical cognitive styles on purchase intention through HIL.

The process model tested in SPSS was the impact of intuitive cognitive style on purchase intention through Health Insurance Literacy, conditional on the type of Loss Aversion. The output and results are as follows:

In the first stage of the moderated mediation model, the effect of INCS on HIL was not significant overall (b = 0.0749, p = 0.2424). However, this relationship was significantly moderated by Loss Aversion Group (R^2 change = 0.0137, p = 0.0066). Specifically, INCS significantly predicted HIL in the cost-focused group (b = 0.3252, p < 0.001) and the frame-

sensitive group (b = 0.2725, p < 0.001), but not in the coverage-based group (b = 0.0749, p = 0.2424). This supports moderated mediation, as confirmed by a significant index of moderated mediation. This shows that the type of Loss aversion moderates the effect of INCS on HIL. INCS enhances PUI only when it increases HIL, and this happens effectively only when the individual is sensitive to costs or framing, not coverage.

Table 5.23

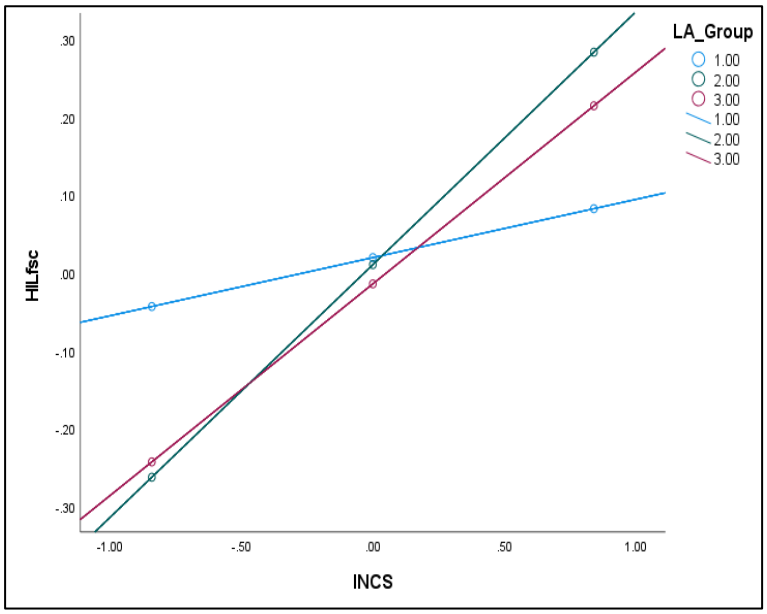
Moderating Effect of LA_Group on INCS-HIL Relationship

	Direct and interaction path	**Estimate**	**p-value**
	W1 → HIL	-0.0091	0.8907
	W2 → HIL	-0.0337	0.6020
	INCS*W1 → HIL	0.2503	0.0023
	INCS*W2 → HIL	0.1976	0.0099
R	0.6347		
R^2	0.4028		
R^2 change	0.0137		0.0066

Notes: INCS = Intuitive Cognitive Style, HIL = Health Insurance Literacy, LA_Group = Loss Aversion Group, W1 = Cost-focused loss-Aversion, W2 = Frame-sensitive Loss Aversion

Figure 5.8

Interaction Plot of INCS and LA_Group Effects on HIL



Note: Group 1 = Coverage-focused Loss-Aversion, Group 2 = Cost-focused Loss Aversion, Group 3 = Frame sensitive Loss Aversion

In this interaction plot, groups 2 and 3 have a positive slope, which implies that the more intuitive an individual is, the higher their health insurance literacy is for cost-focused and frame-sensitive individuals. In the coverage-focused loss-averse individuals' group, INCS does not significantly affect HIL.

Also, the results for the conditional effects of the type of loss-aversion were as follows:

Table 5.24

Conditional effects of the type of loss-aversion

LA Group (Moderator)	Effect of INCS on HIL	p-value	LLCI	ULCI
Group 1: Coverage-based (Ref)	0.0749	0.2424	-0.0508	0.2006
Group 2: Cost-focused	0.3252	<0.001	0.2178	0.4325
Group 3: Frame-sensitive	0.2725	<0.001	0.1772	0.3677

This shows that the effect of INCS on HIL is stronger for cost-focused and frame-sensitive groups. Further, to test for moderated mediation, we test for both direct and indirect effects on the outcome variable, which is Purchase Intention towards health insurance (PUI).

Table 5.25

(a) Direct Effects on Purchase Intention

Paths	**Co-efficients**	**p-value**	**LLCI**	**ULCI**	**Significance**
INCS→PUI	-0.0072	0.9446	-0.2103	0.1960	Not Significant
HIL→PUI	0.3894	0.0040	0.1246	0.6542	Significant

(b) Conditional Indirect Effects on Purchase Intention

Moderated Indirect Relationships	**Effect**	**SE**	**LLCI**	**ULCI**	**Significance**
Group_1(Coverage focused Loss-Aversion)	0.0292	0.0397	-0.0323	0.1251	Not Significant
Group_2(Cost-focused Loss-Aversion)	0.1266	0.0520	0.0410	0.2437	Significant
Group_3(Frame-sensitive Loss-Aversion)	0.1061	0.0393	0.0358	0.1867	Significant
Index of Moderated Mediation (For Group_2)	0.0975	0.0502	0.0136	0.2095	Significant
Index of Moderated Mediation (For Group_3)	0.0770	0.0410	0.0058	0.1651	Significant

The analysis shows that the direct effect of INCS on PUI was not statistically significant ($\beta = -0.0072$, $p = 0.9446$), indicating that INCS does not directly influence purchase intention towards health insurance (PUI). However, a significant indirect effect was observed through health insurance literacy (HIL) at two levels of the moderator LAV. Overall, the analysis shows that moderated mediation is statistically significant and supported. The conditional indirect effect is significant only for the cost-focused and frame-sensitive loss-aversion groups. It can be inferred from the results that the way individuals perceive losses and make decisions influences the impact of intuitive cognitive style on their actual purchase behaviour or intention.

The final process model tested in SPSS was the impact of analytical cognitive style on purchase intention through Health Insurance Literacy, conditional on the type of Loss Aversion. The output and results are as follows:

The main effects from analytical cognitive style (ANCS) to HIL (b=0.2078, p=0.0243) are significant. But, the main effects from the Cost-focused Loss aversion Group and from the Frame sensitive Loss Aversion group are not significant, implying they have lower health insurance literacy as compared to the coverage-based individuals (reference group). Further, the interaction paths from the two groups, Cost-focused Loss-Aversion (b= -0.2195, p=0.0444), are significant, and Frame sensitive Loss-Aversion (b= -0.1656, p=0.1187) was not significant. This shows that the type of Loss aversion moderates the effect of ANCS on HIL for those who focus on cost.

Table 5.26

Moderating Effect of LA_Group on ANCS-HIL Relationship

	Direct and interaction path	**Estimate**	**p-value**
	ANCS → HIL	0.2078	0.0243
	W1 → HIL	0.0515	0.4300
	W2 → HIL	0.0141	0.8255
	ANCS*W1 → HIL	-0.2195	0.0444
	ANCS*W2 → HIL	-0.1656	0.1187
R	0.6283		
R^2	0.3947		
R^2 change	0.0056		0.1304

Notes: ANCS = Analytical Cognitive Style, HIL = Health Insurance Literacy, LA_Group = Loss Aversion Group, W1 = Cost-focused loss-Aversion, W2 = Frame-sensitive Loss Aversion

Coverage-focused loss-averse individuals have a higher level of HIL at every level. In contrast, for cost-focused individuals (Group 2), the relationship is slightly negative, suggesting that analytical thinking may reduce HIL. And, frame-sensitive individuals have a minimum relationship between ANCS and HIL.

Further, to test for moderated mediation, we test for both direct and indirect effects on the outcome variable, which is Purchase Intention towards health insurance (PUI).

Table 5.27

(a) Direct Effects on Purchase Intention

Paths	Co-efficients	p-value	LLCI	ULCI	Significance
ANCS→PUI	0.8435	0.0000	0.5885	1.0985	Significant
HIL→PUI	0.3894	0.0040	0.1246	0.6542	Significant

(b) Conditional Indirect Effects on Purchase Intention

Moderated Indirect Relationships	Effect	SE	LLCI	ULCI	Significance
Group_1(Coverage focused Loss-Aversion)	0.0809	0.0428	0.0110	0.1769	Significant
Group_2(Cost-focused Loss-Aversion)	-0.0045	0.0322	-0.0677	0.0636	Not Significant
Group_3(Frame-sensitive Loss-Aversion)	0.0164	0.0273	-0.0307	0.0782	Not Significant
Index of Moderated Mediation (For Group_2)	-0.0855	0.0505	-0.1975	-0.0009	Significant
Index of Moderated Mediation (For Group_3)	-0.0645	0.0437	-0.1621	0.0116	Not Significant

The analysis shows that the direct effect of ANCS on PUI was statistically significant (β = 0.8435, p = 0.0000), indicating that ANCS directly influences purchase intention towards health insurance (PUI). The index of moderated mediation was significant only for cost-focused individuals, revealing that the indirect effect of ANCS on PUI through HIL differs significantly between coverage-based and cost-focused individuals.

Overall, the moderated mediation effect was significant only for coverage-focused individuals, suggesting that ANCS indirectly affects PUI through HIL, but only when accounting for loss aversion type. The inclusion of the moderator (LA_Group) revealed a significant mediated

pathway through HIL, indicating that the mediation effect emerges when considering individual differences in loss aversion and particularly only for coverage-focused individuals.

Chapter Summary

The data analysis chapter presented the detailed results and their interpretations. The chapter discussed the demographics of the respondents and the reasons for not purchasing health insurance. The descriptive statistics include the measures of central tendency and dispersion, along with normality tests. The chapter then elucidates the results of CFA and SEM analysis. The SEM analysis consisted of measuring the direct effects, indirect effects, and moderated mediation effects in the model.

CHAPTER 6

DISCUSSION AND CONCLUSION

This final chapter of the thesis overviews the study's results and findings. It discusses the study's outcomes in detail, assessing whether the intended research objectives were achieved. The chapter also highlights the theoretical and practical implications of the study for researchers, policy makers, and educators, while also providing limitations of the study and outlining a scope for future research.

6.1 Discussion

The growing importance of health insurance in achieving universal health coverage, one of the sub-targets of Sustainable Development Goal 3, has made it imperative to understand the main drivers that make health coverage for all possible. In the light of this context, the main objective of the study has been to analyse the significant drivers of health insurance purchase intention and the underlying dynamics of the relationships between them. The study examined the effect of health insurance literacy as a mediator between three antecedents, cognitive style, financial knowledge, and sources of information, and whether they have a substantial impact on health insurance purchase intention. The study also analysed the role of framing bias on the effect insurance literacy had on purchase intention.

Stemming from the theoretical foundations of the expected utility theory (Eling et al., 2021) Theory of Planned Behaviour (Ajzen, 1991a) and the prospect theory (Kahneman & Tversky, 1979), the study hypothesised that cognitive style, financial knowledge, and sources of information impact health insurance literacy levels of an individual, which in turn impacts their intention to purchase health insurance. Previous research has done limited work on the mediating role of health insurance literacy in the decision-making process of individuals regarding health insurance purchase intention. Also, even studies focusing on insurance literacy

seldom included the role of framing bias or consumer perception on the purchase intention of health insurance.

The study's findings reveal that health insurance literacy is a key determinant that significantly affects individuals' intention to purchase health cover, which would determine their actual buying behaviour, aligning with the existing literature and supported by the theory of planned behaviour (Mamun et al., 2021). Health insurance literacy (HIL) includes the cognitive and the conceptual knowledge elements required to make an insurance purchase decision. This includes assessing the confidence and self-efficacy of individuals in analysing different health insurance plan options, selecting and using them effectively (Paez et al., 2014). Contrary to the existing literature, it was found that the purchase intention of individuals with an intuitive cognitive style is impacted by health insurance literacy in the case of the missing middle population of India. However, individuals with an analytical cognitive style had a direct effect on purchase intention with no mediation by health insurance literacy. This could mean that they already think rationally enough to buy a health insurance policy and know how to purchase and use it, and have the confidence to do so. Unlike the intuitive individuals who primarily rely on their instincts to make decisions, they gain a lot from conceptual knowledge and self-efficacy, which is improved by facilitating health insurance literacy. Likewise, the findings of other variables are also discussed in detail in the further sections of this chapter.

In the following sections, the findings of the study are presented in the context of the research objectives to better understand the study's contributions.

6.1.1 Influence of cognitive style, financial knowledge and sources of information on health insurance literacy (HIL)

Objective 1: To study the relationship between cognitive style, financial knowledge, sources of information, and health insurance literacy of an individual.

The study's main aim was to examine the impact of an individual's cognitive style, financial knowledge, and sources of information they trust on their Health insurance literacy. Contrary to existing research findings, the study's findings point out that individuals with an intuitive cognitive style (H1a) have a higher health insurance literacy level than individuals with an analytical cognitive style. Analytical cognitive style was found to be positively associated with HIL, but did not reach statistical significance (H1b). A possible explanation for this could be that this study was conducted on a peculiar population called India's Missing Middle, whose characteristics could be different from the sample populations surveyed in other research studies. Also, health insurance literacy as a concept includes behaviour and confidence elements, and intuitive individuals rely more on past experiences and heuristics to make decisions confidently and efficiently in an emotional and ambiguous domain such as health insurance. On the other hand, analytical individuals rely on rational thinking and may overanalyse the options, leading to indecisiveness, especially in domains like health insurance, having various jargon, fine prints and complex terms and conditions. Also, this is in line with previous research that suggests that systemic or analytical individuals often thrive in following rule-based processes and consistent patterns. Whereas, intuitive individuals seek novelty and succeed in tasks where there are no existing patterns, and there is no one manual that all can follow (Sagiv et al., 2014).

Regarding financial knowledge, subjective financial knowledge showed a positive and significant effect on Health Insurance Literacy (H2a). The explanation for this could be that subjective financial knowledge is often seen as an important factor in demanding "financial advice" in areas such as insurance (Xiao & Porto, 2019). It is also significant as the confidence individuals have in their abilities impacts their choices (O'Connor & Kabadayi, 2020), irrespective of their actual abilities (Tversky & Kahneman, 1982).

However, it was found that objective financial knowledge did not have any significant impact on health insurance literacy (H2b). This is in line with previous research and strengthens the

notion that health insurance involves a complicated set of decisions which require a different skillset, and just having objective financial knowledge will not help in making better decisions (O'Connor & Kabadayi, 2020). Financial education programs that impart health insurance literacy should not just focus on developing the objective financial knowledge, but also on how confident the individuals feel (subjective financial knowledge) (Hadar et al., 2013).

Further, sources of information that individuals trusted to make decisions about health insurance also had a positive and significant impact on Health Insurance Literacy. It was found that formal information sources were more trustworthy than informal sources (H3). The preferred source for information is formal or official sources, such as information directly coming from the insurance companies or insurance agents, and information from other websites selling insurance than unofficial or informal sources such as family or friends. This is in line with previous research, which found that in the case of health insurance literacy, higher literacy is often seen in individuals who increasingly use formal sources as their primary information source (Colón-Morales et al., 2021).

6.1.2 Impact of HIL on Health Insurance Purchase Decisions

Objective 2: To evaluate the role of health insurance literacy on the decision to purchase health insurance, and also to analyse the dimensions of health insurance literacy.

The impact of Health Insurance Literacy (HIL) on purchase intention towards health insurance was tested.

Health Insurance Literacy positively and significantly influenced the Purchase Intention towards Health Insurance (H4). Reinforced by the theory of Planned Behaviour, extensive research has supported the argument that intention leads to actual behaviour (Ajzen, 1991a; Brahmana et al., 2018), as it indicates individuals' willingness to engage in such behaviour. And, such willingness ultimately influences their actual behaviour (Kunreuther et al., 2013).

All four sub-dimensions of HIL, namely Confidence Choosing, Confidence Using, Comparing Plans and Experience Using, were analysed. It was understood that around 40% of the individuals in the missing middle are not confident in their knowledge about health insurance and do not know where to go for the right information. However, over 50% were confident that they would contact the insurance provider in case of not understanding the plans. It was also observed that individuals were more confident in comparing plans and in their user experience than in choosing and using the plans.

6.1.3 Mediating role of health insurance literacy

Objective 3: To investigate the nature of the dynamics of the relationship between HIL, its determinants, and health insurance purchase intention.

The study investigated the indirect effect of individuals' cognitive style and financial knowledge on their health insurance purchase intention through their health insurance literacy. The results were analysed separately for each cognitive style, namely analytical cognitive style and intuitive cognitive style. Also, for the two types of financial knowledge, namely, subjective and objective financial knowledge.

The outcomes revealed limited direct effects for intuitive cognitive style, subjective and objective financial knowledge on health insurance purchase intention, as the results were found to be insignificant. However, analytical cognitive style showed a direct, positive and significant relationship with health insurance purchase intention.

Further, the results displayed that the mediating effect of health insurance literacy had a significant impact on purchase intention (H5a, H5c), only in the case of intuitive cognitive style and subjective financial knowledge.

Intuitive cognitive style had a positive and significant impact on purchase intention only when mediated by health insurance literacy (H5a). One possible explanation could be that intuitive individuals apply "experiential thinking", as in they make associations, rely on past experiences

and focus not only on “facts, but also, feelings and context” (Sagiv et al., 2014). This missing middle population, given their financial constraints, might be intuitive as they tend to have a holistic perception, which helps them to gauge information through associations, thus improving their health insurance literacy in the process.

On the other hand, the analytical cognitive style did not have any impact on health insurance literacy, but had a direct and significant impact on purchase intention (H5b). This result is in contrast with existing research (O’Connor & Kabadayi, 2020) and throws some light on the complex characteristics of the missing middle population. Analytical individuals are rational thinkers who analyse alternatives logically to find out the underlying patterns based on which they make decisions (Sagiv et al., 2014). However, research has viewed cognitive styles from different perspectives, out of which the unitary perspective asserts that analytical and intuitive cognitive styles are extreme poles of the same continuum (Allinson & Hayes, 1996). But, it was also observed that when assessing if individuals belong to one of the two extremes, consumers often lie in the middle, and are termed as “quasi-intuitive” or “quasi-analytical” depending on the side they are oriented more towards (O’Connor & Kabadayi, 2020).

Health Insurance Literacy significantly mediates the relationship between subjective financial knowledge and purchase intention (H5c), whereas it does not mediate the relationship between objective financial knowledge and purchase intention (H5d). Financial knowledge has always been seen as an important factor for the financial well-being of consumers (Lee et al., 2020). Subjective and objective financial knowledge are often seen as two distinct constructs, where the former explains “perception of their knowledge” and the latter explains “the actual knowledge of the consumers”. SFK significantly predicts HIL, as it can be understood that individuals’ financial confidence is very important when making financial decisions like health insurance (O’Connor & Kabadayi, 2020), and since SFK can be measured at any time before, during or after they make decisions (O’Connor, 2019), it aptly captures the impact on purchase intention as well. However, the hypothesis for the objective financial knowledge was not

supported, possibly because OFK is measured only after a decision takes place (O'Connor, 2019), and also, though the health insurance decision is financial, HIL may not be assessed well with OFK measures, as it requires a specific skillset to understand the various terms and conditions of health insurance plans (O'Connor & Kabadayi, 2020). A person can be called financially knowledgeable when his level of confidence matches with level of accuracy, and he can make sound financial decisions.

6.1.4 Influence of Consumer Perception on Health Insurance Purchase Intention

Objective 4: To analyse the interaction effect between cognitive styles and consumer risk perception on HIL in health insurance purchase decisions.

This study considered two constructs as representing consumer perceptions about risk, namely risk aversion and loss aversion. In simple words, risk-averse individuals avoid uncertain or risky situations altogether, whereas loss-averse individuals avoid losses at all costs, even if it means taking risks to reduce their losses.

The final objective of this study has been to understand if the relationship between cognitive styles on health insurance literacy and health insurance purchase intention is conditional upon the level of Risk Aversion and the type of Loss Aversion.

6.1.4.1 Impact of Risk Aversion on Cognitive Styles

Regarding the influence of Risk Aversion on the two types of cognitive styles, namely intuitive cognitive style (INCS) and analytical cognitive style (ANCS), it was found that the main effects from INCS to Health Insurance Literacy (HIL) are significant at all levels of Risk Aversion and also that HIL was significantly affected by RAV. The interaction effect between INCS and RAV was also significant. There is a moderating role of risk aversion in the relationship between INCS and HIL. Further, INCS did not have a direct impact on purchase intention. The conditional indirect effects from INCS to PUI through HIL were significant at all levels of RAV, confirming moderated mediation (H6a).

In the case of analytical cognitive style (ANCS), the results show that the main effect from ANCS to HIL was significant; however, the effect from RAV to HIL was negatively significant. The interaction effect between ANCS and RAV was not significant. Further, ANCS had a direct impact on purchase intention. The conditional indirect effects from ANCS to PUI through HIL were significant at all levels of RAV, but the index of moderated mediation was not significant. Thus, the outcome does not lend support to Hypothesis 6c that the indirect effect of ANCS on purchase intention through HIL is conditional on the level of risk aversion. However, it was found that the strength of the positive relationship between ANCS and HIL slightly decreased as RAV increased.

These results concerning cognitive styles and risk aversion offer a glimpse into how cognitive styles differentiate individual behaviours that impact individuals' decision-making skills, risk attitudes and predisposition towards behavioural biases. Accordingly, analytical thinkers might approach risk systematically. Their rational behaviour leads to a risk-averse attitude, as they thoroughly consider all alternatives before making decisions. On the other hand, intuitive individuals rely more on patterns, gut feelings and past experiences. They may be less inclined to evaluate the situations in detail, which leads to a risk-seeking attitude most of the time (Phillips-Wren et al., 2019).

The present study has also highlighted the same. Intuitive individuals with higher risk aversion are more likely to engage with and benefit from health insurance literacy. Their purchase intention is indirectly enhanced through higher HIL, but only when they are more risk-averse. When risk aversion is low, intuitive thinking does not translate as effectively into higher literacy or insurance purchase intention. Analytical individuals show a consistent pattern: they engage in more deliberative processing and thus develop higher literacy, regardless of their level of risk aversion. Their cognitive processing is rational and systematic, so they are likely to seek and use information irrespective of emotional factors like fear or uncertainty. The presence of risk

aversion may create a decision-making context where their style becomes more effective or measurable.

6.1.4.1 Impact of Loss Aversion on Cognitive Styles

Regarding the influence of Loss Aversion (LAV) on the two types of cognitive styles, namely intuitive cognitive style (INCS) and analytical cognitive style (ANCS), Loss aversion was divided in to three groups where Group 1 refers to coverage-focused loss aversion, which is the reference category; Group 2 refers to cost-focused loss aversion, and Group 3 refers to frame-sensitive loss aversion.

The study found that the main effects from INCS to Health Insurance Literacy (HIL) are significant for all types of Loss Aversion, and also that HIL was not affected by LAV. The interaction effect between INCS and LAV Group 2 and Group 3 was significant. This implies that loss aversion moderated the relationship between intuitive cognitive style and health insurance literacy. Specifically, it means that the cost-focused and framed sensitive individuals showed a stronger effect of INCS on HIL than coverage-focused individuals. Conditional indirect effects were significant for all three groups, but strongest for the Cost-Focused and Frame-Sensitive individuals. The Index of Moderated Mediation confirmed significant differences between these groups and the reference group (H6b).

In the case of analytical cognitive style (ANCS), the results show that the main effect of ANCS on HIL and also from ANCS to PUI was significant. The interaction effect between ANCS and LAV Group 2 and Group 3 was not significant. This implies that the type of Loss Aversion does not moderate the relationship between ANCS and HIL. The Conditional indirect effects were significant for all three groups, but strongest for the Coverage-Focused individuals. This shows that analytical thinkers are rational and understand the benefits of coverage, so they choose reasonable options. The Index of Moderated Mediation was insignificant, confirming no moderated mediation by the type of Loss Aversion (H6d).

These results highlight the impact framing bias has on consumer choices and decisions. In the context of intuitive individuals, the relationship between their cognitive style and HIL was weakest among the coverage-focused individuals and stronger among the cost and frame-focused individuals. Whereas, for analytical individuals, the relationship with loss aversion was insignificant, and also, the marginal effect of their cognitive style on HIL was not different across loss aversion groups. However, it was found that frame-sensitive individuals have lower HIL, regardless of how analytical they are, than coverage-focused individuals. Individuals' choices are greatly affected by whether the outcomes are presented as gains or losses. So, framing effects often reflect the underlying loss aversion in decision making (Mandel & Kapler, 2018). This is supported by classical theories like prospect theory, which predict risk-averse behaviour in gains and risk-seeking behaviour in losses (Kai-Ineman & Tversky, 1979). This is in contrast to the expected utility theory, as it involves balancing psychological cost with psychological benefits (Kahneman, 2011). The impact of framing bias on health insurance demand and the regulation of insurance policies becomes significant in light of these findings. Specifically, in the domain of insurance, where the fact has been established that consumers cannot be neutral to the framing of contingencies (Burkovskaya et al., 2022).

These insights, offered by the study, highlight the importance of context in insurance decisions and provide a foundation for the study's theoretical contributions. The study's contributions enhance our understanding of how psychological and contextual factors jointly drive consumer behaviour in complex health insurance decisions.

6.2 Theoretical Contributions of the Study

The present study has made a substantial contribution towards the literature on health insurance literacy in multiple ways. The study has explored how determinants belonging to both financial and psychological domains impact individuals' health insurance literacy levels and their purchase intention. This includes exploring the interplay between various constructs such as intuitive and analytical cognitive style, subjective and objective financial knowledge, trusted

sources of information on health insurance purchase intention, including the major role played by constructs like health insurance literacy, risk aversion and loss aversion underlying framing bias, making some significant contributions to the existing knowledge in the health insurance domain.

The study's conceptual model was developed based on some of the prominent theories in social sciences and psychology, such as the expected utility theory (Bernoulli, 1954), The theory of planned behaviour (Ajzen, 1991a) and the prospect theory (Kai-Ineman & Tversky, 1979). While the theory of planned behaviour can be used to explain the link between intention and behaviour, both expected utility and prospect theory provide two different concepts to understand consumers' risk attitudes and susceptibility towards framing effects.

This study's unique contribution lies in its theoretical integration, seamlessly integrating varied theoretical perspectives. While planned behaviour theory explains the relationship of the dependent variable with health insurance literacy, this is one of the unique studies that explores the mediating role of health insurance literacy. The study's distinctive feature lies in integrating two very different theories underlying two distinct concepts, expected utility and prospect theory, into the same model. Including these two theories in the same model and studying their relationship with the types of cognitive styles helps us understand how framing bias and risk attitudes affect intuitive and analytic thinkers, thereby enhancing the theoretical understanding of biases in the health insurance domain.

Applying the expected utility theory, this study stresses the importance of consumers' risk perception in their decision-making. In general, people are risk-averse, especially analytical thinkers, as they do not prefer uncertainty, which stems from their dislike towards uncertainty and how they think about the utility of the outcomes. Such individuals purchase insurance to maximise their expected utility (Harrison & Ng, 2019). By highlighting the importance of risk-aversion in the relationship between cognitive style and health insurance literacy, this research offers a unique perspective to understand the effect of thinking processes on insurance literacy

skillset. It is worth noting that prior research has not explored this interplay of these constructs, especially with respect to risk-aversion.

Regarding the role of framing biases, the underlying concept of loss aversion, supported by the prospect theory, was studied to understand this unique dimension. Prior research has analysed the impact of framing on insurance choices and found that consumers' risk attitudes change with the "context of the problem". Framing of insurance options might result in either underinsurance or overinsurance. Understanding the effects of framing becomes even more important in the domain of health insurance, as consumers' decisions about private health insurance will impact not just their well-being, but also the country's public expenditure on health and overall welfare (Burkovskaya et al., 2022). This study has notably analysed the effect of loss aversion on the relationship between cognitive styles and health insurance literacy. The study has intricately divided the consumers into different categories of loss aversion, which are coverage-focused, cost-focused, and frame-sensitive. This categorisation helped understand how each type of individual behaves in hypothetical situations to make choices about health insurance. It was found that intuitive individuals are more emotionally influenced by how options are framed, and have a higher HIL in the case of cost-focused and frame-sensitive alternatives. This finding highlights how the missing middle avoids cost-based alternatives and also how they are influenced by framing bias. On the other hand, analytic individuals rely on systematic thinking and hence, their decisions are not impacted by the type of loss-aversion, whether it is coverage-based, cost-based or frame sensitive.

The research explores the impact of financial knowledge on purchase intention through HIL. It was found that subjective financial knowledge had an impact on purchase intention through HIL. And, objective financial knowledge was not a determinant for an individual's level of HIL, in agreement with previous research (O'Connor & Kabadayi, 2020). Prior research in the area of financial decision-making has also shown that only investing in improving the actual knowledge of consumers is not helpful unless it is accompanied by initiatives to improve their

confidence in making financial decisions. Another observation was that consumers trusted formal sources of information, directly from insurance companies or agents, more than informal sources like friends and family. This could potentially improve the importance insurance companies place on developing trust among consumers and being more service-oriented.

The focus of this study has been to highlight the importance of health insurance literacy and the need to address literacy concerns among the uninsured and underserved, the missing middle. This missing middle Indian population has unique characteristics that differentiate them from the other segments who purchase voluntary private health insurance or are covered under government schemes. This study fills an existing gap in the research literature on health insurance literacy by firstly using it as a mediator and secondly, by studying HIL for a demographic that has not received much attention. The outcomes of this study offer a distinct outlook, aligning with classic theoretical perspectives, adding to health insurance literature and also bringing about some findings that diverge from common research outcomes.

6.3 Implications for Insurance Companies and Policymakers

The key role of health insurance literacy in health insurance decision-making may entail implications for researchers, insurance companies/agents, policy makers, and educators.

6.3.1 Implications for Insurance Companies

Based on the findings of the study, many implications can be drawn for insurance companies, specifically for those working in teams that are responsible for increasing the number of insured individuals. Management across insurance company boards can understand the importance that health insurance literacy plays in increasing the consumer pool and in facilitating the efficient claim settlement process through the findings of this study.

Health Insurance Literacy (HIL) includes the sub-dimensions of Confidence Choosing, Comparing Plans, Confidence Using, and Experience Using (Paez et al., 2014). Based on their cognitive styles, in the missing middle, intuitive individuals have a stronger impact on purchase

intention through HIL and are also more frame-sensitive than analytic individuals. Insurance companies should leverage these framing biases to help consumers understand the loss of benefits if they do not insure. They should sensitise consumers using frame-sensitive marketing materials, especially framing the plans and their benefits based on cost and coverage, and depicting real-life situations understandably.

One major takeaway in assessing Health Insurance Literacy has been how much the consumers find it hard to understand the language of the insurance contracts, and most of the time are unable to choose a suitable health plan, owing to the confusing terms and conditions of the plans (Kunreuther et al., 2013). So, insurance companies should focus on making the insurance contract language as simple as possible for consumers to trust them. Also, intuitive individuals may be burdened when there is too much information, as the provision of information has a direct effect on the demand for insurance (Krueger & Kuziemko, 2013). So, companies should focus on targeted and tailored communication initiatives using simple scenarios and frame-sensitive language.

Overall, insurance companies should aim to not just increase the coverage, but also to nudge the consumers towards the right direction by building a helpful choice architecture that supports their decision-making. Potential design improvements, like just-in-time education, smart defaults, etc, can help improve their choices by focusing on the psychological factors that impact health insurance decisions (Johnson et al., 2013).

6.3.2 Implications for Policymakers

Policymakers always focus on reducing out-of-pocket expenditures on health and increasing public spending on improving primary health care centres. They also focus on increasing the number of people covered under large-scale schemes like the Pradhan Mantri Jan Arogya Yojana (PMJAY) to include the population from more income groups and demographic profiles to diversify the risk pool (Jain et al., 2022). However, the effectiveness of insurance in

addressing healthcare access concerns depends on the behavioural responses of different subsections of the population (Al-Hanawi et al., 2021).

These behavioural responses often stem from a lack of understanding of insurance products and their benefits, leading to low demand for them. So, policymakers need to develop a holistic strategy for improving insurance and financial education. Knowledge imparted through these initiatives will lead to informed consumers who will take effective insurance purchase decisions after thoroughly assessing and understanding relevant insurance contractual terms and conditions. A sufficient level of financial and insurance literacy contributes to "both economic growth and sustainable development, improving financial inclusion and economic well-being" (Cucinelli et al., 2021).

In this context, for health insurance, health insurance literacy possesses the potential to strengthen the demand for health insurance. Along with the insurance companies, policymakers should make strategies to enhance consumer health insurance literacy through initiatives that direct insurance companies to use simple language and understandable claim processes and systems.

The literacy programs designed should not be a one-size-fits-all approach. So, policymakers should design programs that cater to the different thinking styles of the population, given the impact cognitive style has on consumers' health insurance literacy and insurance decisions. They should address the emotional and intuitive barriers to decision-making, not just factual knowledge. The initiatives planned should be targeted towards particular vulnerable groups, keeping in mind their cognitive limitations and risk attitudes. Risk-averse but intuitive individuals might benefit from guided decision support, while highly analytical individuals may prefer tools that allow in-depth comparison and simulations.

Policymakers also play an important role in developing a good choice architecture for consumers. A helpful choice architecture enables policymakers to frame decision-making environments in ways that lead to choices "that are in both decision-makers' and society's

interests". Policymakers can enhance the choice architecture designs by improving their "perceived effectiveness and acceptability" among consumers. (Bang et al., 2020).

On the whole, policymakers must make some strategic changes in addressing the health insurance demand problems that are persisting in today's society. They must focus on developing engaging educational content and frameworks that will enhance consumer health insurance literacy. And, also oversee that such initiatives are tailored according to the individuals' cognitive needs, thus reducing the impact of any potential biases and heuristics.

6.4 Limitations and Future Research Directions

While this research has notable implications in highlighting the importance of health insurance literacy for the missing middle population, it is not free from some limitations.

The study uses cross-sectional data, making it hard to confirm the causal relationship between the focal constructs. The sample considered for this study was limited to private sector employees and self-employed individuals belonging only to the state of Telangana, owing to the personal interview approach.

The missing middle population is spread across India, and so, future research could implement this study in various other locations across the country to understand the impact of health insurance literacy in different social and demographic contexts. Future studies can adopt a random sampling approach for sample selection to reduce the bias occurring through purposive sampling.

To upscale this study, longitudinal and intervention-based research can be conducted to understand what interventions can improve consumer insurance literacy and how it affects their actual behaviour, rather than just intention, as was measured in this study. Further, the insurance literacy and educational programs designed by the policymakers can be evaluated using impact assessments to understand their effectiveness.

Also, future research endeavours can conduct behavioural experiments to analyse in depth the processing of intuitive and analytical cognitive styles and their consequences on financial decisions. Specifically, more research in the form of either hypothetical scenarios or laboratory experiments can help understand the impact of framing bias and how it can be overcome while making financial decisions.

In the existing literature, there has been a dearth of studies that explore health insurance literacy as a mediator. Risk aversion and loss aversion have not been explored enough as factors affecting the strength of the relationship between cognitive style and literacy. Similarly, additional mediators or moderators like self-efficacy, education, and perceived usefulness can be tested to improve the robustness of the model. Also, data can be collected in future studies from different stakeholders, such as insurance agents and broker agencies, to understand the supply-side problems in making literacy initiatives successful. A mixed-methods approach can be used to gain knowledge from such various perspectives.

After health calamities like COVID, it becomes of great importance to understand the impact good health systems can create on the social and economic well-being of the country. So, the impact of other health-related factors like Healthcare utilisation, access, and financial capability can be explored to understand their impact on insurance literacy and the health insurance purchase intention.

Lastly, literature is scarce on Health Insurance Literacy in India, especially for the missing middle population. Research on these lines will help in understanding the impact of health insurance literacy among these vulnerable segments and also contribute to efficient policy development.

6.5 Conclusion

The research has provided notable insights into health insurance literacy, cognitive styles, financial knowledge, framing bias, and purchase intention. It explores the relationship between

cognitive styles and financial knowledge with health insurance literacy. The findings have shed light on the significance of health insurance literacy in consumers' insurance decision-making. This study demonstrates that intuitive cognitive style and financial knowledge impact health insurance purchase intention, mediated by health insurance literacy.

Additionally, the research explores how formal sources of information, like insurance companies and their agents, and other broker websites are more trusted by consumers than informal sources of information, like family and friends. This shows the scope insurance companies have to scale their business if they earn the trust of the consumers.

The research also examines how both intuitive and analytical cognitive styles interact with risk aversion and loss aversion. By identifying these two seemingly distinct concepts as moderators, the study shows the impact that consumers' perception can have on their purchase intention. The research makes a notable contribution by showing how framing bias can impact consumers' interest in gaining health insurance knowledge and their health insurance decisions.

The research makes an honest attempt to contribute to Sustainable Development Goal 3, particularly target 3.8, which is Universal Health Coverage. It showcases the interconnectedness between improving consumer health insurance literacy and their health insurance purchase intention, thereby helping policymakers strategize accordingly. Increasing those covered by health insurance inevitably contributes to improved health systems and helps in achieving universal health coverage.

In summary, the research contributes to both theoretical knowledge and practical implications on health insurance literacy. The findings can provide insights for interventions that improve consumer health insurance literacy and empower them with the knowledge necessary to make informed health insurance purchase decisions, thereby enhancing their financial well-being.

REFERENCES

Adepoju, O., Mask, A., & McLeod, A. (2018). Health Insurance Literacy as a Determinant of Population Health. *Population Health Management*, *21*(2), 85–87. https://doi.org/10.1089/pop.2017.0078

Adepoju, O., Mask, A., & McLeod, A. (2019). Factors associated with health insurance literacy: Proficiency in finding, selecting, and making appropriate decisions. *Journal of Healthcare Management*, *64*(2), 79–89.

Ahmad Mir, T., & Singh, M. (2022). Indian Healthcare Sector and the Sustainable Development. *International Journal of Current Research and Review*, *14*(03), 43–47. https://doi.org/10.31782/IJCRR.2022.14308

Ajzen, I. (1991a). The theory of planned behavior. *Theories of Cognitive Self-Regulation*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. (1991b). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I., Fishbein, M., & others. (1988). Theory of reasoned action-Theory of planned behavior. *University of South Florida*, *2007*, 67–98.

Akinci, C., & Sadler-Smith, E. (2013). Assessing Individual Differences in Experiential (Intuitive) and Rational (Analytical) Cognitive Styles. *International Journal of Selection and Assessment*, *21*(2), 211–221. https://doi.org/10.1111/ijsa.12030

Al-Hanawi, M. K., Mwale, M. L., & Qattan, A. M. N. (2021). Health Insurance and Out-of-Pocket Expenditure on Health and Medicine: Heterogeneities along Income. *Frontiers in Pharmacology*, *12*, 638035. https://doi.org/10.3389/fphar.2021.638035

Allgood, S., & Walstad, W. B. (2016). The effects of perceived and actual financial literacy on financial behaviors. *Economic Inquiry*, *54*(1), 675–697.

Allinson, C. W., & Hayes, J. (1996). The Cognitive Style Index: A Measure of Intuition-Analysis For Organizational Research. *Journal of Management Studies*, *33*(1), 119–135. https://doi.org/10.1111/j.1467-6486.1996.tb00801.x

Anjorin, S. S., Ayorinde, A. A., Abba, M. S., Oyebode, O. O., & Uthman, O. A. (2022). Variation in financial protection and its association with health expenditure indicators: An analysis of low- and middle-income countries. *Journal of Public Health*, *44*(2), 428–437. https://doi.org/10.1093/pubmed/fdab021

Asandimitra, N., & Kautsar, A. (2020). THE INFLUENCE OF FINANCIAL INFORMATION, FINANCIAL SELF EFFICACY, AND EMOTIONAL INTELLIGENCE TO FINANCIAL MANAGEMENT BEHAVIOR OF FEMALE LECTURER. *Humanities & Social Sciences Reviews*, *7*(6), 1112–1124. https://doi.org/10.18510/hssr.2019.76160

Bang, H. M., Shu, S. B., & Weber, E. U. (2020). The role of perceived effectiveness on the acceptability of choice architecture. *Behavioural Public Policy*, *4*(1), 50–70. https://doi.org/10.1017/bpp.2018.1

Bardy, T. L. C. (2023). The Swiss Health Insurance Literacy Measure (HILM-CH): Measurement Properties and Cross-Cultural Validation. *BMC Health Services Research*, *23*(1), 85. https://doi.org/10.1186/s12913-022-08986-0

Bartholomae, S., Russell, M. B., Braun, B., & McCoy, T. (2016). Building Health Insurance Literacy: Evidence from the Smart Choice Health Insurance™ Program. *Journal of Family and Economic Issues*, *37*(2), 140–155. https://doi.org/10.1007/s10834-016-9482-7

Bartlett, M. (1954). A further note on the multiplying factors for various X2 approximations in factor analysis. *Journal of the Royal Statistical Society*, *16*(2), 296–298.

Baruch, Y. (1999). Response Rate in Academic Studies-A Comparative Analysis. *Human Relations*, *52*(4), 421–438. https://doi.org/10.1177/001872679905200401

Beck, T. W. (2013). The importance of a priori sample size estimation in strength and conditioning research. *The Journal of Strength & Conditioning Research*, *27*(8), 2323–2337.

Belissa, T. K., Lensink, R., & Van Asseldonk, M. (2020). Risk and ambiguity aversion behavior in index-based insurance uptake decisions: Experimental evidence from Ethiopia. *Journal of Economic Behavior & Organization*, *180*, 718–730. https://doi.org/10.1016/j.jebo.2019.07.018

Berkman, N. D., Davis, T. C., & McCormack, L. (2010). Health Literacy: What Is It? *Journal of Health Communication*, *15*(sup2), 9–19. https://doi.org/10.1080/10810730.2010.499985

Bernoulli, D. (1954). Exposition of a New Theory on the Measurement of Risk. *Econometrica*, *22*(1), 23. https://doi.org/10.2307/1909829

Bhatia, M., Mittal, S., & Bansal, A. (2018). Evolution of the Indian health insurance sector: A review. *Journal of Management Research and Analysis*, *5*(2), 107–112.

Bhatia, R., Bhat, A. K., & Tikoria, J. (2021). Life insurance purchase behaviour: A systematic review and directions for future research. *International Journal of Consumer Studies*, *45*(6), 1149–1175. https://doi.org/10.1111/ijcs.12681

Brahmana, R., Brahmana, R. K., & Memarista, G. (2018). Planned Behaviour in Purchasing Health Insurance. *The South East Asian Journal of Management*, *12*(1). https://doi.org/10.21002/seam.v12i1.7465

Brown, V., Russell, M., Ginter, A., Braun, B., Little, L., Pippidis, M., & McCoy, T. (2023). *Smart Choice Health Insurance©*.

Browne, M. J., Jäger, V., Richter, A., & Steinorth, P. (2022). Family changes and the willingness to take risks. *Journal of Risk and Insurance*, *89*(1), 187–209. https://doi.org/10.1111/jori.12341

Bryman, A., Bell, E., Mills, A. J., & Yue, A. (2007). Business research strategies. *Business Research Methods*, 226–238.

Bundorf, M. K., & Pauly, M. V. (2006). Is health insurance affordable for the uninsured? *Journal of Health Economics*, *25*(4), 650–673. https://doi.org/10.1016/j.jhealeco.2005.11.003

Burkovskaya, A., Teperski, A., & Atalay, K. (2022). Framing and insurance choices. *Journal of Risk and Insurance*, *89*(2), 311–337. https://doi.org/10.1111/jori.12362

Burnell, G., & Morgan, G. (1979). *Sociological paradigms and organizational analysis: Elements of the sociology of corporate life*.

Byrne, B. M. (2001). Structural equation modeling with AMOS, EQS, and LISREL: Comparative approaches to testing for the factorial validity of a measuring instrument. *International Journal of Testing*, *1*(1), 55–86.

Campbell, J. Y., Jackson, H. E., Madrian, B. C., & Tufano, P. (2011). Consumer Financial Protection. *Journal of Economic Perspectives*, *25*(1), 91–114. https://doi.org/10.1257/jep.25.1.91

Carlson, K. D., & Herdman, A. O. (2012). Understanding the Impact of Convergent Validity on Research Results. *Organizational Research Methods*, *15*(1), 17–32. https://doi.org/10.1177/1094428110392383

Cheung, G. W., Cooper-Thomas, H. D., Lau, R. S., & Wang, L. C. (2024). Reporting reliability, convergent and discriminant validity with structural equation modeling: A review and best-practice recommendations. *Asia Pacific Journal of Management*, *41*(2), 745–783. https://doi.org/10.1007/s10490-023-09871-y

Chu, C., & Lu, H. (2007). Factors influencing online music purchase intention in Taiwan: An empirical study based on the value-intention framework. *Internet Research*, *17*(2), 139–155. https://doi.org/10.1108/10662240710737004

Churchill, G. A., & Iacobucci, D. (2006). *Marketing research: Methodological foundations* (Vol. 199, Issue 1). Dryden Press New York.

Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. Academic press.

Colón-Morales, C. M., Giang, W. C. W., & Alvarado, M. (2021). Informed Decision-making for Health Insurance Enrollment: Survey Study. *JMIR Formative Research*, *5*(8), e27477. https://doi.org/10.2196/27477

Conner, M. (Ed.). (2009). *Predicting health behaviour: Research and practice with social cognition models* (2. ed., repr). Open Univ. Press.

Corcos, A., Montmarquette, C., & Pannequin, F. (2020). How the demand for insurance became behavioral. *Journal of Economic Behavior & Organization*, *180*, 590–595. https://doi.org/10.1016/j.jebo.2020.09.001

Courbage, C., & Nicolas, C. (2021). Trust in insurance: The importance of experiences. *Journal of Risk and Insurance*, *88*(2), 263–291. https://doi.org/10.1111/jori.12324

Cucinelli, D., Lippi, A., & Soana, M. G. (2021). *Per aspera ad astra*: The big challenge of consumers' insurance literacy. *International Journal of Consumer Studies*, *45*(6), 1357–1372. https://doi.org/10.1111/ijcs.12657

Dodds, W. B., Monroe, K. B., & Grewal, D. (n.d.). *Effects of Price, Brand, and Store Information on Buyers' Product Evaluations*.

Donfouet, H. P. P., Makaudze, E., Mahieu, P.-A., & Malin, E. (2011). The determinants of the willingness-to-pay for a community-based prepayment scheme in rural Cameroon. *International Journal of Health Care Finance and Economics*, *11*(3), 209–220. https://doi.org/10.1007/s10754-011-9097-3

Dörnyei, Z., & Taguchi, T. (2009). *Questionnaires in second language research: Construction, administration, and processing*. Routledge.

Dragos, S. L., Dragos, C. M., & Muresan, G. M. (2020). From intention to decision in purchasing life insurance and private pensions: Different effects of knowledge and behavioural factors. *Journal of Behavioral and Experimental Economics*, *87*, 101555. https://doi.org/10.1016/j.socec.2020.101555

Dror, D., Chakraborty, A., Majumdar, A., Panda, P., & Koren, R. (2016). Impact of community-based health insurance in rural India on self-medication & financial

protection of the insured. *Indian Journal of Medical Research*, *143*(6), 809. https://doi.org/10.4103/0971-5916.192075

Dwiastanti, A. (2015). Financial Literacy as the Foundation for Individual Financial Behavior. *Journal of Education and Practice*.

Eckles, D. L., & Schaffner, B. F. (2010). Loss Aversion and the Framing of the Health Care Reform Debate. *The Forum*, *8*(1), 000010220215408884 1359. https://doi.org/10.2202/1540-8884.1359

Eling, M., Ghavibazoo, O., & Hanewald, K. (2021). Willingness to take financial risks and insurance holdings: A European survey. *Journal of Behavioral and Experimental Economics*, *95*, 101781. https://doi.org/10.1016/j.socec.2021.101781

Ericson, K. M., & Sydnor, J. (2017). The Questionable Value of Having a Choice of Levels of Health Insurance Coverage. *Journal of Economic Perspectives*, *31*(4), 51–72. https://doi.org/10.1257/jep.31.4.51

Ert, E., & Haruvy, E. (2017). Revisiting risk aversion: Can risk preferences change with experience? *Economics Letters*, *151*, 91–95. https://doi.org/10.1016/j.econlet.2016.12.008

Evolution of the Indian Health Insurance Sector: A review. (2020). *Journal of Management Research and Analysis*, *5*(2), 107–112. https://doi.org/10.18231/2394-2770.2018.0017

Felsen, G., Castelo, N., & Reiner, P. B. (2013). Decisional enhancement and autonomy: Public attitudes towards overt and covert nudges. *Judgment and Decision Making*, *8*(3), 202–213. https://doi.org/10.1017/S1930297500005933

Fornell, C., & Larcker, D. F. (1981). Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics. *Journal of Marketing Research*, *18*(3), 382–388. https://doi.org/10.1177/002224378101800313

Gandhi, A., Samek, A., & Serrano-Padial, R. (n.d.). *On Information and the Demand for Insurance*.

Gasimova, N. (n.d.). *The impact of information overload on consumer purchase intention toward health insurance products.*

Gottlieb, D., & Mitchell, O. S. (2020). Narrow framing and long-term care insurance. *Journal of Risk and Insurance*, *87*(4), 861–893.

Gupta, M. (n.d.). *Role of Information Sources in Selection of Life Insurance Schemes: An Empirical Study of Policylioiders*.

Guzman, F., Paswan, A., & Tripathy, N. (2019). Consumer centric antecedents to personal financial planning. *Journal of Consumer Marketing*, *36*(6), 858–868. https://doi.org/10.1108/JCM-01-2018-2514

Hadar, L., Sood, S., & Fox, C. R. (2013). Subjective Knowledge in Consumer Financial Decisions. *Journal of Marketing Research*, *50*(3), 303–316. https://doi.org/10.1509/jmr.10.0518

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate Data Analysis*. Cengage. https://books.google.co.in/books?id=0R9ZswEACAAJ

Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). An Introduction to Structural Equation Modeling. In *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R: A Workbook* (pp. 1–29). Springer International Publishing. https://doi.org/10.1007/978-3-030-80519-7_1

Hanley, N., & Czajkowski, M. (2019). The Role of Stated Preference Valuation Methods in Understanding Choices and Informing Policy. *Review of Environmental Economics and Policy*, *13*(2), 248–266. https://doi.org/10.1093/reep/rez005

Harman, D. (1967). A single factor test of common method variance. *Journal of Psychology*, *35*(1967), 359–378.

Harrison, G. W., & Ng, J. M. (2019). Behavioral insurance and economic theory: A literature review. *Risk Management and Insurance Review*, *22*(2), 133–182. https://doi.org/10.1111/rmir.12119

Hayes, A. F. (n.d.). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach, Third Edition*.

Hayes, J., & Allinson, C. W. (1994). Cognitive Style and its Relevance for Management Practice. *British Journal of Management*, *5*(1), 53–71. https://doi.org/10.1111/j.1467-8551.1994.tb00068.x

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

Hero, J. O., Sinaiko, A. D., Kingsdale, J., Gruver, R. S., & Galbraith, A. A. (2019). Decision-Making Experiences Of Consumers Choosing Individual-Market Health Insurance Plans. *Health Affairs*, *38*(3), 464–472. https://doi.org/10.1377/hlthaff.2018.05036

Holst, L., Brabers, A. E. M., Rademakers, J. J. D. J. M., & De Jong, J. D. (2023). The role of health insurance literacy in the process and outcomes of choosing a health insurance policy in the Netherlands. *BMC Health Services Research*, *23*(1), 1002. https://doi.org/10.1186/s12913-023-09960-0

Holst, L., Rademakers, J. J. D. J. M., Brabers, A. E. M., & de Jong, J. D. (2022). Measuring health insurance literacy in the Netherlands – First results of the HILM-NL questionnaire. *Health Policy*, *126*(11), 1157–1162. https://doi.org/10.1016/j.healthpol.2022.09.001

Hooda, S. K. (2020a). Health System in Transition in India: Journey from State Provisioning to Privatization. *World Review of Political Economy*, *11*(4). https://doi.org/10.13169/worlrevipoliecon.11.4.0506

Hooda, S. K. (2020b). Penetration and coverage of government-funded health insurance schemes in India. *Clinical Epidemiology and Global Health*, *8*(4), 1017–1033. https://doi.org/10.1016/j.cegh.2020.03.014

Huang, S., & Lee, L. (2023). The 5S's of Consumer Health: A Framework and Curation of *JCR* Articles on Health and Medical Decision-Making. *Journal of Consumer Research*, *49*(5), 926–939. https://doi.org/10.1093/jcr/ucac051

Hwang, I. D. (2021). Prospect theory and insurance demand: Empirical evidence on the role of loss aversion. *Journal of Behavioral and Experimental Economics*, *95*, 101764. https://doi.org/10.1016/j.socec.2021.101764

Jain, P., Kumar, A., & Agarwal, N. (2022). Missing Middle: Extending Health Insurance Coverage in India. *International Journal for Research in Applied Science and Engineering Technology*, *10*(5), 1331–1339. https://doi.org/10.22214/ijraset.2022.42382

Janzen, S., Magnan, N., Mullally, C., Shin, S., Palmer, I. B., Oduol, J., & Hughes, K. (2021). Can Experiential Games and Improved Risk Coverage Raise Demand for Index Insurance? Evidence from Kenya. *American Journal of Agricultural Economics*, *103*(1), 338–361. https://doi.org/10.1111/ajae.12124

Jaspersen, J. G., Ragin, M. A., & Sydnor, J. R. (2022). Predicting insurance demand from risk attitudes. *Journal of Risk and Insurance*, *89*(1), 63–96. https://doi.org/10.1111/jori.12342

Joe, W. (2015). Distressed financing of household out-of-pocket health care payments in India: Incidence and correlates. *Health Policy and Planning*, *30*(6), 728–741. https://doi.org/10.1093/heapol/czu050

Johnson, E. J., Hassin, R., Baker, T., Bajger, A. T., & Treuer, G. (2013). Can Consumers Make Affordable Care Affordable? The Value of Choice Architecture. *PLoS ONE*, *8*(12), e81521. https://doi.org/10.1371/journal.pone.0081521

Johnson, E. J., Shu, S. B., Dellaert, B. G. C., Fox, C., Goldstein, D. G., Häubl, G., Larrick, R. P., Payne, J. W., Peters, E., Schkade, D., Wansink, B., & Weber, E. U. (2012). Beyond nudges: Tools of a choice architecture. *Marketing Letters*, *23*(2), 487–504. https://doi.org/10.1007/s11002-012-9186-1

Kagaigai, A., & Grepperud, S. (2023). The role of risk preferences: Voluntary health insurance in rural Tanzania. *Health Economics Review*, *13*(1), 20. https://doi.org/10.1186/s13561-023-00432-z

Kahneman, D. (2011). *Thinking, Fast and Slow*. Farrar, Straus and Giroux. https://books.google.co.in/books?id=ZuKTvERuPG8C

Kai-Ineman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, *47*(2), 363–391.

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, *39*(1), 31–36.

Kaiser, T., & Menkhoff, L. (2017). Does Financial Education Impact Financial Literacy and Financial Behavior, and If So, When? *The World Bank Economic Review*, *31*(3), 611–630. https://doi.org/10.1093/wber/lhx018

Kansra, P., & Gill, H. S. (2017). Role of Perceptions in Health Insurance Buying Behaviour of Workers Employed in Informal Sector of India. *Global Business Review*, *18*(1), 250–266. https://doi.org/10.1177/0972150916666992

Karaca-Mandic, P., Feldman, R., & Graven, P. (2018). The Role of Agents and Brokers in the Market for Health Insurance. *Journal of Risk and Insurance*, *85*(1), 7–34. https://doi.org/10.1111/jori.12139

Kautish, P., Khare, A., & Sharma, R. (2022). Health insurance policy renewal: An exploration of reputation, performance, and affect to understand customer inertia. *Journal of Marketing Analytics*, *10*(3), 261–278. https://doi.org/10.1057/s41270-021-00134-7

Kazibwe, J., Tran, P. B., Kaiser, A. H., Kasagga, S. P., Masiye, F., Ekman, B., & Sundewall, J. (2024). The impact of health insurance on maternal and reproductive health service utilization and financial protection in low- and lower middle-income countries: A systematic review of the evidence. *BMC Health Services Research*, *24*(1), 432. https://doi.org/10.1186/s12913-024-10815-5

keersmaecker, J. D., Dunning, D., Pennycook, G., Rand, D. G., Sanchez, C., Unkelbach, C., & Roets, A. (2020). Investigating the Robustness of the Illusory Truth Effect Across

Individual Differences in Cognitive Ability, Need for Cognitive Closure, and Cognitive Style. *Personality and Social Psychology Bulletin*, *46*(2), 204–215. https://doi.org/10.1177/0146167219853844

Kim, J., Braun, B., & Williams, A. D. (2013). Understanding Health Insurance Literacy: A Literature Review. *Family and Consumer Sciences Research Journal*, *42*(1), 3–13. https://doi.org/10.1111/fcsr.12034

Kim, K. T., Lee, J. M., & DeVaney, S. A. (2022). Financial Knowledge and Financial Fragility: A Consideration of the Neighborhood Effect. *Journal of Financial Counseling and Planning*, *33*(2), 268–279. https://doi.org/10.1891/JFCP-2021-0042

Kleinbaum, D. G., Kupper, L. L., Muller, K. E., & Nizam, A. (1988). *Applied regression analysis and other multivariable methods* (Vol. 601). Duxbury press Belmont, CA.

Kline, R. B. (2011). 26 convergence of structural equation modeling and multilevel modeling. In *The SAGE handbook of innovation in social research methods* (pp. 562–589). SAGE Publications Ltd.

Kozhevnikov, M. (2007). Cognitive styles in the context of modern psychology: Toward an integrated framework of cognitive style. *Psychological Bulletin*, *133*(3), 464–481. https://doi.org/10.1037/0033-2909.133.3.464

Krueger, A. B., & Kuziemko, I. (2013). The demand for health insurance among uninsured Americans: Results of a survey experiment and implications for policy. *Journal of Health Economics*, *32*(5), 780–793. https://doi.org/10.1016/j.jhealeco.2012.09.005

Kunreuther, H. C., Pauly, M. V., & McMorrow, S. (2013). Insurance and behavioral economics. *NY: Cambridge*.

Kyriazos, T., & Poga-Kyriazou, M. (2023). Applied Psychometrics: Estimator Considerations in Commonly Encountered Conditions in CFA, SEM, and EFA Practice. *Psychology*, *14*(05), 799–828. https://doi.org/10.4236/psych.2023.145043

Lee, J. M., Lee, J., & Kim, K. T. (2020). Consumer Financial Well-Being: Knowledge is Not Enough. *Journal of Family and Economic Issues*, *41*(2), 218–228. https://doi.org/10.1007/s10834-019-09649-9

Leitch, C. M., Hill, F. M., & Harrison, R. T. (2010). The Philosophy and Practice of Interpretivist Research in Entrepreneurship: Quality, Validation, and Trust. *Organizational Research Methods*, *13*(1), 67–84. https://doi.org/10.1177/1094428109339839

Levitt, L. (2015). Why Health Insurance Literacy Matters. *JAMA*, *313*(6), 555. https://doi.org/10.1001/jama.2014.17419

Li, Z., Liu, L., Shi, J., & Sui, Y. (2021). Health insurance, risk attitudes, and household financial behavior. *Health Economics*, *30*(5), 1239–1246. https://doi.org/10.1002/hec.4235

Lin, X., Bruhn, A., & William, J. (2019). Extending financial literacy to insurance literacy: A survey approach. *Accounting & Finance*, *59*(S1), 685–713. https://doi.org/10.1111/acfi.12353

Loewenstein, G., Friedman, J. Y., McGill, B., Ahmad, S., Linck, S., Sinkula, S., Beshears, J., Choi, J. J., Kolstad, J., Laibson, D., Madrian, B. C., List, J. A., & Volpp, K. G. (2013). Consumers' misunderstanding of health insurance. *Journal of Health Economics*, *32*(5), 850–862. https://doi.org/10.1016/j.jhealeco.2013.04.004

Lusardi, A., & Mitchell, O. S. (n.d.). *The Economic Importance of Financial Literacy: Theory and Evidence*.

Lusardi, A., & Mitchell, O. S. (2011a). *Financial literacy and planning: Implications for retirement wellbeing*. National Bureau of Economic Research.

Lusardi, A., & Mitchell, O. S. (2011b). Financial literacy and retirement planning in the United States. *Journal of Pension Economics & Finance*, *10*(4), 509–525.

MacKinnon, D. (2012). *Introduction to statistical mediation analysis*. Routledge.

MacNeill, A. J., McGain, F., & Sherman, J. D. (2021). Planetary health care: A framework for sustainable health systems. *The Lancet Planetary Health*, *5*(2), e66–e68. https://doi.org/10.1016/S2542-5196(21)00005-X

Mahal, A., Panwar, V., Tiwari, A., Reddy, R., & Kane, S. (n.d.). *The 'missing middle': How to provide*.

Malhotra, N. (2010). *Marketing Research: An Applied Orientation* (6th ed.). Pearson education.

Mamun, A. A., Rahman, M. K., Munikrishnan, U. T., & Permarupan, P. Y. (2021). Predicting the Intention and Purchase of Health Insurance Among Malaysian Working Adults. *SAGE Open*, *11*(4), 215824402110613. https://doi.org/10.1177/21582440211061373

Mandel, D. R., & Kapler, I. V. (2018). Cognitive Style and Frame Susceptibility in Decision-Making. *Frontiers in Psychology*, *9*, 1461. https://doi.org/10.3389/fpsyg.2018.01461

Mandrik, C. A. (n.d.). *Exploring the Concept and Measurement of General Risk Aversion*.

Manjula, H. K., & Afza, D. N. (2020). *A Bird's Eye View on Indian Healthcare Sector*. *9*(6).

Mare, C., Dragoş, S. L., & Dragotă, I.-M. (2019). The impact of human development on the Romanian life insurance market: A county spatial econometric analysis. *Cogent Business & Management*, *6*(1), 1707609. https://doi.org/10.1080/23311975.2019.1707609

Mathur, T., Das, G., & Gupta, H. (2018). Examining the influence of health insurance literacy and perception on the people preference to purchase private voluntary health insurance. *Health Services Management Research*, *31*(4), 218–232.

McCORMACK, L., Bann, C., Uhrig, J., Berkman, N., & Rudd, R. (2009). Health Insurance Literacy of Older Adults. *Journal of Consumer Affairs*, *43*(2), 223–248. https://doi.org/10.1111/j.1745-6606.2009.01138.x

Merga, B. T., Balis, B., Bekele, H., & Fekadu, G. (2022). Health insurance coverage in Ethiopia: Financial protection in the Era of sustainable development goals (SDGs). *Health Economics Review*, *12*(1), 43. https://doi.org/10.1186/s13561-022-00389-5

Messick, S. (1976). Personality consistencies in cognition and creativity. *Individuality in Learning: Implications of Cognitive Styles and Creativity for Human Development/Jossey-Bass*.

Messick, S. (1984). The nature of cognitive styles: Problems and promise in educational practice. *Educational Psychologist*, *19*(2), 59–74. https://doi.org/10.1080/00461528409529283

Messick, S. (1996). Bridging cognition and personality in education: The role of style in performance and development. *European Journal of Personality*, *10*(5), 353–376. https://doi.org/10.1002/(SICI)1099-0984(199612)10:5%253C353::AID-PER268%253E3.0.CO;2-G

Mican, D., & Sitar-Taut, D.-A. (2023). The effect of perceived usefulness of recommender systems and information sources on purchase intention. *Kybernetes*. https://doi.org/10.1108/K-08-2022-1145

Mishra, S., & Mohanty, S. K. (2019). Out-of-pocket expenditure and distress financing on institutional delivery in India. *International Journal for Equity in Health*, *18*(1), 99. https://doi.org/10.1186/s12939-019-1001-7

Mureșan, G. M. (2023). *BIBLIOMETRIC ANALYSIS OF HEALTH INSURANCE*.

Murray, C. J. L. (2024). Findings from the Global Burden of Disease Study 2021. *The Lancet*, *403*(10440), 2259–2262. https://doi.org/10.1016/S0140-6736(24)00769-4

Muthén, B., & Muthén, L. (2017). Mplus. In *Handbook of item response theory* (pp. 507–518). Chapman and Hall/CRC.

Nagy, B. Z., Alt, M. A., Benedek, B., & Săplăcan, Z. (2020). How do loss aversion and technology acceptance affect life insurance demand? *Applied Economics Letters*, *27*(12), 977–981. https://doi.org/10.1080/13504851.2019.1650882

Nobles, A. L., Curtis, B. A., Ngo, D. A., Vardell, E., & Holstege, C. P. (2019). Health insurance literacy: A mixed methods study of college students. *Journal of American College Health*, *67*(5), 469–478. https://doi.org/10.1080/07448481.2018.1486844

Nunnally, J. C. (1978a). An overview of psychological measurement. *Clinical Diagnosis of Mental Disorders: A Handbook*, 97–146.

Nunnally, J. C. (1978b). *Psychometric Theory 2nd ed.* Mcgraw hill book company.

Nyman, J. A. (1999). The value of health insurance: The access motive. *Journal of Health Economics*, *18*(2), 141–152. https://doi.org/10.1016/S0167-6296(98)00049-6

Nzowa, P. G., Nandonde, F. A., & Seimu, S. M. L. (2022). Moderation effects of co-operative institutions' capabilities on the relationship between health insurance literacy and participation in health insurance among co-operative members in Tanzania. *DECISION*, *49*(4), 381–394. https://doi.org/10.1007/s40622-023-00331-6

O'Connor, G. E. (2019). Exploring the Interplay of Cognitive Style and Demographics in Consumers' Financial Knowledge. *Journal of Consumer Affairs*, *53*(2), 382–423. https://doi.org/10.1111/joca.12195

O'Connor, G. E., & Kabadayi, S. (2020). Examining Antecedents of Health Insurance Literacy: The Role of Locus of Control, Cognitive Style, and Financial Knowledge. *Journal of Consumer Affairs*, *54*(1), 227–260. https://doi.org/10.1111/joca.12266

O'Donoghue, T., & Somerville, J. (2018). Modeling Risk Aversion in Economics. *Journal of Economic Perspectives*, *32*(2), 91–114. https://doi.org/10.1257/jep.32.2.91

Osei Afriyie, D., Krasniq, B., Hooley, B., Tediosi, F., & Fink, G. (2022). Equity in health insurance schemes enrollment in low and middle-income countries: A systematic review and meta-analysis. *International Journal for Equity in Health*, *21*(1), 21. https://doi.org/10.1186/s12939-021-01608-x

Osmane, S., & Bowen, C. F. (2017). Predictors of Consumers' Health Insurance Knowledge. *Journal of Financial Counseling and Planning*, *28*(2), 300–312. https://doi.org/10.1891/1052-3073.28.2.300

Padala, K. K. (n.d.). *A STUDY ON THE LEVEL OF SATISFACTION OF THE BENEFICIARY EMPLOYEE TOWARDS EMPLOYEE STATE INSURANCE (ESI) POLICY*.

Paez, K. A., Mallery, C. J., Noel, H., Pugliese, C., McSorley, V. E., Lucado, J. L., & Ganachari, D. (2014). Development of the Health Insurance Literacy Measure (HILM): Conceptualizing and measuring consumer ability to choose and use private health insurance. *Journal of Health Communication*, *19*(sup2), 225–239.

Pardo, C. (2019). Health care reform, adverse selection and health insurance choice. *Journal of Health Economics*, *67*, 102221. https://doi.org/10.1016/j.jhealeco.2019.07.001

Patel, M. R., Israel, B. A., Song, P. X. K., Hao, W., TerHaar, L., Tariq, M., & Lichtenstein, R. (2019). Insuring Good Health: Outcomes and Acceptability of a Participatory Health Insurance Literacy Intervention in Diverse Urban Communities. *Health Education & Behavior*, *46*(3), 494–505. https://doi.org/10.1177/1090198119831060

Phillips-Wren, G., Power, D. J., & Mora, M. (2019). Cognitive bias, decision styles, and risk attitudes in decision making and DSS. *Journal of Decision Systems*, *28*(2), 63–66. https://doi.org/10.1080/12460125.2019.1646509

Pinilla, J., & López-Valcárcel, B. G. (2020). Income and wealth as determinants of voluntary private health insurance: Empirical evidence in Spain, 2008–2014. *BMC Public Health*, *20*(1), 1262. https://doi.org/10.1186/s12889-020-09362-5

Pitthan, F., & De Witte, K. (2021). Puzzles of insurance demand and its biases: A survey on the role of behavioural biases and financial literacy on insurance demand. *Journal of Behavioral and Experimental Finance*, *30*, 100471. https://doi.org/10.1016/j.jbef.2021.100471

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Podsakoff, P. M., Podsakoff, N. P., Williams, L. J., Huang, C., & Yang, J. (n.d.). *Common Method Bias: It's Bad, It's Complex, It's Widespread, and It's Not Easy to Fix*.

Purcell, J. (2014). Disengaging from engagement. *Human Resource Management Journal*, *24*(3), 241–254.

Purohit, B. C. (2023). *Economics of public and private healthcare and health insurance in India*. Taylor & Francis.

Quincy, L. (2012). Measuring health insurance literacy: A call to action. *Yonkers: Consumers Union*.

Reshmi, B., Unnikrishnan, B., Rajwar, E., Parsekar, S. S., Vijayamma, R., & Venkatesh, B. T. (2021). Impact of public-funded health insurances in India on health care utilisation and financial risk protection: A systematic review. *BMJ Open*, *11*(12), e050077. https://doi.org/10.1136/bmjopen-2021-050077

Rice, T. (2013). The Behavioral Economics of Health and Health Care. *Annual Review of Public Health*, *34*(1), 431–447. https://doi.org/10.1146/annurev-publhealth-031912-114353

Richter, A., Ruß, J., & Schelling, S. (2019). Insurance customer behavior: Lessons from behavioral economics. *Risk Management and Insurance Review*, *22*(2), 183–205. https://doi.org/10.1111/rmir.12121

Richter, A., Schiller, J., & Schlesinger, H. (2014). Behavioral insurance: Theory and experiments. *Journal of Risk and Uncertainty*, *48*(2), 85–96. https://doi.org/10.1007/s11166-014-9188-x

Riquelme, I. P., & Román, S. (2014). The relationships among consumers' ethical ideology, risk aversion and ethically-based distrust of online retailers and the moderating role of consumers' need for personal interaction. *Ethics and Information Technology*, *16*(2), 135–155. https://doi.org/10.1007/s10676-014-9341-x

Sagiv, L., Amit, A., Ein-Gar, D., & Arieli, S. (2014). Not All Great Minds Think Alike: Systematic and Intuitive Cognitive Styles. *Journal of Personality*, *82*(5), 402–417. https://doi.org/10.1111/jopy.12071

Sangar, S., Dutt, V., & Thakur, R. (2022). Burden of out-of-pocket health expenditure and its impoverishment impact in India: Evidence from National Sample Survey. *Journal of Asian Public Policy*, *15*(1), 60–77. https://doi.org/10.1080/17516234.2019.1601065

Sarwal, R., & Kumar, A. (2021). *Health insurance for India's missing middle*.

Saunders, M. N. K., Lewis, P., & Thornhill, A. (2012). *Research methods for business students* (6th ed). Pearson. http://www.dawsonera.com/depp/reader/protected/external/AbstractView/S9780273750802

Saurabh, K., & Nandan, T. (2018). Role of financial risk attitude and financial behavior as mediators in financial satisfaction: Empirical evidence from India. *South Asian Journal of Business Studies*, *7*(2), 207–224.

Scheibehenne, B., Greifeneder, R., & Todd, P. M. (2010). Can There Ever Be Too Many Options? A Meta-Analytic Review of Choice Overload. *Journal of Consumer Research*, *37*(3), 409–425. https://doi.org/10.1086/651235

Schmidt, U. (2016). I NSURANCE D EMAND U NDER P ROSPECT T HEORY: A G RAPHICAL A NALYSIS. *Journal of Risk and Insurance*, *83*(1), 77–89. https://doi.org/10.1111/jori.12098

Schmitz, H. (2011). Direct evidence of risk aversion as a source of advantageous selection in health insurance. *Economics Letters*, *113*(2), 180–182. https://doi.org/10.1016/j.econlet.2011.06.016

Sen, A. P., Pickett, J., & Burns, L. R. (2012). The health insurance sector in India: History and opportunities. In *India's Healthcare Industry: Innovation in Delivery, Financing, and Manufacturing* (pp. 361–399). Cambridge University Press.

Shahrawat, R., & Rao, K. D. (2012). Insured yet vulnerable: Out-of-pocket payments and India's poor. *Health Policy and Planning*, *27*(3), 213–221. https://doi.org/10.1093/heapol/czr029

Shapiro, I., & Wendt, A. (1992). The difference that realism makes: Social science and the politics of consent. *Politics & Society*, *20*(2), 197–223.

Shefrin, H. M., & Thaler, R. H. (1988). THE BEHAVIORAL LIFE-CYCLE HYPOTHESIS. *Economic Inquiry*, *26*(4), 609–643. https://doi.org/10.1111/j.1465-7295.1988.tb01520.x

Shi, D., Lee, T., & Maydeu-Olivares, A. (2019). Understanding the Model Size Effect on SEM Fit Indices. *Educational and Psychological Measurement*, *79*(2), 310–334. https://doi.org/10.1177/0013164418783530

Simon, H. A. (2000). Bounded rationality in social science: Today and tomorrow. *Mind & Society*, *1*(1), 25–39. https://doi.org/10.1007/BF02512227

Singh, A., & Shah, D. (2024). Impact of health insurance literacy, brand reputation, and risk attitude on intentions to purchase private health insurance policy. *International Journal of Healthcare Management*, 1–12. https://doi.org/10.1080/20479700.2024.2374211

Smith, E. R., & DeCoster, J. (2000). Dual-process models in social and cognitive psychology: Conceptual integration and links to underlying memory systems. *Personality and Social Psychology Review*, *4*(2), 108–131. https://doi.org/10.1207/S15327957PSPR0402_01

Smith, T. D., & Mcmillan, B. (2001). *A Primer of Model Fit Indices in Structural Equation Modeling.* https://api.semanticscholar.org/CorpusID:118909905

Sriram, S., & Khan, M. M. (2020). Effect of health insurance program for the poor on out-of-pocket inpatient care cost in India: Evidence from a nationally representative cross-sectional survey. *BMC Health Services Research*, *20*(1), 839. https://doi.org/10.1186/s12913-020-05692-7

Sunstein, C. R. (2015). Do People Like Nudges? *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2604084

Tabachnick, B. (2007). Experimental designs using ANOVA. *Thomson/Brooks/Cole*.

Taylor, E., Carman, K., Lopez, A., Muchow, A., Roshan, P., & Eibner, C. (2016). *Consumer Decisionmaking in the Health Care Marketplace*. RAND Corporation. https://doi.org/10.7249/RR1567

Thaler, R. H. (2018). *Misbehaving*. EINAUDI.

Thaler, R. H., & Sunstein, C. R. (2008). Nudge: Improving decisions about health, wealth, and happiness. *Nudge: Improving Decisions about Health, Wealth, and Happiness.*, x, 293–x, 293.

Thomas, D. H., & Jona, L. (2018). "Good Nudge Lullaby": Choice Architecture and Default Bias Reinforcement. *The Economic Journal*, *128*(610), 1180–1206. https://doi.org/10.1111/ecoj.12440

Thomas, T. K. (2016). Role of health insurance in enabling universal health coverage in India: A critical review. *Health Services Management Research*, *29*(4), 99–106. https://doi.org/10.1177/0951484816670191

Tilley, L., Yarger, J., & Brindis, C. D. (2018). Young Adults Changing Insurance Status: Gaps in Health Insurance Literacy. *Journal of Community Health*, *43*(4), 680–687. https://doi.org/10.1007/s10900-018-0469-1

Tracking universal health coverage 2023 global monitoring report. (2023). *Global Monitoring Report*.

Tversky, A. (1975). A critique of expected utility theory: Descriptive and normative considerations. *Erkenntnis*, 163–173.

Tversky, A., & Kahneman, D. (n.d.). *Advances in prospect theory: Cumulative representation of uncertainty*.

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, *211*(4481), 453–458.

Tversky, A., & Kahneman, D. (1982). Judgment under uncertainty: Heuristics and biases. In D. Kahneman, P. Slovic, & A. Tversky (Eds.), *Judgment under Uncertainty* (1st ed.,

pp. 3–20). Cambridge University Press. https://doi.org/10.1017/CBO9780511809477.002

Unnikrishnan, B., Pandey, A., Gayatri Saran, J. S., Praveen Kumar, C., Ulligaddi, B., Mariyam, A. A., & Rathi, P. (2021). Health insurance schemes: A cross-sectional study on levels of awareness by patients attending a tertiary care hospital of coastal south India. *International Journal of Healthcare Management*, *14*(2), 412–418. https://doi.org/10.1080/20479700.2019.1654660

Van Winssen, K. P. M., Van Kleef, R. C., & Van De Ven, W. P. M. M. (2016). The demand for health insurance and behavioural economics. *The European Journal of Health Economics*, *17*(6), 653–657. https://doi.org/10.1007/s10198-016-0776-3

Vardell, E. (2019). Health Insurance Literacy and Health Disparities in the United States: A Literature Review. *The International Journal of Information, Diversity, & Inclusion (IJIDI)*, *3*(4). https://doi.org/10.33137/ijidi.v3i4.33012

Vardell, E. (2023). "I think sometimes the whole process is just a little bit intimidating": Modeling the health insurance decision-making process. *Journal of Documentation*, *79*(6), 1346–1368. https://doi.org/10.1108/JD-06-2022-0140

Von Neumann, J., & Morgenstern, O. (1944). *Theory of games and economic behavior.* (pp. xviii, 625). Princeton University Press.

Voorhees, C. M., Brady, M. K., Calantone, R., & Ramirez, E. (2016). Discriminant validity testing in marketing: An analysis, causes for concern, and proposed remedies. *Journal of the Academy of Marketing Science*, *44*, 119–134.

Wagstaff, A. (2008). *Measuring Financial Protection in Health*. World Bank. https://books.google.co.in/books?id=XHRHXx_myKMC

Wang, H., Torres, L. V., & Travis, P. (2018). Financial protection analysis in eight countries in the WHO South-East Asia Region. *Bulletin of the World Health Organization*, *96*(9), 610-620E. https://doi.org/10.2471/BLT.18.209858

Weber, E. U., & Milliman, R. A. (1997). Perceived Risk Attitudes: Relating Risk Perception to Risky Choice. *Management Science*, *43*(2), 123–144. https://doi.org/10.1287/mnsc.43.2.123

Weedige, Ouyang, Gao, & Liu. (2019). Decision Making in Personal Insurance: Impact of Insurance Literacy. *Sustainability*, *11*(23), 6795. https://doi.org/10.3390/su11236795

West, S. G., Taylor, A. B., Wu, W., & others. (2012). Model fit and model selection in structural equation modeling. *Handbook of Structural Equation Modeling*, *1*(1), 209–231.

Westland, J. C. (2010). Lower bounds on sample size in structural equation modeling. *Electronic Commerce Research and Applications*, *9*(6), 476–487.

Whitsel, L. P., Ajenikoko, F., Chase, P. J., Johnson, J., McSwain, B., Phelps, M., Radcliffe, R., & Faghy, M. A. (2023). Public policy for healthy living: How COVID-19 has changed the landscape. *Progress in Cardiovascular Diseases*, *76*, 49–56. https://doi.org/10.1016/j.pcad.2023.01.002

World Bank & World Health Organization. (n.d.). *Tracking Universal Health Coverage 2021 Global Monitoring Report.*

Xiao, J. J., & Porto, N. (2019). Financial education and insurance advice seeking. *The Geneva Papers on Risk and Insurance - Issues and Practice*, *44*(1), 20–35. https://doi.org/10.1057/s41288-018-0108-1

Xu, K., Evans, D. B., Carrin, G., Aguilar-Rivera, A. M., Musgrove, P., & Evans, T. (2007). Protecting Households From Catastrophic Health Spending. *Health Affairs*, *26*(4), 972–983. https://doi.org/10.1377/hlthaff.26.4.972

Yagi, B. F., Luster, J. E., Scherer, A. M., Farron, M. R., Smith, J. E., & Tipirneni, R. (2022). Association of Health Insurance Literacy with Health Care Utilization: A Systematic Review. *Journal of General Internal Medicine*, *37*(2), 375–389. https://doi.org/10.1007/s11606-021-06819-0

Yin, J. D.-C., & He, A. J. (2018). Health insurance reforms in Singapore and Hong Kong: How the two ageing asian tigers respond to health financing challenges? *Health Policy*, *122*(7), 693–697. https://doi.org/10.1016/j.healthpol.2018.04.012

Zheng, J. (2020). Optimal insurance design under narrow framing. *Journal of Economic Behavior & Organization*, *180*, 596–607. https://doi.org/10.1016/j.jebo.2020.05.020

ANNEXURES

Questionnaire

Dear Respondent,

I am a Doctoral scholar at School of Management Studies, University of Hyderabad and I am conducting a survey to understand the significance of health insurance literacy on the insurance purchase intention among working professionals.

- To be eligible, you should not have any health insurance coverage/ ESI/ reimbursement option and is a resident & working in the state of Telangana.
- The survey should approximately take 10 minutes to complete.
- All the responses of the survey will be collected anonymously and will stay confidential.
- By completing and submitting this survey, you are indicating your consent to participate in the study.

I hope you spare your valuable time and give your honest responses. If you have any questions, contact me at lalitha20196@gmail.com

Thank you so much!

M. Lalitha Supriya

* 1. Which of the following categories best describes the industry you primarily work* (irrespective of the role or position)

◯ (a.) Information Technology (IT) ◯

(b.) Banking & Finance

◯ (c.) Education (Teaching, Edtech services) ◯ (d.) Hospitality

◯ (e.) Healthcare/Pharmaceuticals ◯

(f.) Manufacturing

◯ (g.) Retail/Consumer products ◯

(h.) Brokerage Firms

◯ Other (please specify)

* 2. What is the nature of your employment?

◯ Government ◯

Private

Other (please specify) ◯

* 3. What is the main reason you do not have any health insurance?

◯ High Cost/High Premium

◯ Already covered under any family member's health insurance scheme. ◯

Lack of Information about health insurance benefits and plans

◯ Difficulty in understanding health insurance plans/schemes ◯

Other (please specify)

* 4. Do you have the intention to purchase health insurance in the next one or two years?

◯ Yes ◯

No

Maybe ◯

* 5. Please select the appropriate option.

	somewhat		somewhat		
very low	low	low	neutral	high	high	very high

The possibility of purchasing health insurance is	◯	◯	◯	◯	◯	◯	◯
The probability that I would consider buying health insurance is	◯	◯	◯	◯	◯	◯	◯
My willingness to buy health insurance is	◯	◯	◯	◯	◯	◯	◯

* 6. Annual Family Income (including all sources such are rental income, trading and investment)

◯ Less than 5 lakhs per annum

◯ Between 5 and 10 lakhs per annum ◯

Between 10 and 15 lakhs per annum ◯

Between 15 and 20 lakhs per annum

More than 20 lakhs per annum

◯

*7. Please select the appropriate option.

	Strongly disagree	Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Agree	Strongly agree
If I were going to buy health insurance, I would consider buying this at the price quoted by the insurance provider.	◯	◯	◯	◯	◯	◯	◯
At the price quoted by the insurance provider, I would consider buying the plan/scheme.	◯	◯	◯	◯	◯	◯	◯

* 8. Do you have any chronic health conditions? (Example: Hypertension, Diabetes, B.P, etc)

◯ Yes ◯

No

* 9. How would you rate your knowledge about health insurance policies and procedures?

* 10. Marital status

◯ Married ◯

Unmarried ◯

Divorced

Widowed

◯

* 11. Please select the appropriate option.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
When making a decision, I take my time and thoroughly consider all relevant factors.				
To solve a problem, I have to study each part of it in detail.				
My understanding of a problem comes more from an in depth analysis rather than just casual analysis.				
I constantly look for new experiences.				
Given enough time, I would consider every situation from all angles.				
I am the kind of person who takes risk even if it is dangerous.				
I always focus on details before I reach a conclusion.				
The best way for me to understand a problem is to break it down into parts.				
I work best with people who are spontaneous.				
I would rather prefer my life to be unpredictable than to follow a regular pattern.				
I am always prepared to take a chance/risk.				

* 12. Suppose you had Rs.100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow.

more than Rs.102

exactly Rs.102

less than Rs.102

* 13. Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?

◯ more than today

◯ exactly the same as today ◯ less than today

* 14. Do you think that the following statement is true or false? “Buying a single company stock usually provides a safer return than a stock mutual fund

◯ True ◯ False

* 15. Educational Qualification

◯ Xth Standard (Secondary)

◯ XIIth Standard (Higher Secondary) ◯ Diploma

◯ Bachelor’s degree ◯ Master’s degree

◯ Other (please specify)

* 16. Company B is offering two health insurance plans. Please choose which plan you would prefer.

◯ "A plan that limited the total amount of benefits in your lifetime to Rs. 10 Lakh."

◯ "A plan with no lifetime limit on benefits, but cost you an additional Rs.1000 per year."

* 17. A. Please rate the following statements using the following scale

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
“My overall level of financial knowledge is high,”	◯	◯	◯	◯	◯
“I am good at dealing with day-to- day financial matters, such as checking accounts, credit and debit cards, and tracking expenses,”	◯	◯	◯	◯	◯
“I am pretty good at math.”	◯	◯	◯	◯	◯

* 18. Confidence choosing

Not at all confident	Not Confident	Neutral	Confident	Very Confident
How confident are you that you know where to go for help if you had trouble affording health insurance outside of an employer?				
How confident are you that you know how to estimate what you would have to pay for your health care needs in the next year, not including emergencies?				
How confident are you that you know what questions to ask to choose the best health plan for you?				
How confident are you that you know where to find the information you need to choose a health insurance plan if you were not offered insurance through an employer?				
How confident are you that you understand health insurance terms				
How confident are you that you would choose the health insurance plan that is best for you?				

* 19. Which information sources you generally trust and use to find information about health insurance plans?

Official health insurance company website

Insurance Agents

Other online websites (ex: PolicyBazaar, etc.)

Friends or family

Colleagues

* 20. Comparing Plans

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
When comparing health plans would you try to find out if the plans cover unexpected costs such as hospital stays?	○	○	○	○	○
When comparing health plans would you try to understand what you would have to pay for emergency visits?	○	○	○	○	○
When comparing health plans would you try to understand what you would have to pay for specialist visits?	○	○	○	○	○
When comparing health plans would you try to understand what you would have to pay for prescription medicines?	○	○	○	○	○
When comparing health plans would you try to find out if you have to meet a deductible for health care services?	○	○	○	○	○
When comparing health plans would you try to look to see which doctors and hospitals are covered in each plan?	○	○	○	○	○

* 21. Gender

○ Male Female

○

* 22. Confidence Using

Not at all confident	Not Confident	Neutral	Confident	Very Confident
How confident are you that you know what to do if your health insurance plan refuses to pay for a service which you think should be covered?	◯	◯	◯	◯
How confident are you that you know how to figure out your share of the cost for treatment, after the health plan pays their share?	◯	◯	◯	◯
How confident are you that you know what questions to ask your insurance provider/company if you have a coverage problem?	◯	◯	◯	◯
How confident are you that you know most of the things you need to know about using health insurance.	◯	◯	◯	◯
How confident are you that you know how to find out what is covered and what is not covered before you receive a health care service?	◯	◯	◯	◯

* 23. Company A is offering two health insurance plans. Please choose which plan you would prefer.

◯ "A plan with no lifetime limit on benefits."

◯ “A plan that limited the total amount of benefits in your lifetime to Rs. 10 Lakhs, but saved you Rs. 1000 per year."

* 24. Experience Using

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
When using your health insurance plan, do you think you would contact your insurance provider to tell you what medical services your health plan covers?	○	○	○	○	○
When using your health insurance plan, would are look into what your health plan will and will not cover before you get treatment/health care services?	○	○	○	○	○
When using your health insurance plan, would you review the statements you get from your insurance company showing what you need to pay and what they paid for a service?	○	○	○	○	○
When using your health insurance plan, would you find out if a doctor is in-network of the insurance plan before you see him/her?	○	○	○	○	○

* 25. Enter your age or birth year

* 26. Please rate the following statements using the following scale

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree

I do not feel comfortable about taking chances.	○	○	○	○	○	○	○
I prefer situations that have certain/predictable outcomes.	○	○	○	○	○	○	○
Before I make a decision, I like to be absolutely sure about the results.	○	○	○	○	○	○	○
I avoid situations that have uncertain outcomes.	○	○	○	○	○	○	○
I feel comfortable improvising in new situations.	○	○	○	○	○	○	○
I feel nervous when I have to make decisions in uncertain situations	○	○	○	○	○	○	○

CONFERENCE CERTIFICATES

1.

PONDICHERRY UNIVERSITY-ARC 2024

International Conference on
Applied Research in Engineering, Technology and Management
in Association with
Department of Management Studies, Pondicherry University,
Port Blair Campus, Andaman

Certificate of Participation

This is to certify that Ms. M. Lalitha Supriya, Mr. Gopi Anil Reddy and Dr. P. Jyothi *has presented a research paper titled* Health Insurance Literacy: Bridging the Gap between Financial Knowledge and Purchase Intention *in the* 19th International Conference on Applied Research in Engineering, Technology & Management *held during* 16th & 17th *August 2024 at* Port Blair, Andaman.

Dr. K. Ravichandran
Convener
ICARETM 2024

Dr. B. Charumathi
Convener
Professor,
Department of Management Studies,
Pondicherry University

Dr. T. Ganesh
Convener
Associate Professor & MBA Coordinator
Pondicherry University, Port Blair Campus,
Andaman

2.


NIRMA UNIVERSITY
INSTITUTE OF MANAGEMENT
NAAC ACCREDITED 'A+' GRADE
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27th Nirma International Conference on Management
Certificate of Presentation
THIS CERTIFICATE IS PRESENTED TO
Miss. M.Lalitha Supriya
of
University of Hyderabad
for presenting a paper titled
Understanding the mediating role of Health Insurance Literacy in Health Insurance Purchase Decision
in the 27th Nirma International Conference on Management (NICOM - 2024)
organised by the Institute of Management, Nirma University, Ahmedabad
from 4th to 6th January, 2024
DR. SANJAY JAIN
Conference Chairperson
DR. CHETAN JHAVERI
Conference Chairperson
DR. RITESH PATEL
Conference Chairperson
DR. ASHWINI AWASTHI
Director, IMNU

3.


IIRM
Institute of Insurance and Risk Management
(A Joint initiative of IRDAI and Govt. of Telangana)
Certificate of Paper Presentation
This is to certify that
Lalitha Supriya
has presented a paper titled
"Health Insurance Literacy The Influence Of Informational Nudges"
in the "INSURANCE CONCLAVE - 2023" on
"Inclusiveness Through Innovation and Technology"
Conducted on 21st October, 2023.
Suresh Mathur
Conference Director, IIRM
Dr. V.V.K. Mohan
Convener, IIRM
Dr. V. Suresh Naik
Conference Secretary

PUBLICATIONS

1.

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Information is Key: Unlocking Intention towards Health Insurance among India's Missing Middle

M Lalitha Supriya, Gopi Anil Reddy** and P Jyothi****

Health Insurance is a pathway to attaining Universal Health Coverage (UHC), one of the Sustainable Development Goals to be achieved by 2030. However, health insurance penetration remains low in many developing countries, including India, particularly among the "missing middle." This group includes self-employed, privately employed, or informal sector workers with moderate incomes who are not covered by government, employer-based, or voluntary health insurance. One major barrier is a lack of awareness and understanding of health insurance benefits, which can be addressed by improving health insurance literacy. This study aims to examine the effect of various sources of information on the health insurance literacy of the missing middle population. A structured questionnaire was administered to 452 individuals in urban and semi-urban areas of Telangana, selected through purposive sampling. OLS Regression was performed on the data using Jamovi software to test the proposed hypothesis that formal information sources exert a stronger influence on health insurance literacy than informal ones. Findings reveal that formal sources, such as company websites and insurance agents, significantly enhance literacy levels and are perceived as more trustworthy than informal sources like friends and family. The study underscores the need for policymakers and insurers to promote literacy through credible and accessible information channels.

Key Words: *Health insurance, Information source, Population health, Universal health care*

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1. INTRODUCTION

Good health systems will improve the well-being and quality of life. Living a healthy, happy, and empowered life is a choice that one can make (Misra, 2018).

According to the World Bank & WHO Global Monitoring Report, 2021 (World Bank & World Health Organization, 2021) that tracks UHC (Universal Health

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2.

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Digital vs Traditional: Factors Influencing Youth Preferences for Insurance

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Ms. M. Lalitha Supriya
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Dr. P. Jyothi
****Professor, School of Management Studies, University of Hyderabad, Hyderabad, Telangana, India.*

Abstract : Insurance is undoubtedly an efficient tool for financial protection. But, the question remains: is traditional insurance still preferred by today's tech-savvy generation? The current study examines the effect of various insurance attributes on customer preferences for digital insurance. Data is collected from 255 young adults enrolled in postgraduate programs across Telangana and probit regression is employed for data analysis. The findings indicate a positive association between digital insurance preference and insurance attributes viz., ease of buying and affordability. A significant gender disparity is also observed, with men exhibiting a notably higher inclination towards digital insurance. This study offers insights for designing digital insurance products to effectively facilitate the transition of customers from traditional to digital platforms.
Keywords: Digital Insurance, Traditional Insurance, Insurance Penetration, Customer Preference.

Introduction

In today's VUCA environment, which stands for Volatility, Uncertainty, Complexity, and Ambiguity, society grapples with significant challenges. Insurance assumes a pivotal role in this landscape, acting as a vital risk management tool. It not only protects individuals and families, ensuring their financial security in times of adversity, but also helps mitigate the impact of unforeseen income losses Lin et al., (2019); Liu et al., (2023); Ul Din et al., (2017).

In this regard, Government of India has made remarkable progress in extending insurance access to the vast segments of population which remained excluded from insurance safety net Economic Survey, (2024). However, facilitating access doesn't necessarily translate into increased product usage Ravi & Singh, (2016). This may be because of lack of awareness, lack of tailored products, and low perceived need for insurance Kiwanuka & Sibindi, (2023); Mehta, (2018); Business Standard, (2023). As a result, a significant insurance gap exists in India, with both life and non-life coverage falling short.

The emergence of digital insurance has injected a renewed sense of optimism towards filling the insurance gap. Digital Insurance offers several benefits to customers such as ease of buying, efficiency in claim settlement, information availability and customer support, and

3.

Managerial Finance

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RESEARCH ARTICLE | JULY 10 2023

Financial planning propensity in working adults: exploring the role of media

Radnyi Godase; Jyothi P; M. Lalitha Supriya

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Purpose

The study aims to explore the role of media in enhancing financial knowledge, financial self-efficacy, and financial planning propensity among working adults in India.

Design/methodology/approach

Primary survey-based data (n = 542) were analyzed using covariance based-structural equation modeling.

Findings

Media has a positive impact on financial knowledge. Financial knowledge positively mediates the relationship between media usage and financial self-efficacy and financial planning propensity. Also, financial knowledge and financial self-efficacy positively mediate the relationship between media usage and financial planning propensity.

Originality/value

The role of media as a significant agent of consumer socialization is an under-researched area. The authors contribute to the existing literature by demonstrating the role of media in improving financial knowledge and financial self-efficacy to promote financial planning propensity among working adults.

Keywords: Media influence, Financial planning, Financial knowledge, Working adults

Determinants and Consequences of Health Insurance Literacy – Role of framing bias in the purchase decision

by M.Lalitha Supriya

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