



Title: Understanding Vaping Perception and Decision-Making Among Tertiary Students in Invercargill, New Zealand

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Degree: Master of Applied Management

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Year: 2025



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Understanding Vaping Perception and Decision-Making Among Tertiary Students in Invercargill, New Zealand

by

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Research Project Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Applied Management

in the School of Business
Faculty of [New Media, Business and Arts]

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SOUTHERN INSTITUTE OF TECHNOLOGY

(An affiliate of the New Zealand Institute of Skills and Technology)

Due Date: 14th November 2025

Word Count (excluding contents and appendices): 21,145

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Student Declaration

“I, Chinthaka Nalin De Lanerolle, declare that the Master by Research Project entitled Understanding vaping perceptions and decisions-making among tertiary students in Invercargill, New Zealand is my own work and contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work. The ideas presented are my own opinions and not necessarily those of Southern Institute of Technology”.

Signature: Chinthaka De Lanerolle

Date: 14-11-2025

Abstract

This study explored the vaping behaviours of tertiary students in Invercargill, New Zealand, and it focused on how students are introduced to vaping, their purchasing decisions, and the psychological and social factors influencing continues use or cessation.

A qualitative research methodology was used, and semi-structured interviews were conducted with ten tertiary students, including both local and international. Data were analysed using thematic analysis. Research identified key patterns such as peer influence, product accessibility, purchasing behaviour, emotional triggers and quitting intentions. The findings revealed that most students were introduced to vaping through social settings rather than online influence. Further study revealed that curiosity, peer recommendations, and flavour appeal were the main factors that influenced the vaping initiation among tertiary students. Furthermore, affordability, convenience, and promotional deals were the main factors that influenced the purchasing decision of the tertiary students. Many students reported that they were using vapes as a coping mechanism for stress, loneliness, and boredom.

The study found that social environment, stress, and accessibility were the main drivers behind continuing of vaping and lack of reliable information, and emotional triggers acted as barriers to quitting vaping. Furthermore, participants mentioned alternative coping strategies such as exercise, art and chewing gum.

Recommendations include implementing target awareness campaigns, improving clear health information channels, and promoting non-vaping coping strategies.

Further research is suggested to explore regional and cultural differences and inform applied management practices related to students' well-being and public health.

Keywords: vaping behaviour; tertiary students; peer influence; purchasing decisions; coping strategies.

Dedication

This work is dedicated to my mother, my wife and two beautiful daughters. Thank you for your support, patience, and encouragement to success in this journey. This research is not only my own effort. It reflects your love and support.

Acknowledgement

I thank my supervisor for constant support and important guidance throughout my academic work. His feedback and his academic guidance helped me to succeed in this research project.

My family members have been with me throughout every challenging moment I have faced. I want to thank my wife, mother, and two daughters for your understanding, patience, and motivation have always been a strength for me throughout this period.

I am also grateful to my friends who provided encouragement and support when I needed. Your support and friendship really help me for this research.

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List of Acronyms

SIT	Southern Institute of Technology
TPB	Theory of Planned Behaviour
EKB model	Engel-Kollat-Blackwell model
NZD	New Zealand Dollars

Chapter 01. Introduction

1.1 Introduction

Vaping is a growing health issue in many countries, including New Zealand, due to the rapid increase among young adults, including tertiary students (Wamamili et al., 2025, p. 13). Central to the discipline of public health is understanding emerging trends such as vaping and their social and behavioural implications. Recent developments in the marketing of vaping as a safe alternative to traditional smoking (Cox et al., 2023, p. 98), availability of high-nicotine and low-cost vape products (Ball et al., 2024, pp. 76-80), and the increasing popularity of vaping products among students has shown the need for more focused research on vaping behaviour. This study aims to explore the vaping perceptions and decision-making among tertiary students in Invercargill, New Zealand.

This chapter provides an overview of the research. It begins with the background and context of the study. Then it discusses the research problem and outlines the methodology. Furthermore, this chapter outlines the key aim and objectives of the study and provides a brief overview of the thesis structure and the chapter to follow.

1.2 Statement of the problem

1.2.1 Background and context

Vaping products were initially introduced to the market as a safer option to the traditional smoking. However, it becomes a worldwide health issue, due to the rising prevalence, addictive nature, and associated health risk. According to the World Health Organization (2024), 9.7% of young adults who were age between 13 – 15, worldwide had tried either tobacco or e-cigarettes, and which indicates a significant global health concern. In the United States, data from the “National Centre for Health Statistics”, showed that in 2021, young adults between 18-24 recorded the highest rates of e-cigarette use among all adult groups (Kramarow & Elgaddal, 2023). Further, more than 11% of individuals in this age group has been identified as current

users. This data reveals that clear upward trend in the use of e-cigarettes among young populations.

New Zealand has shown a similar upward trend in vaping. The study of “2023/24 New Zealand Health Survey on Vaping prevalence and trends” carried out by Nip et al. (2024) show that daily vaping has increased from 3.5% in to 11.1% in between 2019-2024. Furthermore, they observed that young adults among aged 18-24, daily vaping rates had reached up to 26.5%. This shows that more than one in four people in this age group are vaping daily. This highlights the serious public issue in New Zealand and importance of regular monitoring and more targeted, up-to-date research.

1.2.2 Statement of the problem.

A considerable amount of literature has been published on national surveys of vaping prevalence by providing broad insights across the country. These studies focused on larger urban cities of Auckland, Wellington, and Christchurch but little attention has been given to the social factors, cultural elements, and economic conditions affect vaping behaviour in smaller communities.

The research conducted in Invercargill which is situated in Southland, New Zealand and it provides valuable information for this study due to its small population, limited number of tertiary students, and the close-knit community. These factors may shape vaping behaviour differently than in larger urban areas. Tertiary students in Invercargill are also exposed to various levels of influences such as marketing, peer influence, public health campaigns, and the availability of products. This study explores how students are exposed to vaping products, the purchasing behaviour of the students, and the factors that influence whether they continue, reduce, or quit. The research outcome from this study will help to develop targeted interventions, educational strategies and policies which suit for regional needs.

Furthermore, numerous studies have been explored the factors influencing to the prevalence of vaping. According to Blank and Hoek (2024, p. 686), many young adults begin vaping since they believe it is a safe alternative to traditional smoking. However, a detailed cross-sectional survey of “Cigarette smoking and e-cigarettes

use among university students in New Zealand before and after nicotine containing e-cigarettes became widely available” done by Wamamili et al. (2021, p. 97) illustrated that most of the university students vape for the reasons, other than quitting smoking. According to Nicolaou et al. (2022, p. 96) young people started vaping because of curiosity, socialization or fit in with the friends. This view is supported by Hill et al. (2024, p. 5) argued that young people started vaping because of peer influences. Other study carried out by Lyons et al. (2024, p. 22) highlighted that social media platforms have become a common place where young people connect with vaping products.

Existing studies have considered the relationship between vaping behaviour and the stress experienced by university students. This view is supported by Ahuja et al. (2025, pp. 550-554) highlighted that college life is stressful, and some young adults use vaping to manage the stress. In addition to that, Hill et al. (2024, p. 1) point out that the lower cost of vaping products makes them more accessible and which has contributed to the growth of vaping among young adults. Another study carried out by Nicolaou et al. (2022, p. 96), highlighted the availability of flavours further contributes to this habit among teenagers.

According to the Ball et al. (2021, pp. 547-552) during 2018-2019 period, vaping products were poorly regulated in New Zealand. Further, they highlighted that high-nicotine disposable vapes also came to the New Zealand market and young people were heavily targeted during that period. The research carried out by Nicolaou et al. (2022, p. 99) found that many young adults continue vaping although they understand it is harmful to their health. A comparative study by Baenziger et al. (2021, p. 1), noted that e-cigarette users are about three times more likely to start smoking regular cigarettes than those who do not vape.

The research by Le et al. (2025, pp. 7-8) shows that educational programmes and interventions help to improve students’ understanding relating to the health risks of vaping and promote vaping cessation efforts. This study focuses to address that gap by examining how students are introduced to vaping products, examining consumer purchasing behaviour and product preferences, and understanding how students decide whether to continue, reduce, or quit vaping. Furthermore, this study

provides valuable insights that can help inform intervention, develop awareness, and guide policy development at the regional level.

1.2.3 Introduction of Methodology

This study guides an interpretivist research philosophy, which focuses on understanding the meaning and motives behind people's actions. Interpretivism aims to explore how individuals interact with others in their social and cultural environments (Adil et al., 2024, p. 6). By exploring students' personal experiences and views, this approach helps to understand why and how they are engaged with vaping, as well as the barriers to quitting vaping.

Data for the study will be collected through semi-structured interviews with the tertiary students in Invercargill. Qualitative research is suitable for understanding what, how and why something happened, (Saunders et al., 2023, p. 447) and it focuses on the meaning behind the people's actions and the connections between their experiences (Saunders et al., 2023, p. 185). Semi-structured interviews, which are one of the main tools used in qualitative research which allow to researcher to collect in-depth information from the participants while keeping the focus of the study, and they allow flexibility and adaptability for the researcher to stay on track and ask follow-up questions depending on how the conversation flows (Ruslin et al., 2022, p. 22).

Thematic analysis will be used to analyse the data. Thematic analysis helps to explore the factors behind people's thoughts, behaviours and actions (Saunders et al., 2023, p. 665). It helps to understand the vaping habits and their vaping experience and health perception of vaping in their own way.

1.3 Significance of the study

Vaping prevalence among young adults aged 25-34 has grown rapidly in New Zealand, and it became a serious public health concern (Wamamili et al., 2025, p. 13). This study focuses on tertiary students in Invercargill, and their experiences are different from the tertiary students in larger cities. Although most national research

looks at urban areas, there is little attention given to a small region like Invercargill. Further regional settings, such as Invercargill, provided a different social life, financial pressure, and the education background, and which may influence in a different way. Further understanding the patterns, motivations, and social influences on vaping in this group can offer valuable insights that contribute to meeting the national smoke-free goal in New Zealand. Furthermore, it also highlights the importance of creating more targeted policies and youth-focused interventions rather than regulations to focus on the behavioural change of students.

This study contributes to the Applied Management field by providing important data to decision-making in public health management and policy development. Further, this study is directly connected to areas such as stakeholder engagement, youth behaviour management, and policy development. Further findings of the research will help regional health organizations, educational institutes, and community groups to design more effective intervention and awareness programmes.

1.4 Research question/aim and objectives

Research Question

How do tertiary students in Invercargill perceive vaping products and make decisions about their use?

Research Aim

To explore how tertiary students in Invercargill perceive vaping products and make decisions about their use.

Objectives

1. To explore how students are introduced to vaping products.
2. To examine consumer purchasing behaviour and product preferences.
3. To understand how students decide whether to continue, reduce, or quit vaping.

1.5 Structure of thesis

Chapter 1: Introduction

This chapter presents the background and context of the study and highlights the key problem of how tertiary students in Invercargill perceive vaping products and make decisions about their use. Further, it describes the research questions, aim and objectives, and brief introduction to the methodology. Finally, the chapter also discusses the significance of this study and presents an overview of the thesis structure.

Chapter 2: Theory and Industry Analysis.

This chapter presents the key theoretical framework relevant to vaping behaviour including the Social Influence Theory to understand the factors influencing the vaping behaviour, the Theory of Planned Behaviour (TPB) to explore why students vape and what the key barriers to quitting vaping are, and the Engel-Kollat-Blackwell (EKB) consumer decision-making model. Furthermore, this chapter will also highlight the national health goals such as New Zealand's smoke-free 2025 target and discuss regulatory developments relating to vaping.

Chapter 3: Literature Review.

This chapter analyses the existing literature about prevalence of vaping, young adults and vaping products, purchase behaviour and product preferences, challenges associated with quitting or reduce vaping, reasons for reducing or quitting vaping. This review aims to explore both national and global perspectives and identify gaps in current research focusing on the regional population, such as Invercargill. Further, this review provides the academic foundation for the research question and methodological approach.

Chapter 4: Methodology

This chapter explains the research methodology, philosophy, approach, and design. It justifies the use of a qualitative research, interpretivist approach with semi-structured interviews. It also discusses the sample selections and data collection procedure, ethical considerations and the thematic analysis process which was used to analyse and interpret the data.

Chapter 5: Result and Discussion

This chapter presents the key findings of the study. Data collected through the qualitative method is analysed by the thematic framework and provides a deeper understanding of the key issues investigated. Further, it demonstrates how the research objectives described in Chapter One have been addressed.

Chapter 6: Recommendation and Conclusion.

This last chapter summarises the key findings and their implications of the research. Further, it provides practical recommendations for educators, policymakers, and health professionals to address vaping among students. The limitations of the study are also discussed in this chapter, along with the suggestions for future research.

Chapter 02. Theory and Industry Analysis

2.1 Introduction

This chapter provides the theoretical and contextual background for investigating of how tertiary students in Invercargill perceive vaping products and make decisions about their use. Additionally, it offers an industrial analysis of the vaping industry in New Zealand. This study tries to understand the behavioural, psychological, and social factors that influence vaping behaviours, examines consumer purchasing behaviour and product preferences and explores how students decide whether to continue, reduce, or quit vaping. Further study helps students, educators, policymakers, and healthcare providers to reduce youth vaping and promote a healthy lifestyle in New Zealand. This chapter begins by discussing Social Influence Theory, the Theory of Planned Behaviour (TPB), and the Engel-Kollat-Blackwell (EKB) Consumer Decision Making Model to explain motivations, attitudes, and the decision-making process of vaping behaviour.

In addition to the theoretical background, this chapter provides a detailed analysis of the vaping industry by focusing on recent regulatory changes and how their implications affected to the young people and students. Furthermore, PESTEL analysis is also used to identify political, economic, social, technological, environmental, and legal factors that affect to the vaping industry in New Zealand. Finally, a stakeholder analysis discusses about the key stakeholders, including students, health groups, vape retailers, and government bodies, their interests, and their relationships.

2.2 Theoretical Analysis

2.2.1 Social influence theory

Social influence theory is a useful to understand reasons for vaping has become popular among young adults, especially tertiary students. Theory explains how individuals' attitudes or behaviour change through social influence (Davlembayeva & Papagiannidis, 2025, p. 1). In the context of this research, the

theory helps to explain how peer pressure, social media exposure and normative beliefs affect the initiation of vaping, raising the prevalence and continuation of vaping among tertiary students in Invercargill. Kelman (1958, p. 53) outlines three main forms in which social influence occurs, such as compliance, identification, and internalization.

Compliance occurs when an individual accepts the social influence not because they truly accept it, but because of gaining specific rewards, approval, or avoiding punishment, and a person's motivation is derived from the social pressure rather than personal belief (Kelman, 1958, p. 53). In relation to vaping, students may initiate vaping in order to fit in or socialize with their peers (Nicolaou et al., 2022, p. 96). Compliance may explain why some students vape to fit in with their peers or avoid social exclusion.

Identification reflects the process of adopting behaviours to build or maintain a meaningful relationship with a person or a group. This relationship focuses on copying the other person's role or establishing a mutual relationship. In this case, an individual believes that what they are doing is irrelevant, but they adapt to such behaviour because it helps to develop a close relationship with a person or a group. The real satisfaction derived from such behaviour is due to being part of that relationship, not just agreeing to such behaviour (Kelman, 1958, p. 53). Students may imitate vaping habits to align with their close group.

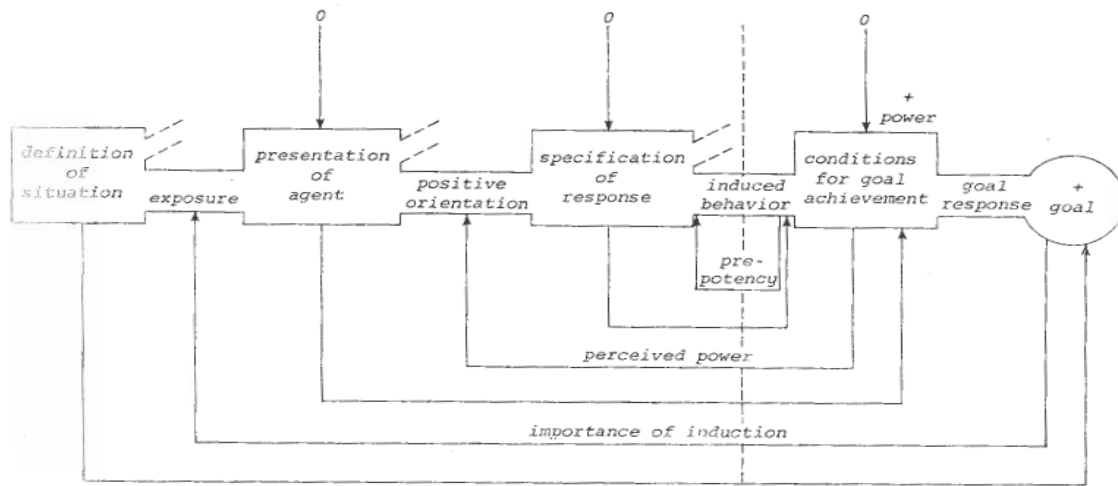
Internalization refers to when individuals accept the social influence because it is meaningful and rewarding, and it fits well with their own values and beliefs. Furthermore, they may feel that such behaviour helps to solve a problem in their life or support their personal needs. Further satisfaction for internalization comes from believing the idea or behaviour fits with the person's own values and the way they think (Kelman, 1958, p. 53). For example, viewing vaping as a coping strategy for stress or self-expression.

In the context of vaping, these social influences can be seen among tertiary students. For example, students may start vaping to fit with their peer group (compliance), continue vaping due to the acceptance of social media influences (identification), and over time, students start to vape as a normal and accepted habit

of being students (internalisation). This transition from internal motivation to external motivation is important to understanding why vaping becomes a long-term habit.

According to Kelman (1974, p. 132), the characteristics of a social influencing situation were described using the following diagram.

Figure 1
Structure of a Social Influence Situation



Source - Kelman (1974, p. 132)

As illustrated in Figure 1, the process of influence begins with an individual evaluating the three key stimulus elements on the left-hand side of the model (to the left of the vertical broken line), including the definition of the situation, the presentation of the agent, and the specification of the response. These steps are necessary to occur for positive influence. The individual's responses to these stimulus elements are depicted in exposure, positive orientation and induced behaviour, which reflects how the influence is received to the individual and how it is processed (Kelman, 1974, pp. 131-136).

Definition of the situation

This refers to how individuals understand the situation based on the deliberate effort of an influencing agent (an Influencing agent is a person or group that encourages the individual to achieve their goals) to highlight what is at stake for them in this situation. If these efforts of the influencing agent reveal a gap between

the individual's present beliefs, attitudes or actions, the individual may become more aware of the new behaviour (Induced response), and he will be ready to change (Kelman, 1974, pp. 131-136).

Presentation of the agent

This refers to the deliberate or unintentional communication of the influence situation to the individual conveying information related to the characteristics of the influencing agent, such as status, expertise, prestige, or group membership. If this communication is positive, the individual will be encouraged to consider the agent's influence (Kelman, 1974, p. 134).

Specification of the response

This refers to the process where the influencing agent conveys the relevance of the behaviour to achieving the individual's goal. Further influencing agents try to reduce any confusion or resistance and facilitate social facilitation or step-by-step involvement to increase the desire of the individual to adopt the induced behaviour (Kelman, 1974, p. 135).

The right-hand side of the model represents the perception of the situation and the expectation of the positive outcome of adapting to the induced behaviour.

In this research, interview questions such as, what role do your friends or social circles play in your exposure to vaping, have peer recommendations influenced your purchase of vaping? They are designed to evaluate how and to what extent social influence affects an individual's behaviour. Lyons et al. (2024, p. 22) found that exposure to social media content was a common factor in vaping among young adults and Hill et al. (2024, p. 1) confirmed that peer influence is a powerful motivator for the initiation of vaping among students.

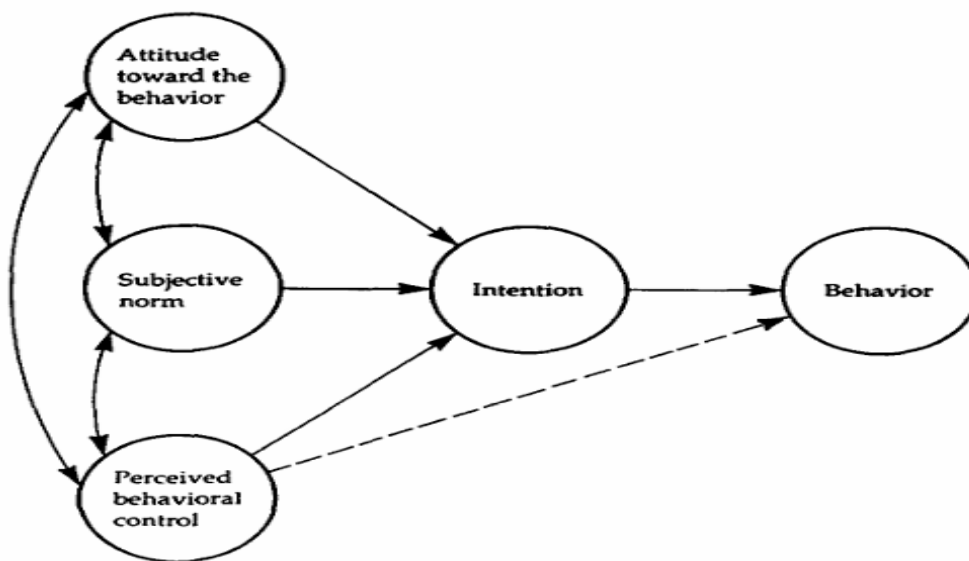
In summary, social influence theory also helps to understand why and how vaping behaviour spreads among tertiary students and to explain how social influence, both online and offline, affects the vaping behaviour. These could help

develop effective intervention programmes, evaluate the social media influence, and develop policies to create a healthy, vape-free environment.

2.2.2 Theory of planned behaviour (TPB)

The theory of planned behaviour (TPB) was developed by Ajzen (1991) and which is a psychological framework used to understand the individual's plan to engage in a specific human behaviour (Ajzen, 1991, p. 181). This framework can be used to predict and understand the vaping behaviour among tertiary students. According to the TPB, the model identifies three main components that shape behavioural intentions, such as attitude toward the behaviour, subjective norms, and perceived behaviour controls (Ajzen, 1991, p. 182).

Figure 2
Theory of Planned Behaviour



Source - Ajzen (1991, p. 182)

Figure 2 describe the Theory of Planned Behaviour. A Key factor in the TPB is the individual's intention to engage in a behaviour. This intention reflects how much effort they are willing to try and how committed they are to performing the behaviour.

Generally, the stronger the intention, the more likely to perform the behaviour (Ajzen, 1991, p. 181).

In relation to vaping among tertiary students, TPB helps to understand why students may initiate or continue vaping even though it is associated with major health risks. First, attitude refers to the overall evaluation of both advantages and disadvantages of performing the subject behaviour (Motos-Sellés et al., 2025, p. 2). If students believe vaping is enjoyable, stress-relieving (Daniel et al., 2023, p. 108), or safer than traditional tobacco smoking (Motos-Sellés et al., 2025, p. 2), they develop a positive attitude toward vaping, which may influence their desire to vape.

Subjective norms refer to the perceived social influence on behaviour, and which can be divided into two main types such as descriptive norms and prescriptive norms (Motos-Sellés et al., 2025, p. 2).

Descriptive norms focus on beliefs about vaping behaviour based on the actions or behaviour of the social group around students, whether to engage or refrain from vaping. For example, if the students think that vaping is a behaviour that most of the students do, it is normalized among the students (Motos-Sellés et al., 2025, p. 2).

Prescriptive norms are focused on the belief about vaping based on the social opinion that vaping is considered an important behaviour. For example, young adults believe that vaping is socially acceptable when it is the opinion of the people around them (Motos-Sellés et al., 2025, p. 2).

Perceived behaviour control addresses about an individual's belief in their ability or inability to manage or resist their consumption behaviour is based on the situation (Motos-Sellés et al., 2025, p. 2).

The TPB helps to explore personal evaluation or belief about vaping. Attitudes are reflected in questions about product preferences and perception of harm by asking questions like do you believe students like yourself have access to all product-related information to make informed choices about vaping? Subjective norms are examined through questions like what role do your friends or social circle play in your exposure to vaping? and finally, perceived behavioural control is explored by questions like have you ever tried to quit vaping? and what factors may

support or hinder their attempt to quit? These responses provide a clear understanding of how social and personal factors shape vaping decisions among tertiary students.

In conclusion, by analysing the influence of personal belief, social norms, and perceived control, TPB in this research offers a clear understanding of students' vaping.

2.2.3 Consumer decision-making model (Engel-Kollat-Blackwell)

The Engel-Kollat-Blackwell (EKB) consumer decision-making model helps to understand and analyse the purchasing behaviour and decision-making process of consumers. The EKB model outlines five continuous stages in the consumer decision-making process, such as problem identification, information search, evaluation of alternatives, purchase decision and post-purchase behaviour, to explore the customer decision-making process (Shen, 2022, p. 2433).

Problem Identification – When consumers notice a difference between their desire and actual circumstances, consumers move on to the problem identification stage (Shen, 2022, p. 2433). In the vaping context, tertiary students may experience problem recognition when they seek stress relief, curiosity, or a social connection. According to Shen (2022, p. 2433), in this stage, online information, and advertising draw consumer attention to identify the unrecognized needs. Further, the problem recognition stage helps to examine how students are introduced to vaping products.

Information Search - Once the consumers identify the problem, they begin to gather information about the possible solutions. There are two types of information searchers, such as internal and external searches. Internal searches find information from available data or previous purchasing experiences. If the internal data does not provide enough insights, consumers move to external searches, such as mass media, marketers, and peers (Shen, 2022, pp. 2433-2434). In relation to vaping, students may review reviews, refer their peers for recommendations, or observe promotions in stores and on social media. This stage is important for understanding how students gather information about their preferences before making a purchase.

Evaluation of alternatives – When consumers gather information, they assess the different options available to them. In this evaluation process, consumers consider their criteria, beliefs, attitudes and personal goals. (Shen, 2022, p. 2434). For students, key evaluations include flavour selection, nicotine strength, price, and brand reputation.

Purchase decision – After evaluating the different possible solutions, customers decide on the best solution that can solve their original problem and take purchase decision. Further in this stage, some unpredictable issues such as affordability and accessibility may effects the purchase decisions (Shen, 2022, p. 2434). In the students vape market factors such as, affordability, price, and accessibility are main concerns. Understanding these factors helps businesses focus on an ethical marketing approach and provides insights for policy recommendations.

Post-purchase evaluation - After purchasing the products consumers evaluate whether it meets their expectations. Further they keep their experiences in their memory (Shen, 2022, p. 2434). Positive experience of vaping, such as enjoyable flavours, may encourage repeat purchases, and negative experiences such as health effects, dissatisfaction with product quality, or high cost, may lead to reduced or cessation of vaping. This helps to identify students' decisions about continuing or reducing their vaping.

In conclusion, applying the EKB models to this study helps to provide a clear marketing and management focus to analysing the vaping habit among tertiary students. It allows to focus on how marketing efforts, product attributes and social influences are affecting purchasing decisions.

2.3 Industry analysis

During the past five years, vaping among young adults has significantly increased in New Zealand (Nip et al., 2024). According to the New Zealand Health Survey, the daily vaping rates of 18-24 years-olds rose from 5% to 26.5% during 2018- 2024 period (Nip et al., 2024). This research reveals that regional areas like Invercargill also show similar patterns. It is suggested that the national pattern extends to the regional market.

The New Zealand government implemented new regulations between 2023-2025 period to address these trends (Ministry of Health New Zealand, 2025). The government established a ban on disposable e-cigarettes, implementing rules about product imagery and flavour descriptions, school proximity restrictions, child safety features and restrictions on discounts and giveaways. These controls help to reduce product availability, protect young people, and shape market operations.

According to Hoek et al. (2025) vape business are also adjust to these developments. According to them, now companies promote reusable and hybrid devices that comply with the new rules and by employing referral-based marketing strategies, such as acquiring new customers from the existing customer base while maintaining legal limits on customer interaction.

These changes highlighted that the regulatory climate, retail strategies, and promotions are directly affected to the Invercargill vape market, and which creates both barriers and opportunities for marketing and consumer behaviour. Understanding these market changes is important to create ethical and effective marketing practices and develop strategies for students.

2.3.1 PESTEL analysis

PESTEL analysis is a structural framework used to identify and evaluate the Political, Economic, Social, Technological, Environmental, and Legal factors that influence the organization or an industry. Further, it provides a structured approach to understand macro-environmental forces that can shape behaviour, policies, and market conditions (Yusop, 2018, p. 34).

Political factors

Over the period, the New Zealand political influence on vaping has been regularly changed. The government has implemented rules and regulations for sales, marketing, and products visibility to reduce youth access and achieve Smokefree Aotearoa 2025 goals.

After implementing the Smokefree Environments and Regulated Products Amendment Bill (No 02) in December 2024, the New Zealand government

introduced four main vaping regulations. These changes show the clear political commitment to protect young people from the growing influence of vaping products, while supporting to the adults who use vaping as a tool to quit smoking tobacco cigarettes (Beehive.govt.nz, 2025).

- **Nationwide ban on disposable vapes** - Officially implemented on 17 June 2025. According to the Associated Health Minister, “Honourable Casey Costello”, these products are popular among young users and create a serious risk to both public health and the environment as well (Beehive.govt.nz, 2025).
- **Marketing and display restrictions** – The New Zealand government has imposed new visibility rules against marketing of vape products (Beehive.govt.nz, 2025). Now, all vape products must be kept out of sight in retail stores such as dairies, petrol stations, and supermarkets. Further online stores based in New Zealand will also no longer display product images or advertising (Ministry of Health New Zealand, 2025). These restrictions are designed to reduce the visual appeal and availability of vapes to young people.
- **Increased penalties** – The Government has increased the penalties up to NZD 400,000 for manufacturers and NZD 50,000 for retailers for breaching the rules or selling vapes, cigarettes or other regulated products to minors. (Beehive.govt.nz, 2025).
- **Proximity rules** - Adding proximity restrictions by limiting the vape retail outlets near schools and other youth-sensitive areas (Beehive.govt.nz, 2025).

In addition to the above the government has allocated 18 new enforcement officers nationwide to monitor compliance and enforcement actions if needed (Beehive.govt.nz, 2025).

These changes are in line with the Coalition Government’s promises to reduce youth vaping and create healthier, smoke-free environments in New Zealand. making vapes available to adults who want to quit smoking, while keeping them away from young people (Beehive.govt.nz, 2025).

Economic factors

The vaping sector is now become an important part of the New Zealand economy. According to Statista (2025), New Zealand e-cigarette market in 2025 is valued for USD 377.5 Mn (equivalent to around NZD 625 million) approximately. Furthermore, when compared with the year 2024, the annual growth rate is 5.8% and it is projected that vaping market in New Zealand will experience an annual growth rate of 3.37% from 2025- 2030. When considering the per person revenue, in New Zealand everyone will be projected to generate USD 81.04 for e-cigarette revenue in 2025.

The vaping industry in New Zealand experiences a rapid growth due to various factors such increased demand as an alternative to traditional tobacco smoking, consumers' health consciousness, lower cost and availability of a variety of flavours (Statista, 2025). Furthermore, Ball et al. (2024, p. 72) highlighted that vaping products are popular among students due to their low cost and availability of frequent price discounts and giveaways. This is important because the availability of cheap disposable vaping products is a convenient entry point for many young adults, including tertiary students. However, Beehive.govt.nz (2025) reveal that with the change of vaping regulation in 2025, now the economic landscape of vaping in New Zealand has undergone a drastic change.

However, despite of these new regulations, due to the macroeconomic factors such as changing customer preferences, high disposable income of customers and willingness to spend on premium e-cigarette products is expected to the growth of e-cigarettes market in New Zealand (Statista, 2025).

Social factors

The New Zealand population is approximately 5.3 million people as at 2025, and Invercargill accounts for approximately 56,000 people. (Statistics New Zealand, 2025). According to National Health Surveys, vaping prevalence in 2023-2024 among adults who are aged fifteen and above was around 11.1% which is equal to over 480,000 people. Among these, youth and young adults are represented as the fastest growing segment, and which is reporting as 33.7% of 18–24-year-olds people vape regularly and 26.5% vaping daily (Nip et al., 2024).

Vaping has become popular among youth and students' culture and which is motivated by social factors such as peer influence (Nicolaou et al., 2022, p. 96), exposed to Facebook, Instagram, YouTube, Snapchat, TikTok content (Lyons et al., 2024, p. 22), and less harmful substitute for conventional tobacco use (Ball et al., 2024, p. 72). Furthermore Lyons et al. (2024, p. 27) demonstrate that lots of young adults viewed vaping as a stylish and trendy product.

According to a local survey carried out by Invercargill's youth council, by observing 164 young respondents, more than 25% of respondents were found as daily vapers due to social reasons, and nearly 50% of the respondents started vaping due to social pressure from their peers or friends (Tomsett, 2023). Although there is no specific data on vaping at the Invercargill level, the findings above show that Invercargill also mirror national trends, showing that peer influences contribute to the rise in youth vaping prevalence.

Public health messaging (Graham et al., 2021, p. 923), educational intervention and vaping cessation programs help to encourage vaping cessation among young adults (Rahman et al., 2025, p. 457). Despite these efforts, peer networks and online communities caused the prevalence of vaping among young people in Invercargill.

Technological factors

Technology has played a major role in making e-cigarettes more appealing, especially among young people. Over the years, vape devices have become much more popular and continued development have been identified in vaping technology with advancement in device design such as Pod systems (Compact devices with pre filled or refillable pods which offered hazard free vaping experience for beginners), Mod systems (Allow users to adjust setting like wattage and temperature), All in one devices (combined features both Mod and Pod systems with adjustable settings) , enhanced battery life and e-liquid formulation that makes the devices are more efficient, user friendly, and enjoyable (NZVapor, 2024). These developments in technology make vaping more attractive, especially to young people.

Some of the latest devices include smart vaping technology and users can connect to their vape products to a smartphone via Bluetooth. Furthermore, using the specially designed mobile apps, they can track their usage, adjust power levels,

and locate their device if it is lost. These smart features not only enhance the convenience but also make it a high-tech lifestyle product rather than a nicotine delivery tool (NZVapor, 2024).

Furthermore, advanced e-liquid has also been innovated by introducing nicotine salts for smoother throat hits, offering variety of vape flavours such as classic tobacco, menthol and exotic fruits and customized options to blend the flavours. Further packaging technologies now focus on child-proofing and tamper resistance to meet the safety regulations (NZVapor, 2024).

Prior to the regulatory restrictions, social media platforms, like Instagram, TikTok, and YouTube, were widely used by the vaping companies to market their products (Lyons et al., 2024, p. 22). However, recent regulations have banned online advertising, restricted product imagery, and tightened online sales in New Zealand (Ministry of Health New Zealand, 2025). Despite these strict advertising limits, the technology of vaping products continues to attract young users.

Environmental factors

The rise of disposable vapes in New Zealand has created serious environmental concerns in regions such as Invercargill. Although vaping has helped many people to quit smoking it creates various environmental issues from disposable vapes, plastic casings, lithium batteries, toxic metals, and nicotine residue. Further, damaged lithium-ion batteries can ignite fires (Bhetuwal & Bullen, 2025, p. 2).

Field audit and research in New Zealand has found that a growing amount of vape litter with broken devices, which are unrecyclable and creates environmental hazards (Bhetuwal & Bullen, 2025, p. 2). Although the New Zealand government banned the disposable vape in June 2025 to protect youth from vaping (Beehive.govt.nz, 2025, p. 1), the law does not address the long-term environmental impact.

Further Bhetuwal and Bullen (2025, p. 3) revealed the findings of the University of Auckland “Led research on vape waste in Auckland’s Central business district” and stated that damaged vape products were scattered around roadside gardens, gutters, and hospitality areas. which shows the environmental hazard of vaping disposables. These environmental hazards can also impact Invercargill as

well and as cited by Bhetuwal and Bullen (2025, p. 4) Improved infrastructure, stronger industry accountability, and public education help to mitigate the environmental impact of these products.

Legal Factors

New Zealand's legal system is based on the Westminster model. It is based on a concept called separation of powers, and institutions of government divided into three branches such as Parliament, Executive and Judiciary. Legislation is passed by parliament and interpreted by the judiciary. Further, criminal law and civil law are the two main streams of New Zealand law, and other streams of law are family law, environmental law, and commercial law. (Ministry of Justice New Zealand, 2025).

The legal landscape of vaping in New Zealand has changed over the period, with the growing concern of youth vaping. The Smokefree Environments and Regulated Products Act 1990 amended in 2024 and 2025 to regulate vaping products in New Zealand by focusing on protecting young people (Ministry of Health New Zealand, 2025). A recent amendment was implemented on 17 June 2025 by banning disposable vapes, tightening age restrictions, and visibility restrictions to hide the vaping products from public in stores and online stores (Beehive.govt.nz, 2025).

Further penalties have been significantly increased up to NZD 400,000 for importers, and NZD 50,000 for retailers who breach the law (Beehive.govt.nz, 2025). These legal restrictions are imposed to protect youth access while available to adults as a smoking cessation tool (Beehive.govt.nz, 2025).

2.3.2 Stakeholder analysis

Stakeholders have different priorities, influences, and responsibilities, and understanding their role is important to evaluate the policies, develop health and business decisions in the student vaping landscape.

Government and regulatory bodies

Ministry of Health, Te Whatu Ora – Health New Zealand, the Associate Ministry of Health and the New Zealand Parliament are the main stakeholders in

government and regulatory bodies in New Zealand (Ministry of Health New Zealand, 2023, pp. 1-6). According to Beehive.govt.nz (2025) these agencies create and enforce laws such as the Smokefree Environments and Regulations Products Act and its 2025 amendments. The government's primary focus is public health, youth protection, and oversight of the regulatory requirements. Further enforcement teams monitor retail compliance and impose penalties for breach of regulations (Beehive.govt.nz, 2025).

Vaping industry stakeholders

Vape retailers (both physical and online), vape manufacturers and importers (Example, NZVapor) and industry lobby groups can be identified as vaping industry stakeholders (Hardie et al., 2023, pp. 875-877). These stakeholders are focusing on product innovations, sales, and marketing. With the banning of disposable vape in 2025, and the implementing marketing restrictions have significantly impacted to the small vape retailers (Beehive.govt.nz, 2025), especially in regions like Invercargill.

Health and advocacy groups, and educational institutes

Health-focused non-government organizations, research groups, tertiary education providers and health service delivery providers can be identified (Hardie et al., 2023, p. 876). These groups conduct research, provide valuable information to the government and healthcare organizations to develop policies and strategies to control youth vaping and conduct campaign to prevent youth vaping. They highlighted the risks of addiction, the environmental hazards of vape waste, and the impact of education outcomes.

Youth and Students

High school and university students, youth pool networks, Influencers, and social media communities can be identified. Young adults are the key consumers of vaping products. Most of the young adults and students consider vaping as a safer alternative to traditional tobacco. Their behaviour is influenced by the factors such as peer pressure, online content, and product design.

Different stakeholders have separate priorities. Vape manufacturers and retailers are focus on innovations, product sales and staying competitive. Further

public health groups and regulators are more concerned with reducing harm and protecting young people. Understanding the relationship with these is important.

2.4 Summary

This chapter explored the key theories and contextual analysis for understanding vaping behaviour among tertiary students in Invercargill. Following three key theories have been discussed to explain vaping behaviour. Social influence theory helps to assess how peer pressure, social norms, and media exposure affect the initiation and continuation of vaping. The theory of planned behaviour (TPB) helped to explain how personal belief, social expectations, and perceived control influence on the students whether continue or quit their vaping habit. The Engel-Kollat-Blackell consumer decision-making model helped to understand the purchasing behaviour of the students.

Further, this chapter also explored the vaping industry in New Zealand by highlighting the regulatory changes such as banning disposable vape products, restricting marketing and displaying products in stores and online stores. The PESTEL analysis provides political, economic, social, technological, environmental, and legal factors that influence the vaping environment. Finally, the stakeholder analysis revealed the relationship between different groups, such as vape retailers, health authorities, and young people and their influences within the vaping industry.

Chapter 03: Literature Review

3.1 Introduction

This literature review chapter includes four main sections. The first section provides an overview of vaping in the global and national context and highlights the current trends, and prevalence of e-cigarettes among young adults. The second section explore, how students are introduced to vaping products focusing on key factors such as peer influence, social media exposure, marketing strategies, and environmental accessibility.

The third section discuss purchasing behaviour and product preferences. It examines the factors that influence to student's buying behaviour such as flavour, price, branding, and product type and how their purchasing habits change. The last section investigates how students make decision whether continue, reduce, or quit vaping. Further, it discusses the barriers and facilitators to quit vaping, including nicotine dependence, social pressure, marketing exposure, and personal health experiences.

3.2 Prevalence of vaping

Vaping become a global health concern due to the rising prevalence among young adults. A considerable amount of literature has been published on the rapid increase in the prevalence of e-cigarette use worldwide. Kramarow and Elgaddal (2023, p. 1) highlighted that in the United States, more than 11% of young adults are vaping. Furthermore, Wu et al. (2022, p. 4) illustrate that vaping has increased rapidly in Australia and the UK since 2016. This shows that vaping has spread across borders and become a global trend, especially among young people.

In New Zealand, a similar trend can be identified. Detailed examination of vaping prevalence and trends by Nip et al. (2024) has revealed that daily vaping among 18-24-year-olds has been risen from 5% to 26.5% during 2019-2023 period Further they showed that a significant change in smoking behaviour among New Zealand adults and highlighted that between 2021-2024 period while the daily vaping

rates increased from 6.7% to 9.8%, the daily smoking rate decreased from 6.9% to 5.7%. This is significant because it reflects that people are now transforming from traditional smoking to e-cigarettes,

3.3 Young adults and vaping products.

A considerable amount of literature has been published on how young adults are introduced to vaping products. These studies highlight main factors such as peers' pressure, social media exposure, promotional messaging, pricing, and stress-related coping methods which influence students' vaping habits.

Numerous studies have argued that peer influence is a key factor in youth vaping initiation. Nicolaou et al. (2022, p. 96) highlighted that recommendations and encouragements from friends were one of the key factors that university students in New Zealand first experimented with vaping. This view is supported by Nicolaou et al. (2022, p. 94) highlighted that friends and peer groups can be identified as a main information source about vaping for teenagers. This is important because it suggests that decisions in vaping are not made by individuals but are influenced by the social circle and the culture of student life.

This view is supported by Frost et al. (2024, p. 1370), who highlights that many young students are introduced to vaping through informal social channels such as borrowing vaping devices from peers in school, during social gatherings, and at parties. Furthermore, they illustrated that sometimes students share the vape devices with strangers at parties. This calls attention to how vaping is shared through peer networks rather than formal retail channels and shops. Furthermore, this sharing culture implies that students do not need to have their own vape to engage with vaping. Importantly, this reveals that, since many students initially access to the vape products through social networks, imposing regulations for sales and marketing may be insufficient

In addition to the personal networks, social media platforms also play a major role in exposing students to vaping products. Lyons et al. (2024, p. 22) reveal that Instagram, TikTok, Snapchat, and Facebook are the main social media platforms that young adults connect with vape-related content. This shows that factors influencing

to the vaping are not limited to the physical environment but now extended into the digital environment of the students. This view is supported by Lyons et al. (2024, p. 27), who argue that such content presents vaping as an attractive lifestyle product.

Advertising on social media is a key marketing strategy used by manufacturers. Lyons et al. (2024, p. 20) pointed out that most students had seen at least one advertisement for vaping on digital platforms, and Daniel et al. (2023, p. 108) highlighted that e-cigarette manufacturers market the vaping products as a smoking-quitting method. Detailed examination of Vaping in the Digital Age: How Social Media Influences Adolescent Attitudes and Beliefs About E-Cigarette Use by Adekeye et al. (2025, pp. 16-18) showed that most of this content demonstrates vaping is a safe behaviour and it helps to physical and emotional reliefs, provide leisure and pleasure for users. This is important because it demonstrates that online marketing not only giving the marketing information, but also attract people by appealing to their emotions. Furthermore, Frost et al. (2024, pp. 1372-1373) found that some students made purchasing decisions based on what they had seen online. Further, they highlighted that some students develop social media networks to obtain products through the digital channels. This illustrates that social media is not just an introduction point, but also a tool for consumer engagement and access.

Personal exposure to vape products in vape shops is also another avenue that students are introduced to vaping. A comparative study by Ball et al. (2024, p. 74) found that in some physical stores, such as dairies and superettes, are selling vaping products along the with everyday groceries like bread, pies, and soft drinks at a single counter. This is significant because youth could easily view a variety of vaping products for sale, and it may influence students to make an unintentional purchase or experimentation.

It has been demonstrated that first time users are attracted to the vaping due to the product packaging and the availability of variety of flavours. This view is supported by Nicolaou et al. (2022, pp. 94-97) who argue that the availability of a variety of flavours was the most common reason for catching the attention of vaping among young adults. Furthermore, they highlighted that mint and menthol, fruit, and sweet flavours are attracting students more than tobacco-flavoured vape products. This is significant because it points to product design is an important factor in

exposing the youth to vaping products. Before implementing the new regulations in 2025, vaping products were attractively displayed in retail stores.

3.4 Purchasing behaviour and product preferences

A considerable amount of literature has been published on how young adults make decisions about the vape products they purchase, how often they buy these products and the reasons behind their purchasing behaviour.

It has been demonstrated that product flavour is identified as one of the key factors in student purchasing behaviour. Nicolaou et al. (2022, pp. 94-97) highlighted different varieties of flavours available in the New Zealand market. A comparative study by Russo and Smale (2023, p. 31) highlight that vape products do not release much smoke compared to traditional tobacco cigarettes, and the vapour does not have a strong smell. Further, they highlighted that due to the above, students can vape at home or school without noticing to their parents and teachers. This is worth noting as flavours are not only about taste, but also make vaping feel normal and easier for students to use it in their day-to-day life. This view is supported by Dowrick et al. (2025, p. 117), who argue that the availability of flavour attracts young people and encourages them to experiment with the product and purchase. This is worth noting as it highlights how product innovation could affect to the consumers' purchasing behaviour.

Further, students also highlighted that the visual design and branding of vaping products encourage their purchasing. Dowrick et al. (2025, p. 115) found that different colours, bright colours in advertising themes, and displaying vape products in retail shops attract young adults to purchase vape products. Detailed examination of "An examination of the social perception and vaping preferences of young electronic nicotine delivery system users" by Davidson and Al-Hamdani (2023, pp. 3-5) showed that different types of vape products, such as Mods, Pods, slim vape products, and vape pens are available in the market and, which offer more options to choose according to their preferences. Further, they highlighted that young female users prefer light vaping devices such as vape pens than males, and some users prefer high nicotine pod-based devices. It has been suggested that young adults' do

not use vape as a nicotine delivery product, they also consider about how it fits with their lifestyle and social image.

Other studies have revealed that pricing plays an important role in shaping purchasing behaviour. Wamamili (2020, p. 49) highlighted that an increase in traditional cigarette prices from NZD 5 to over NZD 15 has made vaping more attractive economically for students. A comparative study by Ball et al. (2024, p. 80) revealed that reward programmes, free samples, and discount promotions, such as “Buy one, get one half price”, make vaping products more accessible and affordable for children and adolescents. Importantly, they highlighted that earlier, only disposable vapes were available for around NZD 10 less and now Pod systems “starter packs” are sold at the same low price, which makes vaping affordable for young users. It suggests that low price is the most common reason for choosing a vape product. This shows that the low cost of the vaping products influences students’ purchasing decisions.

Frost et al. (2024, p. 1370) highlighted that a lot of young people mostly share vaping products with their friends and do not buy them for themselves. However, there is an inconsistency with this argument, given by Rocha-Ávila et al. (2025, p. 27) highlighted that after enrolling to the universities, students make more frequent purchases due to the lack of parental supervision and a considerable amount of peer influence. Furthermore, they highlighted that frequent purchasing is motivated by factors such as relaxation, emotional self-regulations, facilitated socialisation and academic and structural variables. This view is supported by (Ahuja et al., 2025, pp. 550-554), who argued there is a positive relationship between students’ personal stress levels and use of e-cigarettes. Further, they highlighted that college life is a life-changing and stressful period for young adults, and vaping appears as a coping mechanism for managing stress levels. This is significant because it highlighted how purchasing patterns respond to both academic and psychological pressure.

3.5 Challenges associated with quitting or reduce vaping

A number of studies have investigated barriers of vaping products. The key factors are psychological addictions, social environments, marketing influences and personal health experiences that affect the vaping decisions.

It has been conclusively shown that nicotine addiction is one of the main barriers to quitting smoking. Wamamili et al. (2025, p. 13) reveals that most of the vaping products contain nicotine, which may be caused to brain development, mood deregulation, and cognitive function in young adults. This is important because it reveals that continuing vaping is not just a simple habit, and it is driven by nicotine dependence. This view is supported by Pbert et al. (2024, p. 3), who argued that the highly addictive nature of nicotine disrupts students' vaping cessation efforts. This shows that although students need to quit, nicotine addiction creates a hidden barrier to the quitting intention.

The social environment also creates a powerful barrier for the students to cessation of vaping. Numerous studies have argued that peer influence and social norms are key factors affecting to the initiation and continuation of vaping. Blank and Hoek (2024, p. 693) tell us, social gatherings encourage young adults to vaping. This view is supported by Hill et al. (2024, p. 1) who argues that young people start vaping after observing their friends vaping. Pbert et al. (2024, pp. 7-8) showed that some friends actively encourage others to continue vaping and discourage their quit effort. Further Daniel et al. (2023, p. 108) highlighted that university students use vaping to stress relief, joy and happiness. Further, they highlighted that students' social drinking in public restaurants also encourages them to continue vaping. What this means is that the decision to quit vaping is depends on the social environment of the students.

Furthermore, marketing strategies used by the vaping companies are also a major factor behind the students' decision to continue, reduce or quit vaping. According to Pbert et al. (2024, p. 6) found that exposure to social media promotion of new flavours encourages vaping and reduces the students' quit attempts. This is worth noting because it illustrates that social media does not just share information, and it plays as an emotional driver to continue vaping.

The easy access and cost of the vaping products are also key challenges in reducing vaping consumption. Pbert et al. (2024, p. 3) mentioned that the high cost of the vaping products, and the limited income of the students discourage their regular purchasing. According to them, some students expressed that buying vaping products regularly is a waste of money and not worthwhile. However, Ball et al.

(2024, pp. 76-80) reveals that many vaping shops are selling vaping at discounted price and offer various price promotions and motivated to buy. This point out how financial motivations weaken the decision to quit due to the marginal income of the students.

3.6 Reasons for reducing or quitting vaping

Number of studies suggest that negative health effects experienced by the students encourage quitting efforts. According to the Pbert et al. (2024, p. 3) young adults quit vaping due to the unpleasant physical symptoms such as headache, cough, reduced lung capacity, shortness of breath, and sore or burned throat that occurred after vaping. Le et al. (2025, pp. 1-7) highlighted that some consumers quit vaping due to the long-term health risks of vaping. This shows that negative health effects and uncertainty about the future act as powerful drivers for quitting. Further, Rahman et al. (2025, p. 457) argue that sharing the quitting effort and lived experience in vaping cessation programs encourages other students to stop vaping. This highlighted that peer influence not only promotes vaping but also motivates students to consider reducing or quitting vaping.

Additionally family reaction and social support also a powerful motivation to quit vaping. Pbert et al. (2024, pp. 3-6) highlighted that disapproval from family members and encourage from the loved one strongly motivate students to quit vaping. Furthermore, they highlighted that collective cessation efforts such as setting a goal and take actions to quit vaping as a group or with the friend and peers, motivate students to quit vaping. Further, they stated that stress management strategies such as engaging games, avoiding being around vaping also encourage quitting effort.

3.7 Research gap

Many previous studies have examined vaping behaviour among young adults at the national level or international level. Most of the existing researchers in New Zealand also focus on large urban areas such as Auckland, Wellington or

Christchurch. However, vaping habits, purchasing behaviours, accessibility, social and cultural influences in such large urban areas differ from the small region like Invercargill. This study fills that gap by focusing on tertiary students in a small city by offering a clear insight on how regional and social factors influence vaping practices. Additionally, previous researchers often concentrate on single aspects such as prevalence, addiction, or marketing influences. This study offers a holistic approach by examining the entire process from introduction to vaping and purchasing behaviour, decision-making process to continuation, reduction or cessation. Furthermore, this research tries to capture the lived experiences, social meanings, and personal motivations behind student's vaping behaviour. The findings of this research help to policymakers, educators, and health professionals to develop targeted and locally relevant vaping prevention and cessation strategies.

3.8 Summary

This literature review has explored research relating to the rise of vaping among young adults. Further, literature covered four main themes such as global and national trends in vaping prevalence, how students are introducing to vaping, their purchasing behaviours and product preferences, and decision-making factors that influence whether they continue, reduce, or quite vaping, Further these studies reveal that vaping among young people is shaped by personal, social, and economic factors including peer influence, stress management, digital marketing influence, product design, and affordability. Most of the research to date has focussed on large urban areas.

Importantly, the review highlights a clear gap in lack of regional based studies relating to tertiary students in Invercargill. Furthermore, research findings may help to the policymakers, educators, and health professionals to develop effective interventions. Therefore, this study aims to address this gap by exploring vaping behaviours and decision-making among tertiary students in Invercargill.

Table 1
Summary of Key Literature, Themes, Authors and Key Points.

Topic	Sub-topic	Authors	Significant points
3.2 Prevalence of vaping	Global trends	Kramarow and Elgaddal (2023)	11% of young adults in the United States indicating widespread vaping behaviour.
		Wu et al. (2022, p. 4)	Rapid increase in vaping in Australia and the United Kingdom, which was highlighted the global trend.
	New Zealand trends	Nip et al. (2024)	Daily vaping among young adults rose in New Zealand during 2019-2023.
3.3 Young adults and vaping products	Peer influence	Nicolaou et al. (2022)	Peers and social groups were the main initiators of vaping and the sharing culture of vape products among young adults.
	Social media influence	Lyons et al. (2024)	Instagram, TikTok, and Snapchat were the main social media channels that

			shared vaping content.
		Adekeye et al. (2025)	Most social media content demonstrated vaping as a safer behaviour.
	Flavours, packaging and accessibility.	Ball et al. (2024)	Vaping products were being sold in dairies, supermarkets, along with everyday grocery items.
		Nicolaou et al. (2022)	Flavours were one of the main factors that caught young adults, attention.
3.4 Purchasing behaviour and product preferences	Discreet use and appeal	Russo and Smale (2023)	Vape product do not release strong smell, and students were vaping in school, and home without noticing to their teachers and parents.
	Product design and branding	Dowrick et al. (2025)	Different colours, advertising themes and displaying in vape shops attract young adults to purchase vapes.

		Davidson and Al-Hamdani (2023)	Availability of different types of vape products, such as Mods, Pods, vape pens, offered more options to choose vape products according to young adults' preferences.
	Price sensitivity	Ball et al. (2024)	Reward programmes, price offers and discounts make vape products more affordable to young adults.
	Emotional triggers and purchasing behaviour.	Ahuja et al. (2025)	College life is a life-changing, stressful period for young adults, and they have identified a positive relationship between stress and vaping.
3.5 Challenges associated with quitting or reduce vaping	Nicotine dependency	Pbert et al. (2024)	The highly addictive nature of nicotine in vape products disrupts the quitting effort.

	Social barriers	Blank and Hoek (2024)	Social gatherings encourage vaping.
	Marketing influence		Social media content about new flavours encourages vaping and reduces the students' quitting effort.
3.6 Reasons for reducing or quitting vaping.	Health concerns	Le et al. (2025)	Consumers quit vaping due to the uncertainty of long-term health issues.
	Family influence and social support	Pbert et al. (2024)	Family influence helped to quit vape.
		Rahman et al. (2025)	Sharing quitting efforts motivates others to quit.

Source – Designed by the Author

Chapter 04. Methodology

4.1 Introduction

This chapter discusses the research methodology used to investigate vaping behaviours and decision-making processes among tertiary students in Invercargill. It presents research philosophy, research design, data collection methods and data analysis methods that guided the study. Since students' vaping is a personal behaviour which is shaped by the students' social context, this study used an interpretivist, qualitative approach to explore how students make decisions on their vaping experience within their cultural and social environment.

This chapter begins by describing the research philosophy and design, including a justification for using an interpretivist and qualitative methodology. Then it discussed data collection methods that were used for the study, including semi-structured interviews, including how the interview questions were developed and how participants were selected for the study.

Furthermore, it explained the data analysis process using the thematic analysis method which helped identify patterns, meanings. Further, it discussed the limitations, reliability and bias of the methodology and how it was mitigated. Finally, it described ethical considerations, informed consent, anonymity, disclosure of information, data storage and disruption procedures.

4.2 Research philosophy and design

This research follows an interpretivist philosophy. According to Saunders et al. (2023), interpretivism philosophy is a subjective philosophy. Furthermore, they stated that human beings are different from physical objects because they create and interpret meaning to their experiences (p. 162). Hence, human beings and their social context cannot be studied in the same way as natural science (p. 150). Furthermore, they cited that in interpretivism philosophy, it assumes that social realities are not fixed, and it is subjective, and it is shaped and constructed through social interaction and cultural background (p. 150).

According to Alharahsheh and Pius (2020, pp. 41-43), the interpretivism helps researchers to obtain a deep understanding by exploring the lived experiences and perceptions. Since the vaping behaviour of the young adults (initiating vaping, continuing or quitting, and their perceptions on vaping) is shaped by personal beliefs, and emotions, peer influences, cultural norms, social interaction, this philosophy is useful for understanding the vaping perception among young adults, including tertiary students.

To consistent with the interpretivist paradigm, this research focuses to explore how individuals construct meaning from their experience (Pervin & Mokhtar, 2022, pp. 420-424). In line with this philosophy, the study applied an exploratory approach. An exploratory research is important when the research area is not yet fully understood or when the researcher seeks to understand complex behaviours in a particular setting (Francis, 2024, p. 18). In the context of this study, most existing studies on vaping have focused on national trends or major urban centres, there is limited knowledge available on how vaping affects students in smaller regions such as Invercargill. This exploratory approach helps in investigating the factors influencing the introduction of vaping, their purchasing behaviour and their decision-making process regarding the continued or reduced use.

To support this exploratory approach, the study also follows an inductive reasoning approach. According to Saunders et al. (2023, p. 53), inductive approach begins with the data rather than a theory that already exists. Furthermore, they explained that the goal of this approach is to identify patterns and relationships in order to develop theories. This approach is aligned with the nature of the study. This study focuses on discovering patterns and themes based on participants lived experiences rather than testing pre-existing theories. By analysing these patterns may help to future theoretical development or inform public health strategies.

To align with the philosophical approach and objective, this study adopts a qualitative research methodology. According to Bryman and Bell (2003, p. 385), qualitative research is aligned with the interpretivist philosophy and inductive approach. Furthermore, qualitative research is focused on developing meaning and the relationship among participants (Saunders et al., 2023, pp. 185-186). It is generally useful for exploring how and why certain behaviour occurs. This study also

takes a constructionist view of reality, which means that social life is not fixed or separate, but it is created through the way people interact with each other (Bryman & Bell, 2003, p. 385). This approach supports the use of qualitative methods, since it allows the researcher to explore how students' perceptions and behaviours of vaping are shaped by their social circle and cultural interactions.

Research employed a semi-structured interview to collect the data. According to Bryman and Bell (2003, p. 467), semi-structured interviews are used in qualitative research due to the flexibility of the approach. Saunders et al. (2023, p. 443) stated that although the predetermined questions are used in semi-structured interviews, it provides the freedom and flexibility to ask follow-up questions on new issues that arise during the conversation. Since semi-structured interviews allow students to speak openly, it helps to gather a deep insight about their vaping behaviour and experiences.

In summary, this study followed an interpretivist philosophy, an inductive approach, and a qualitative methodology to understand the vaping perception and decision-making among tertiary students in Invercargill. The semi-structured interview helps to capture participants' views and experiences in their own words during the conversation. This design helped to obtain a clear understanding of how social, cultural, and personal factors influence to the vaping behaviours of the tertiary students and offers a valuable contribution to academic and policy development.

4.3 Method: Semi-structured interviews

4.3.1 Purpose of Interviews

Interviews are one of the commonly used data collection methods in qualitative research (Bryman & Bell, 2003, p. 465). According to Roulston and Choi (2018), this method is suitable for the researcher to understand social, emotional, and experimental phenomena that cannot be easily captured through structured surveys or questionnaires. According to Sahoo (2022, p. 4), interviews are an effective method for collecting detailed information. Furthermore, they explained that interviews are useful when the study is complex and the researcher requires details, a lengthy explanation about the subject matter. Furthermore, another advantage of

interviews are useful for understanding processes such as how individuals make decisions or the factors that influence their behaviour (Sahoo, 2022, p. 4). According to Roulston and Choi (2018) interviews can be beneficial to explore experiences, perceptions, beliefs, insights, and any sensitive topics that cannot be revealed by a list of questions.

In this study, the purpose of conducting interviews was to gain a deep understanding of personal experiences, motivations, and social cycles that influence vaping behaviours among tertiary students in Invercargill. According to Karatsareas (2022, p. 100), interviews encourage participants to think more deeply and share their ideas from their own perspectives, discuss their personal experiences, and express their views in their own words. The research also aims to explore not only reason for students to start vaping but also to understand the factors behind them to continue, reduce, or stop altogether. This aligns with the study's objectives of uncovering the factors that interplay between individual, Social, and environmental factors that shape students' decision-making process around vaping.

Saunders et al. (2023, p. 441) explained that interviews can be done through face-to-face, over the telephone, virtually using video calls, video conferencing, or online chat platforms. According to Bryman and Bell (2003, p. 465) interviews are more attractive among the researchers due to their flexibility. Since the students are busy with their academic and personal lives, this flexibility helped to arrange the interviews according to participants' preferences and availability.

Another advantage of an interview is the ability to follow up in real time. According to Saunders et al. (2023, p. 443), researcher has the flexibility to ask follow-up questions on new insights that arise during the conversation. Furthermore, interviews help participants to share their personal stories openly.

This helps to get a deep understanding about vaping habits and influencing factors such as peer pressure, public perception, and academic stress during the interview.

In summary, an interview is chosen for this research because it offers flexibility and a participant-centred approach to explore sensitive factors behind the vaping behaviour. They allowed students to express their thoughts and behaviours around vaping in their own language. This method supported the interpretivist

philosophy of the research and aligned with its aim to understand how tertiary students construct meaning around vaping in their everyday lives.

4.3.2 Interview design

This study employed semi-structured interviews. Karatsareas (2022, p. 100) explained that semi-structured interviews provide a balanced structure when conducting the interview. Hence, it is suitable for exploring complex and sensitive topics such as vaping among tertiary students. In qualitative research, semi-structured interviews are widely used when the researcher needs to explore participants' lived experiences, thoughts, feelings and beliefs about the subject topic, and to deep understanding into personal and sensitive issues (DeJonckheere & Vaughn, 2019, p. 1).

Aligning with the interpretivism philosophy, the research aimed to explore the subjective meanings that participants provide to their vaping experience. Since the interpretivism philosophy assumes that social realities are shaped and constructed through social interaction and cultural background (Saunders et al., 2023, p. 150), Karatsareas (2022, p. 99) explained that semi-structured interviews are suitable for data collection in the social sciences. Furthermore, they explained that semi-structured interviews allow participants to share their stories without answering structured questions.

According to Karatsareas (2022, p. 100), semi-structured interviews include open-ended questions, and it allow participants to explain their experiences using their own words. Furthermore, researcher can ask closed-ended questions for clarification, justification, elaboration, exemplification, or illustration. However, they were always followed by open-ended questions to explore participants' views more deeply. It enables researchers to address sensitive topics such as health, peer influences, and addiction. The interview guide for this study was developed to reflect the study's research objectives. It included open-ended questions to guide the conversation. These questions explored the reasons behind the students' initiation into vaping, their current usage patterns, buying behaviours and attempts to reduce or quit.

One of the key advantages of semi-structured interview is their flexibility. Semi-structured interviews help researchers to cover key topics by encouraging participants to describe their experiences. This means that although there is a pre-prepared interview guide, the conversation can change depending on how participants respond (Karatsareas, 2022, p. 100). This adaptability helped the researcher to explore rich and nuanced perspectives that were not initially identified in the interview format. For example, during some interviews, participants raised some concerns about the necessity of government and educational intervention programmes to help them quit vaping, using candy as an alternative option to cope with the stress. This insight cannot be obtained through surveys.

Additionally, this format encouraged participants to speak comfortably and allowed them to speak for themselves (Sahoo, 2022, p. 8). Furthermore, researchers need to develop rapport with the participants, and which helps to obtain positive feedback (Roulston & Choi, 2018, p. 211).

Despite of these advantages, semi-structured interviews have some limitations. The researcher has taken necessary actions to manage them throughout the research process. One limitation is the potential for interviewer bias (Sahoo, 2022, p. 11). According to (Karatsareas, 2022, pp. 101-102), the relationship between the researcher and the participants plays a major role in the interview. Furthermore, they highlighted that this relationship led to social desirability bias or acquiescence bias. That means participants agree with the interviewer's questions and views without revealing their actual behaviour). Hence, the researcher used proper interview guidelines and conducted the interview in a neutral way.

According to Sahoo (2022, p. 11), another challenge is the time-consuming nature of both conducting the interviews and analysing the data. Hence, they stated that each interview required to careful planning, developing interview schedules, performing the interview and analysing the data. To manage the time, interviews were limited to 15-60 minutes each, and transcription was carried out immediately.

Additionally, data comparability is also a main problem. Participants may respond to the open-ended questions in a different way, and difficult to maintain uniformity in the responses (Sahoo, 2022, p. 11). The researcher mitigated this issue by using well-structured interview questions.

4.3.3 Pilot testing

A pilot test was conducted before the main interview round to ensure the interview questions were clear, relevant, and addressed the research objectives properly. According to Tate et al. (2023, p. 20) Pilot testing is helpful to the researchers to psychologically prepare for the data collection, which is important to ensure the validity and reliability, and to reduce bias. Furthermore, pilot testing allows the researcher to practice the interview techniques before the major study (Majid et al., 2017, p. 1078). As highlighted by Dikko (2016, p. 522), Pilot testing is helpful to the researchers to identify the confusing or unnecessary questions, check the time taken for the interview to determine whether it is reasonable, and to confirm that the answers to the interview questions are adequate for the study.

In the context of this study, a pilot test was carried out with one tertiary student. Based on the feedback from the pilot test, minor adjustments were made to improve the flow of the questions and include follow-up questions and manage the overall time of the duration of the interviews.

4.3.4 Procedure

The data collection process for this study used online semi-structured interviews. This method was chosen due to its flexibility, convenient structure. Furthermore, it helped to the researcher to conduct the interview in private and one-on-one conversations. This method encouraged participants to speak freely about their vaping behaviours, motivations, and experiences.

The interview design was developed according to the following key steps outlined by the DeJonckheere and Vaughn (2019, p. 3).

Figure 3
Steps to Designing and Conducting Semi-Structured Interviews

Steps to designing and conducting semistructured interviews	
Step	Task
1	Determining the purpose and scope of the study
2	Identifying participants
3	Considering ethical issues
4	Planning logistical aspects
5	Developing the interview guide
6	Establishing trust and rapport
7	Conducting the interview
8	Memoing and reflection
9	Analysing the data
10	Demonstrating the trustworthiness of the research
11	Presenting findings in a paper or report

Source - DeJonckheere and Vaughn (2019, p. 3)

First, the purpose and scope of the research were clearly defined by focusing on vaping perception and the decision-making process of vaping among tertiary students in Invercargill.

Next, appropriate participants were identified for the interview. The recruitment of participants was done through purposive and snowball sampling. Initial participants were approached through informal networks and by sharing a Google form in online community forums, Facebook groups. Further, participants were encouraged to refer peers who met the criteria. Since topics like vaping have a social stigma, this method was effective in reaching the relevant sample group.

Then it focused on the ethical implications of the research. Participant information sheets and consent forms were sent to the participants via email prior to the interview. These documents are clearly highlighted the purpose of the study, confidentiality, anonymity measures, participants' rights, including the voluntary nature of participation and the option to withdraw at any point from the interview. This process followed the ethical guidelines approved by the Ethics Committee of Southern Institute of Technology.

Next, it planned logistical aspects for the interview. Microsoft Teams was used to carry out online interviews. Many students were familiar with the software due to

their academic use. The interviews were scheduled according to the time that was convenient for the participants and conducted in private online platforms to ensure that responses were not influenced by external observers. Consent from the participants was obtained to record the conversation before each interview. The researcher advised the participants to join with the interview from a quiet place to ensure high-quality audio recordings. Each interview lasted between 15 to 60 minutes, according to the participants' responses and engagement.

A semi-structured guide was used for the interviews by focusing on the aim and objectives of the study to keep the discussion aligned with the topic. Further participants were encouraged to share their view their own words.

As cited by DeJonckheere and Vaughn (2019, p. 5) the interview guide followed a structure that included guiding questions along with the unplanned or spontaneous follow-up questions, probing questions, depending on the direction of the conversation. Furthermore, it started with an easy question, and when the interview progressed, it moved to in-depth questions to gather real feedback about their vaping habits, perceptions and purchasing behaviour.

All interviews were audio-recorded with participants' consent, and recordings were later transcribed. Notes were also taken during each session to capture immediate observations.

After the interviews were completed, transcripts were transformed into anonymous by renaming the participants' names with codes. This was done to protect the identification and ensure confidentiality. All digital data, including recordings and transcripts, was stored on password-protected devices. Further access was restricted to the researcher and academic supervisor. According to the institutional policy, backup copies were saved in secure storage and will be retained for five years before being permanently deleted.

Overall, this procedure ensured that data collection was ethically sound, participants focused, and collected meaningful data that aligned with the research aim to understand vaping behaviour and decision-making among tertiary students In Invercargill.

4.3.5 Participants and sampling

This study used a purposive sampling approach to select participants who could provide relevant and better insights about vaping habits among tertiary students in Invercargill. According to Tajik et al. (2024, p. 1) a purposive sample is used in non-probability techniques in qualitative research. Furthermore, they explained that a purposive sample is helpful for selecting specific samples (such as people, cases or events) relevant to the research questions, and it is cost-effective and flexible. In this research, participants were selected based on clear criteria. Participation for the study had to be 18 years or older tertiary students who were currently enrolled in a tertiary educational institution in Invercargill and have either current or past experience of vaping.

Furthermore, snowball sampling was also used along with purposive sampling to increase the participants for the study. As explained by Parker et al. (2020), researchers can start with a small number of participants who may match to the research criteria and encourage them to recommend others to participate for the interview (p. 3). Furthermore, they highlighted that snowball sampling helps to find participants from the population that is difficult to reach or when studying behaviours that may be sensitive or stigmatized (p. 4).

These sampling strategies helped to find the participants who met the research objectives.

Table 2
Summary of Interview Participants

Participant 1	Male, International tertiary student. Came to Invercargill seven months ago from Sri Lanka. Previously vaped daily and now vaping occasionally.
Participant 2	Male, An International tertiary student. He has been in Invercargill for more than two years and is currently studying in Bachelor of Commerce.
Participant 3	Female, An International tertiary student. She has been in Invercargill since 2024, completed her Level 8 Applied Health Science in November 2024 and is now pursuing a master's programme. Vaping daily.

Participant 4	Male. An international tertiary student. He has been in Invercargill for more than two years. Currently studying Engineering Technology. Vaping regularly like every thirty minutes.
Participant 5	Male. An international tertiary student. He has been in Invercargill for more than one year. Vaping daily.
Participant 6	Female. Local student. Staying in Invercargill for the whole life. She is currently studying in a Hairdressing course, and she is a daily vaper.
Participant 7	Male. An international student. Staying in Invercargill for more than seven months and vaping daily.
Participant 8	Male. An international student. Staying in Invercargill for more than seven months. He is currently studying in a Bachelor's of hotel management. He is vaping daily.
Participant 9	Male. An international student. Staying in Invercargill. He is currently studying in an English course and planned to enrol on the master's programme later. He is a daily vaper.
Participant 10	Female students. An international student. Vaping daily.

Source – Designed by Author

4.3.6 Data Analysis

This study used thematic analysis to interpret the data. Thematic analysis is used in a qualitative research approach, and it helps to analyse themes and patterns in relation to people's experiences, perspectives, and meanings (Braun & Clarke, 2006, p. 2). Furthermore, Thematic analysis was used for this analysis because of its flexibility and which is considered the foundation for qualitative analysis (Braun & Clarke, 2006, p. 4).

Since the study goal was to find out how tertiary students in Invercargill make sense of their vaping habits, thematic analysis was the most effective method for this study. According to Braun and Clarke (2006, p. 37), thematic analysis helps researchers to form social and psychological interpretations of data and inform the

development of policies. Since this research followed an interpretivist philosophy, it was important to capture not only what the participant said but also how they described their personal experiences, emotions, and the social context that influenced their vaping behaviour.

The analysis followed the six-phase guide of thematic analysis developed by Braun and Clarke (2006, p. 35). First steps of the process is familiarising with the data (Braun & Clarke, 2006, p. 35). The researcher listened to the audio recording repeatedly and reviewed the interview transcripts to get an overall idea of the content. During this stage, notes were taken about initial ideas and notable patterns. The next phase is generating the initial codes (Braun & Clarke, 2006, p. 35). In this stage, features of the data were coded systematically and assigned data relevant to each code in the entire database.

The third phase of the thematic analysis is searching for themes (Braun & Clarke, 2006, p. 35). In this stage, generated codes were grouped together to develop patterns. For an example, codes pertaining to peer influence, social acceptance, and academic stress were analysed together. The next stage is reviewing themes (Braun & Clarke, 2006, p. 35). In this stage, the researcher checked the themes' work relation with the coded extracts (Level 1) and the entire data set (Level 2). Furthermore, in this stage, a thematic map was generated for the analysis.

According to Braun and Clarke (2006, p. 35), next phase is defining and naming the themes. Each theme was clearly defined and named for easy understanding. For example, one of them that emerged was "Normalisation of vaping in students, culture", which captures how students viewed vaping as a routine, socially acceptable behaviour. Another theme is "Struggle with quitting" revealed the emotional and psychological challenges faced by students who had tried to stop vaping.

The final phase is producing the report (Braun & Clarke, 2006, p. 35). At this stage, key examples are carefully selected and examined in detail. After that, these insights were connected to the main research questions and the current literature to make a scholarly report of the analysis.

In summary, thematic analysis provided a flexible framework for the researcher to understand the emotional, cultural, and social factors that influence to the vaping behaviour among tertiary students.

4.4 Limitations, Reliabilities, and Bias

All the research projects have limits and challenges. Hence, it is important to identify and highlight them honestly. This study explored the vaping behaviour among tertiary students in Invercargill through semi-structured interviews, which were shaped by both limitations and delimitations.

4.4.1 Limitations

One key limitation of this study was the timeframe for the data collection. Due to the academic deadlines interview had to be conducted within four weeks. Hence, the researcher could not follow up with participants for deeper or repeat interviews to get additional insights.

Conducting the interviews online via Microsoft Teams was another limitation. Although this platform made it easier for participants to join the interview from a comfortable place, it created some challenges. For example, during the interviews, some technical issues occurred, and participants were disturbed by other people around them. These disruptions affected the interview process and the responses. Furthermore, nonverbal cues, and body language cannot be observed in the online setting.

This study also focused only on students within the Invercargill region. Hence, these findings do not reflect the vaping behaviours in other areas or different educational institutions.

4.4.2 Delimitations

The researcher selected 10 participants as the sample size to gather the information rather than considering a larger number of participants. This approach

aligned with the qualitative research principle. As explained by Braun and Clarke (2006, pp. 16-17), a deep understanding of research objectives is important than observing a larger sample.

The semi-structured interviews were also intentionally selected for the research. Unlike other methods, such as focus groups or surveys, this method was flexible and effective to capture individuals' personal opinions on sensitive topics like vaping.

4.4.3 Reliability and Bias

The researcher used an interview guide and asked the same questions from all participants. Furthermore, every interview was recorded with the consent of the participants and transcribed. This helped to ensure the reliability of the of the study. The data was analysed using a thematic analysis approach, and which heled to identify the common patterns.

Furthermore, the researcher avoided his own views and assumptions to minimise bias, and remained neutral during the interview, and which encouraged participants to respond in their own way.

In conclusion, although the study had some practical limitations, the researcher maintained the reliability by minimising bias.

4.5 Ethical considerations

This research used semi-structured interviews with tertiary students in Invercargill to explore their vaping experience and behaviour. Research conducted by adhering to the proper ethical guidelines to protect the rights and well-being of the participants. Ethical approval for this study was obtained from the SIT Ethic Committee, and supporting document can be found in Appendix A (Ethics Approval Letter).

Participation for the interview was entirely voluntary, and participants were informed that they could withdraw at any time without giving a reason. All participants

were 18 years old or above tertiary students. Before the interview, each participant was given a received a participant's information sheet (Appendix D), explaining the purpose of the research, and how their data would be handled. Furthermore, they were asked to sign a consent form (Appendix C).

Anonymity and confidentiality were strictly maintained throughout the process. Identification details such as names, student IDs were not recorded. Instead of that participants were assigned a code (Example – Participant 1, Participant 2) to protect their identity during the data analysis and reporting.

Interview were conducted online via Microsoft Teams to provide private and flexible setting for the participants. However, researcher informed to the participants to ensure they were in a quiet and comfortable location during the session to maintain the privacy.

All the interviews were recorded with the consent of the participants. These recordings with transcriptions and consent forms, were stored securely on a password-protected device. Only the researcher and supervisor can access to this data. According to the SIT's ethical guidelines, all the data will be kept for five years and then deleted or destroyed.

These ethical guidelines ensure the protection of the value, respect, and transparency of all participants.

Chapter 05. Results and Discussion

5.1 Introduction

This chapter discusses the key findings of the semi-structured interviews conducted with ten tertiary students in Invercargill, New Zealand, about their perceptions and decision-making on vaping. Seven major themes were developed to align with the research objectives. Direct quotes from the participants were used to explain the findings. Summary of the research objectives, major themes and subthemes is as follows,

Table 3
Summary of Research Objectives, Major Themes and Subthemes

Research objectives	Major theme	Subtheme
Objectives 1 To explore how students are introduced to vaping products.	1. Curiosity and peer influence.	<ul style="list-style-type: none"> • Initial social exposure. • Curiosity and motivator. • Social acceptance and sharing.
	2. Adjusting to a New Environment and availability.	<ul style="list-style-type: none"> • Increased exposure and availability in New Zealand. • Accessibility of products and promotional influence.
Objective 2 To examine consumer purchasing behaviour and product preferences.	3. Purchasing behaviour and preferences.	<ul style="list-style-type: none"> • Flavour and packaging appeal. • Price sensitivity. • Product type and convenience.
	4. Role of promotions and peer recommendation.	<ul style="list-style-type: none"> • Influence of discount and deals. • Peer recommendation & trust over brand identity.

Objective 3 To understand how students decide whether to continue, reduce or quit vaping . .	5. Emotional and psychological triggers.	<ul style="list-style-type: none"> • Stress and emotional relief. • Use during boredom or habit loop.
	6. Lack of reliable information.	<ul style="list-style-type: none"> • Inadequate product information. • Desire for clear health impact awareness.
	7. Self-regulation and health awareness.	<ul style="list-style-type: none"> • Regulation of addiction or dependency. • Attempt to reduce or quit.

Source – Designed by the Author

5.2 Results

5.2.1 Theme 1: Curiosity and peer influence

A key finding from this study is that most students did not encounter vaping through advertisements, marketing content or formal information channels. Instead of that, they first encounter vaping from people around them, such as friends, flatmates, or peers, when they were in a relaxed everyday setting, or during casual gatherings. This revealed that students tried vaping for the first time due to curiosity or peer influence.

Initial social exposure

Most participants described that they were introduced to vaping through others in their immediate social circles. Participant 5 clearly recalled that he had no prior knowledge about vaping when he was in his mother country. However, he came across it soon after he arrived in Invercargill.

“I saw a lot of students outside the university using vaping, and it caught my interest. My flatmates were also vaping... and one night someone offered me a mint-flavoured device to try. That’s how I started vaping.”

This quote reveals that some important factors about initial exposure occurred through visibility, the influence of flatmates, and the social sharing of vape devices.

Participant 1 also mentioned that his first exposure to vaping happened through friends, and after observing their use and eventually motivated to try it himself. He shared,

“Some of my friends also vape, so that’s how I came across vaping”

In these cases, vaping was not something that students looked for intentionally. They were exposed to it through everyday life by living with friends and peers, spending time on campus, or being around others who vaped.

Participant 6 also shared a similar experience, and which reflected how her first encounter with vaping was shaped by her social environment.

“I am going to have a say, I can’t give a specific day or event, but I can say I have been vaping for about three years. I got the influence from older people, so there was a lot of second-hand vape going around”

Her words highlight how vaping often enters into the student’s life not through the direct intention but through informal exposure, casually sharing devices, and observing the behaviour over time. This kind of second-hand exposure, especially from older peers who created vaping, is natural and normal in their lives.

Curiosity as a motivator

Even though the social exposure was common in students’ vaping initiation, most of the participants gave curiosity as a reason for trying vaping themselves.

Participant 7, who previously smoked cigarettes and tried vaping to experience something different. He reported that:

“I was a cigarette smoker for a very long time, tried to vape because it felt something different, and I needed to smoke something different”

Participant 8 described how social media and flavours caught his attention,

“Actually, I saw vaping mostly on social media and from friends. These days, vaping can be seen as a cool thing to do. Lot of people pick it up just to look cool.”

He added:

“It gives the flavours like candy, chocolate, vanilla, strawberry, mint, and fruit. It does not feel like a bad thing, It just like flavoured smoke”

These statements show curiosity was not driven by a desire for nicotine or addiction, and it was about the attraction of sweet flavours, peer visibility and perception that vaping was safer or harmless.

Social acceptance and sharing

Several participants described that vaping is a shared experience, deeply embedded in their student lifestyle. Further, it revealed that instead of vaping alone, students were vaping as a group activity. Further, they highlighted that they were vaping not just for the nicotine or to form a habit, but because it became a part of everyday students' lives.

Participant 5 noted how being surrounded by vapers and sharing devices affected his own behaviour.

“Friends played a huge role because living with the people who vape normalises the behaviour. We started sharing devices and refilled among ourselves. Being around people who vape makes it easy to keep going and hard to say no”

Similarly, participant 6 described how the ease of access and visibility in social settings influenced her continued use. She shared:

“I got the influence from older people, so there was a lot of second-hand vape going around..... When I got to the age, I was able to buy them by myself and just keep getting them.”

These examples showed, vaping was not only introduced in social spaces but also continued as part of a group habit through sharing vapes, seeing others use them, and experiencing collective movements such as relaxing with flatmates or dealing with stress, which all contributed to vaping becoming a normal part of student life.

5.2.2 Theme 2: Adjusting to a new environment and availability

After arriving in New Zealand, many students came across the widespread social visibility and accessibility of vaping products. This theme explores how these factors influenced their exposure and decision to initiate vaping.

Increased exposure and availability in New Zealand

Several students said that vaping was less accessible or tightly regulated in their home countries. However, they said, they were surprised by seeing how vaping was common in Invercargill.

Participant 5, who came from Sri Lanka, explained that:

“I did not have much knowledge about vaping when I was in Sri Lanka because we couldn’t find it in the local market. So, once I came to New Zealand, especially in Invercargill, I got to know about vaping, and I found a lot of places to buy vapes in Invercargill city”

This highlights that moving from a restricted vaping culture to a place that are easily accessible increased curiosity and motivated them to experiment and try it.

Similarly, participant 9, originally from Fiji, shared that he was surprised by looking at the vaping culture in New Zealand.

“When I came here, I was really surprised to see that there are so many shops.... Even the faculty staff.... I saw that they were vaping outside their office. So in my understanding, I see vaping is much more common in New Zealand compared to my home country”

The increased visibility made the perception that vaping is a normal behaviour and socially acceptable in a tertiary educational environment. Participant 7 commented that:

“When I was in the Philippines, I was not a fan of vaping.... I thought it was more dangerous than cigarettes. But when my friends told me the taste or flavour is much better, I got curious about it”

In this case, the availability in New Zealand, along with the peer recommendations, had changed their perception of vaping and motivated them to try it.

Participant 5 observed that people in Invercargill were vaping even in the central areas of the city as well. He shared that:

“When you go to the Invercargill central area, you can see all the people come out and vape during the break time.”

This type of public vaping made the behaviour feel more visible and socially acceptable, especially for the newcomers who are willing to adapt to the social environment.

Accessibility of products and promotional influence

Participants spoke about how it was easy to purchase vaping products in New Zealand, how the store setup caught their eyes. Participant 8 shared that:

“If you go to a store, you will find thousands of flavours, designs, everything. It just attracts you. It will catch your eyes.”

This highlights how the availability of flavours and the colourful packaging in vape products caught students' attention. Furthermore, many students shared that the colourful packaging, promotional set-ups in the stores made vaping feel more fun and accessible and motivated students to initiate vaping.

5.2.3 Theme 3: Purchasing behaviour and preferences

Many participants shared their buying habits and preferences about the vaping products. Both domestic and international students express similar preferences, suggesting that despite the cultural differences, their experience with vaping products was shaped by convenience, curiosity, and visual appeal.

Flavour and packaging appeal

Many participants reported that their initial interest in vaping and continued use purchasing were strongly influenced by the availability of a wide range of flavours such as fruit, mint and sweets.

Participant 2 described his flavour choices clearly,

“Vaping had so many flavours such as sweet ones, vanilla, even some strong ones. For me, the flavours really caught my attention. It felt like tasting candy.”

Participant 8 also highlighted the appeal of sweets and familiar tastes

“I would say the flavours really caught my attention..... Flavours such as vanilla, strawberry, and fruit ones.... It felt like testing candy rather than doing something harmful. It just smokes with flavours.”

Visual appeal and packaging also motivated students' buying decisions. Participant 6 noted that:

“What catches my eye is colour. I love colour. I like shimmery, beautiful pink colour.”

Similarly, participant 5 commented on the visual impact of the display and the flavour

“They have an interest in colourful packaging. Colourful packaging easily catches my eye..... and the flavours, there were so many flavours like strawberry, mint, tropical, vanilla, apple, peppermint, and that is what I expected from the product.”

These comments indicate that both taste and visual appeal are strong drivers of initial and repeat purchasing behaviour among students.

Price sensitivity

Despite the interest in flavour and design, price remained a key factor in students' buying decisions. Several students acknowledged that the budget is a key factor and heavily influences what they buy.

Participant 2 shared that:

“For me, flavour is the number one factor. price comes next because, as a student, our money is always limited. So... we usually go for the cheaper options, like disposable vapes, instead of the expensive refillable ones. I would say brand matters too. But I don't have a favourite brand.”

Participant 7 added that he chose the vape stores based on affordability and discounts. He shared that:

“I always look for the cheaper price that I can get. Of course. Everyone needs money. The cheaper the better for the students.”

Similarly, participant 9 noted that price played a major role in selecting products. He explained:

“I usually go for the ones that are on discount or at a lower price compared to the expensive ones. When I am selecting a vape, the main factor is the financial effect.”

These statements reflect how financial pressure influences the buying decisions of the students.

Product type and convenience

Many participants shared that ease of use and convenience played a big role in their buying decision.

Participant 2 noted that:

“I tend to use the disposable vapes because they are cheaper and they are easy to carry around. You can just carry them in your pocket, or some of them put them around their neck as a necklace”

Further, participant 6 highlighted that the size and cost is part of her buying decision

“I have tried everything from the small disposable ones to the bigger refillable vapes..... what matters to me is size and price. So, this is a convenient size because it is small and can be carried around anywhere, and it is also affordable. So, it is just NZD 17 every two weeks”

Others, like participant 8, expressed interest in trying new devices or flavours for discovering something different

“I try new flavours and designs. I change the machines after two or three months”

This shows that although the students are price-conscious, they are also concerned about the flexibility, ease of use, and novelty when they make the buying decision on vape products.

5.2.4 Theme 4: Role of promotions and peer recommendation

Many of the tertiary students interviewed in this study shared that their vaping choices were not shaped by their personal preferences alone. Although the factors like flavour and price were important, promotion and recommendations from friends were key influences when they were making the buying decision. Furthermore, several participants mentioned that special discounts, in-store deals, and peer suggestions helped them to decide which product to try, selecting brands and devices during their early experimentation stage.

Influence of discounts and deals

Most of the participants mentioned that special deals, promotions and discounts were strongly influenced for their buying decisions. Participant 7 explained:

“ I usually look for the places that have offering discounted products.”

This statement was further supported by participant 5, who highlighted the importance of the availability of affordable options.

“My biggest factor is price. If there is any discount, I will definitely go for it.”

Since students are trying to manage their living expenses and study costs, discounts and price-based promotions influence their buying decisions.

Peer recommendation & trust over brand identity.

In addition to formal store promotions, informal peer recommendations also heavily shaped the product choices of the students. Participants mostly relied on friends' advice and recommendations when selecting vape products. Participant 10 shared:

“My flatmates were vaping, and one of them offered me a puff..... it was fruit taste. My friends introduced me to different flavours, and at the beginning friends told me about the starter packs and the new flavours, and then I bought it.”

Further, she shared:

“With the new regulation about promotions, I rely more on friends’ recommendations.”

This reflects that peer influence not only encourages vaping but also influences specific product preferences and buying decisions.

Most participants also shared that they didn’t prioritise brand identity, unless if it is recommended by someone they trusted. Participant 10 summarised this by saying:

“Brands are less important if only someone I trust recommended.... I brought it. Safety is a concern, so I avoid unknown brands.”

This indicates that brand loyalty wasn’t a key factor for their purchasing decision, and they were concerned about the safety of the devices. They often trusted what their friends’ recommendations because it made them feel more confident that the product was safe and widely accepted.

5.2.5 Theme 5: Emotional and psychological triggers

Vaping was not simply a leisure or social behaviour for many participants. It was often used as a personal coping strategy in response to emotional and psychological stress. The interviews revealed a strong pattern about how boredom, loneliness, academic pressure and homesickness contributed to the vaping behaviour.

Stress and emotional relief

A significant number of participants shared that they were vaping to manage stress. They highlighted that student life is more stressful due to the academic pressure, part-time work, and adjusting to the new environment away from their families and they led to the vaping to manage it.

Participant 10 shared that:

“Initially, I bought a single vape once a month. As I settled into university life and felt the pressure of assignments and part-time work, and exam period, my usage increased..... It is difficult to quit vaping because life here is lonely without my family.”

Her comment shows how vaping became an emotional relief during their stressful academic period and helped manage the loneliness due to the absence of her family.

Similarly, participant 7 described how vaping became a coping mechanism to manage stress.

“It gives you a little bit of kick or a little bit of high feeling It’s like a bit more comfortable than the usual body.”

These experiences suggest that vaping was not solely driven by physical addiction, but also it is about seeking emotional balance.

Use during boredom or habit loop

Sometimes, students didn’t vape because they were stressed or upset. They did it as a habit or to pass the time.

Participant 8 admitted that by sharing:

“It just feels incomplete without it if I don’t vape now.”

This quote shows how vaping became more of a routine behaviour than a conscious decision.

Similarly, participant 10 highlighted that she vaped when she had free time with her friends. She shared:

“I found myself vaping daily. Frequently increased during the exam period, when I am around friends or during the semester breaks”

Her experience showed how emotional and environmental context motivated vaping and led them to habitual behaviour.

5.2.6 Theme 6: Lack of Reliable Information

Many participants expressed that how difficult it was to find reliable, accurate information on vaping. Furthermore, they said that, although they were using vape products for a long time, still unsure about what was actually in the vape products, what the health risks, and the long-term impacts of vaping. Most students only knew about vaping from what they heard from friends, peers or online content rather than reliable information.

Inadequate product information

Many students shared that it was hard to find proper and trustworthy information about vaping products, their ingredients and harm behind them. Several participants mentioned they were relying on friends, peers, shopkeepers or social media, rather than trusted resources.

Participant 10 highlighted this information gap:

“I think information is incomplete. When I started, the shop owners were more open... but now they are cautious. I have had to rely on friends or online forums to learn about nicotine trends and potential health risks.”

Similarly, participant 7 expressed frustration about the lack of clear information given by vape shops when purchasing vapes. He shared that:

“I don’t think students like me always get all the information we need to make good decisions about purchasing. If there was clear information about vaping, like what actually does to your body or how addictive it can be.... I think more students like me would think twice before trying it.”

Most of the students buy products based on the information shared from their friends or peers rather than informed decisions. However, they expected clear consumer education when they are buying the vape products.

Desire for clear health impact awareness

Although few participants reported that they had direct health problems from vaping, several students highlighted their curiosity about the long-term effects. This concern was influenced by online stories, family conversations, or understanding their own behaviour.

Participant 8 mentioned:

“I searched about it but did not find anything serious that could cause you. For tobacco, they say it causes cancer. But for vaping, it does not have any specific disease or big harm that’s clearly reported.”

Other participants shared that this conflicting detail made it difficult to come to a better conclusion. As a result, many students postponed making a firm decision about quitting or reducing their use until they identify clear proof of harm.

Similarly, participant 10 shared that:

“Most of the online information about vaping is conflicting. Some say vaping is good. Others claimed that it is harmful than cigarettes.”

Several participants recommended that educational interventions or community health interventions may provide clear guidance to fill this information gap. Participant 10 suggested that:

“I feel there should be more accurate and accessible information at university or community centres so students can make informed decisions.”

5.2.7 Theme 05: Self-regulations and health awareness

Many participants shared their awareness of vaping and efforts to quit or reduce them. Someone has already reduced or quit, and others were still thinking about it. Most students said that they started vaping due to curiosity or social influence. However, after they noticed signs of addiction, they began to reconsider their vaping behaviour.

Recognition of addiction or dependency

Some participants discussed the addictive nature of vaping and how it became their daily routine. Participant 7 noted:

“It was so addictive..... I always wanted to vape whenever there was free time, at work, at home, or even at school.”

He recognised the growing dependency and acknowledged how difficult it was to stop. Participant 8 shared that vaping had become part of his daily routine.

“I am now used to it, and it is now just part of my life. It feels incomplete without it if I don’t vape now. “

This highlighted that they need to vape to feel normal or comfortable, which reflects a growing awareness of habitual behaviour, and participants observed that vaping became experimentation to habitual behaviour.

Participant 10 described how her use increased as she settled into university life.

“Initially, I bought a small bottle once a month. During the exam period, I found myself vaping daily. The frequency depends on how stressed I am “

Similarly, participant 7 noted that:

“Stopping vaping is harder because vapes have nicotine. It has a different level of nicotine. I used a higher level of nicotine, which is more addictive.”

These reflections show how the behaviour gradually became normalised, often unnoticed until participants recognised patterns of dependency or addiction linked to the stress or routine.

Attempts to reduce or quit

Despite recognising the dependency, many participants also shared their motivations and attempts to reduce or quit vaping. For some, family and personal goals served as strong reasons rather than health concerns. Participant 7 provided one of the strongest examples of intentional change:

“Quitting vaping is harder. However, my decision to stop is stronger because of my family. I don’t want my four years old son to see me smoking vape or cigarettes, I want him to grow up like a better version of me.”

His quitting effort shows how emotional and moral reasons can drive self-regulation effort, even when physical addiction makes it difficult.

Participant 10 reflected on her personal struggle with her quitting effort. She shared:

“It is difficult. Because life here is lonely without my family.... Whenever I attend gatherings and see everyone vaping. It feels awkward not to join. It is a

constant struggle between wanting to stop and needing something to ease my stress.”

This highlights how the social and emotional pressure is a barrier to their quitting effort.

Participant 9 discussed his long-term goal:

“I would like to reduce or even completely stop in the long term. Because I know the consequences of the health. And I know that it is bad for health, but sometimes the situation, stress factors, pull me toward vaping. So, my main goal is to stop vaping completely in future.”

Furthermore, participant 6 shared the live experience about the quitting journey and highlighted how distractions such as painting and gum could be used as a coping mechanism or alternatives to vaping.

“I painted. I just distracted by that. So, one of my best friends... she managed to quit just purely from distractions. Just distract eating gums... to replace the flavours she used to have every day... She also managed to get out of it”

This shows that although without experiencing any immediate health issues, participants aware about the potential risk of vaping and expressed the desire to move away from vaping.

5.3 Discussion

Key findings of the research critically analyse how the findings align with or differ from the existing literature. The discussion is structured under core themes such as factors influencing initiation of vaping, purchasing behaviour, social influences, regulation challenges and quitting intentions.

5.3.1 Social influence and curiosity as initiation drivers

The research found that peer influence and curiosity as major influencing factors in vaping initiation among tertiary students in Invercargill. These findings align with the research by Nicolaou et al. (2022, p. 96) and Frost et al. (2024, p. 1370) and also highlight that friends and peers as a key influencing on vaping. Participant's 5 experience- "My flatmates were also vaping ... Someone offered me a mint-flavour device to try" – highlights the sharing of vaping among peers discussed in the literature in informal social settings.

This study found that most of the participants were introduced to vaping through friends, peers, and social settings, than online platforms. These findings differed from the research carried out by Lyons et al. (2024, p. 22), who highlighted social media influence on the initiation of vaping. This deviation may be because social interactions are more common than online interactions in smaller, and close-knit social communities like Invercargill. This pattern reflects the Social Influence Theory, and which suggests that behaviour is shaped by social norms and peer behaviours.

5.3.2 Accessibility and retail environment

Findings related to the ease of purchasing vape products and their visibility in Invercargill align with the research done by Ball et al. (2024, p. 74) who noted that increasing visibility and how vaping products were sold with everyday items in regular retail stores. Participant 5's observation of vaping visibility in central city areas demonstrates how normalised vaping is in Invercargill, which was consistent with Frost et al. (2024, pp. 1372-1373), highlighted that physical presence and accessibility influence vaping behaviour among students.

According to the Theory of Planned Behaviour (TPB), perceived behaviour control or how easy or difficult a behaviour is strongly influences intention. This study found that high accessibility, increased perceived control made vaping as an easy choice. However, unlike the findings of national-level studies, many participants stated that influence from the promotional activities for vaping has decreased due to regulatory changes.

5.3.3 Product preference and purchasing behaviour

Flavour was one of the key factors when selecting the vapes by tertiary students in Invercargill and this was consistent with the findings of Nicolaou et al. (2022, pp. 94-97) and Dowrick et al. (2025, p. 117). Research found that sweet flavours made vaping as harmless or enjoyable. Similarly, packaging and affordability could also be identified as main influencing factors among tertiary students in Invercargill. This study supports the findings of Wamamili (2020, p. 49) and Ball et al. (2024, p. 80), who noted that students prefer cheaper and disposable products.

The findings in this study highlighted that tertiary students' choices were strongly influenced by budget constraints. This suggests that pricing strategies play an important role in the continuation of vaping among tertiary students and which aligns with the previous findings.

This aligns with the purchasing behaviour and decision-making process described in Engel-Kollat-Blackwell (EKB) Consumer Decision Making Model. The model includes stages such as information search, evaluation of alternatives, and purchasing decision. Participants' preferences for flavours, price sensitivity, and peer recommendation show how internal and external influences shaped each stage of their purchasing decision.

5.3.4 Coping mechanism and psychological triggers

The study revealed that most of the students vape as a coping strategy to manage stress, boredom, and homesickness. The studies carried out by Ahuja et al. (2025, pp. 550-554) and Daniel et al. (2023, p. 108) also provide further support for the findings of this study. According to participant 10, use of vaping to manage academic stress and emotional distance from the family highlighted how psychological stressors influence vaping behaviour among tertiary students.

As mentioned in the Theory of Planned Behaviour (TPB), when students viewed vaping helped them to relieve stress, it positively shaped their attitudes toward the habit despite the risks.

While many students highlighted that they used vaping to manage stress, this study provides insights into alternative coping mechanisms. Participant 6 highlighted that creative and distraction activities, such as painting, chewing gum, were not widely discussed in existing research. These findings suggest that students' support services and wellness programmes can use drawing, exercise, and self-awareness activities as coping strategies.

5.3.5 Barriers to quitting and self-regulation.

Nicotine dependence was a common experience among participants, and which aligned with the findings of Wamamili et al. (2025, p. 13) and Pbert et al. (2024, p. 3), who described vaping as highly addictive. Both participants 7 and 8 admitted that they were vaping daily, even they were aware of the health risks. This indicates that addiction is a powerful barrier.

Some participants explained that vaping helped them to manage stress or feel more comfortable in social settings and made it harder to quit. This supports by Blank and Hoek (2024, p. 693), who highlighted that social pressure and shared norms are the main barriers to quitting efforts.

Furthermore, this study revealed that some participants attempted to quit due to emotional and familial reasons. This is linked with the attitudes and subjective norms highlighted in the Theory of Planned Behaviour. For example, participant 7 shared that his son as the reason to stop. This aligns with research carried out by Pbert et al. (2024, pp. 3-6), who found that family influence and disapproval are powerful reasons for quitting. These highlight that emotional factors are stronger than health risks for quitting efforts.

5.3.6 Lack of reliable information

Many participants highlighted about the unavailability of reliable information about the long-term health effects and harm behind the vaping. As mentioned in the Consumer's decision-making model, consumers begin to gather information about the possible solutions to the problem to evaluate alternatives. Participant 10 noted

that most of the information about vaping is conflicting. This highlighted that students did not have proper information or guidance to make informed decisions. Instead of getting helpful scientific information, most of the students rely on second-hand sources. Hence, although some students really needed to quit or reduce vaping, the lack of proper scientific information or advice weakened the quit effort.

5.4 Summary

This chapter presented the findings from interviews with tertiary students in Invercargill to explore their vaping behaviour, preferences, and cessation intentions. The analysis was structured around the three core objectives and revealed seven major themes supported by sub-themes and participants' quotes.

In response to objective 1, students were introduced to vaping through peer influence and curiosity. Vaping was normalised among peer groups, and sharing devices was common. After arriving in New Zealand, students faced widespread visibility and product availability, which motivated them to initiate vaping.

For objective 02, findings on purchasing behaviour and preferences revealed that flavour, packaging, product type, convenience and price were the key influencing factors for shaping the buying decision. Most participants preferred small size, pod-based vapes due to their convenience and affordability.

Under objective 3, students described that they used vapes to manage stress, loneliness, and boredom. Furthermore, many participants highlighted about the unavailability of proper information regarding the impacts of vaping. Several participants said that they were trying to quit or reduce their usage, and quitting effort was motivated by family values, long term health concerns.

These findings offer a deep understanding of the lived experience of students in a small regional city like Invercargill to develop targeted public health interventions and policy development.

Chapter 06. Recommendation and Conclusion

This final chapter provides a summary of the research, and discusses the aim and objectives of the study, an overview of the methodology and major findings in relation to the research questions. Furthermore, the chapter explores how these findings relate to the existing literature which was discussed in earlier chapter.

Next, the chapter highlights the limitations and delimitations of the study. Furthermore, this chapter provides practical and academic recommendations for future research and applied management practices.

6.1 Purpose of the research

The purpose of this research was to explore the vaping behaviour, purchasing preferences, and decision-making processes among the tertiary students in Invercargill, New Zealand.

To achieve this, research was focused on the following three main objectives.

1. To explore how students are introduced to vaping products.
2. To examine the consumer's purchasing behaviour and product preferences.
3. To understand how students decide whether to continue, reduce or quit vaping.

The research, based on qualitative approach. For this research, 10 semi-structured interviews were conducted with both local and international students currently studying in Invercargill. The data was analysed using thematic analysis.

The findings suggest that students were mainly introduced to vaping through peer influence, social cycle, and curiosity. For the second objective, students' buying decisions were shaped by flavour, packaging, price, and convenience. Peer influence and store promotions also strongly influenced students' product selection.

For the third objective, students reported that emotional and psychological factors such as stress, boredom, and loneliness were facilitators for continuation of vaping. While some students identified their dependence on vaping, many students were

thinking about reducing or quitting vaping. Further research found that quitting effort was driven by long-term health concerns, family expectations.

6.2 Relationship to previous research

This study's findings align with most of the existing research on vaping behaviours among young adults, such as peer influence, flavour appeal, emotional triggers, and purchasing behaviours.

This study is consistent with the previous studies highlighted in the literature review about the role of peer influence in introducing students to vaping. As cited by Nicolaou et al. (2022, p. 96), young people are mainly exposed to vaping through friends and social groups. This research also revealed that most tertiary students were introduced to the vaping by friends or peers, rather than from advertisements, promotions, and social media content. Furthermore, Frost et al. (2024, p. 1370) highlighted the sharing nature of vaping among young adults. This research also revealed that students were sharing vaping devices among friends and peers.

The study also confirmed about the existing findings of the appeal of flavours and packaging. Nicolaou et al. (2022, pp. 94-97) and Dowrick et al. (2025, p. 117) mentioned that sweet and fruit flavours attracted young people more than tobacco flavours. Participants in this study often mentioned that the availability of flavours like fruits, mint, vanilla as a key reason for experimentation, initiation and continuing to vape. Colourful and eye-catching packaging and design were also repeatedly mentioned as an influencing factor for shaping the purchasing decision.

In terms of emotional and psychological factors, Ahuja et al. (2025, pp. 550-554) and Daniel et al. (2023, p. 108) highlighted that stress, and academic pressure were main reasons for the prevalence of vaping among the tertiary students. To align with the above, participants in this study also mentioned that they were vaping due to the loneliness, stress, and boredom.

Another main finding of this research is the impact of pricing and promotional strategies. As discussed by Ball et al. (2024, pp. 76-80), discounts and price offer

make vaping more accessible to young people. Participants in this study also expressed that pricing was a main factor that affected their purchase decision.

Furthermore, the study found that many participants highlighted the information gap about the health impact of vaping. This is aligned with the findings of the research carried out by Lyons et al. (2024, p. 27) and Pbert et al. (2024, pp. 7-8), who identified confusion among young adults due to the different information published on social media about vaping. Several participants shared that they relied on peer knowledge or online forums for information, which may not always be accurate or trustworthy.

In summary, this research supports many of the themes found in the previous studies, and it provides in depth analysis by exploring how these factors were affected in a small city like Invercargill.

6.3 Limitations of the present study

6.3.1 Limitations

Although this research provides valuable insights of the vaping behaviour of tertiary students in Invercargill, several limitations can be identified.

One of the main limitations of this study is the small sample size. Another limitation is the self-reported nature of the data. All findings relied on participants' personal experience about vaping, which can be affected by social desirability bias, or they hesitate to disclose sensitive details. For example, some participants may have downplayed the frequency of their vaping or overemphasised their intention to quit in order to present themselves as more favourably.

The time and context of the study are also major limitations. Interviews were conducted in September and October 2025 and vaping regulations were changed in August 2025, and promotional activities were being restricted. These evolving policies may have influenced participants' perceptions and behaviours, especially about accessibility and peer influences. Further, this research is cross-sectional research and findings of the research represent a snapshot in time and may not provide long-term patterns like longitudinal research.

6.3.2 Delimitations

The study was focused on the tertiary students, and it did not consider the high school students and young adults in Invercargill. Although this approach helped to understand the live experience of vaping of the tertiary students, it did not represent the vaping experience of other age groups.

Furthermore, the study concentrated on behavioural, emotional and social factors that influence the vaping behaviour of tertiary students. However, it did not address the health concerns of vaping.

The research was conducted in Invercargill, which is a small city in New Zealand and entertainment facilities for students were limited compared to the larger cities. Hence, students were compelled to vape with peers in their leisure time. This helped researchers to explore how a smaller region shapes vaping habits.

Despite these limitations and delimitations, this study provided the emotional and social factors of vaping among tertiary students in a small city in New Zealand.

6.4 Recommendation for future research and practice.

This research explores the vaping behaviours, motivations and decision-making process among tertiary students in Invercargill. The findings highlighted main influences such as peer influence, product accessibility, emotional stressors, and information gap. Furthermore, it also provides several avenues for future research and offers practical recommendations for applied management, health services and policy development.

6.4.1 Recommendation for future research

1. Expand the demographic and geographic scope

This study was focused on Invercargill, and which provides a deep understanding of vaping habits in a close-knit small region. However, future research needs to be expanded to larger urban centres like Auckland, Wellington, or Christchurch, where students may face different social pressures, retail environment

and cultural norms. Research in rural versus urban settings may provide a proper understanding of the different influences around the factors such as availability, peer influence, and accessibility that could help to inform regional based intervention.

2. Use mixed methods and a larger sample size

Although the research used a qualitative semi-structured interview approach to understand the lived experience of the tertiary students, a mixed-method approach with both surveys and interviews or focus groups will be helped for future research to gather quantitative data on the prevalence and behaviour patterns of vaping. Furthermore, a large sample size will be helped to understand the trends relating to gender, age, ethnicity, and academic backgrounds around vaping.

3. Explore longitudinal behaviour change

Many students in this study said about their intention to quit or reduce their vaping behaviour in future. However, the study only captured their experiences at a single point in time. Hence, longitudinal research can be followed over months or years to examine.

6.4.2 Recommendation for practice

1. Develop vaping education and academic support service

Educators and academic institutions can play an important role in helping to students to quit vaping through their existing students help service. One approach is to develop educational intervention programmes by addressing the relationship between stress and vaping. Furthermore, stress management workshop can be organized by including the harmful effect of vaping and introducing healthier coping strategies. Additionally, academic support staff can be trained to identify the signs of vaping and stressor of the students lead to vaping. Furthermore, counselling service of the campus could organize dedicated programmes to provide emotional guidance and practical strategies to the students who struggling with nicotine dependency.

2. Policy level recommendations

The findings of this research can be used for policy development at both institutional and government level. One key recommendation is to implement stronger regulations and enforcement on vape products flavours and packaging, which were found as main influencers in students' consumptions. Limited appealing flavours and standardising packaging may reduce the attractiveness of vaping to young adults.

Furthermore, tertiary institutions can be introduced mandatory educational modules on vaping as a part of students' orientation programmes. Additionally, policymakers need to consider allocating funds for localised cessation programmes. This kind of support could help to fill the gap in quitting resources, especially in smaller region like Invercargill.

6.5 Conclusion

The study aimed to understand how students are introduced to vaping, what are the influence of their purchasing behaviour, and how they decide to continue, reduce or quit. Using findings from semi-structured interviews conducted with 10 participants, the research provides a lived experience of young adults' vaping behaviour in a regional context.

Findings reveal that curiosity and peer influence were the main factors that students were introduced to the vaping. Most of the participants began vaping in social settings, with friends and flatmates, rather than formal promotions and social media advertisements. Furthermore, accessibility and visibility of vape products in New Zealand also strongly influence the prevalence of vaping in Invercargill, especially among the international students who came from countries where the vaping was not that popular.

The research identified the main factors influencing the purchasing behaviour of the students, such as the appeal of flavours, affordability, and ease of use. Further research revealed that psychological triggers such as stress, boredom, and homesickness were linked with the decision to continue use.

Further, research highlighted that there was an information gap about the vaping products and their long-term impact, and most of the students revealed on their friends or social media content. This information gap highlighted the key area for future health education and educational interventions.

Overall, the research provides a deeper understanding of vaping behaviour among tertiary students in a small regional context, and which help to develop an effective approach to vaping prevention and cessation among young adults and helps to develop intervention strategies, support services, and policy development.

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Appendix A. Ethics Approval

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Appendix B. Interview Questions



Understanding vaping perceptions and decision-making among tertiary students in Invercargill, New Zealand

Interview Questions

Introduction and Background

1. What are you currently studying, and how long have you been doing that programme?
2. How long have you been living in Invercargill?

Section A: Introduction to vaping products

1. How did you first come across vaping products? Please discuss.
2. Where do you usually see the promotion or usage of vaping products (e.g., social media, peers, retail stores)?
3. What aspects of vape products (e.g., packaging, flavour options, store visibility) catch your attention? Please explain.
4. What role do your friends or social circles play in your exposure to vaping? Please discuss.

Section B: Purchasing behaviour and product preferences

1. Can you please discuss the factors that influence you when choosing a vape product (e.g., flavour, brand, price, design)?
2. How often do you purchase vape products, and has that changed over time? Please discuss.
3. Do you have a preferred brand or product type, and what influences that preference?
4. Have promotions, discounts, or peer recommendations influenced your purchases? Please explain.

Section C: Decisions to continue, reduce, or quit vaping

1. How do you generally make decisions about whether to continue, reduce, or stop vape products?
2. Have you ever tried to quit vaping? If so, what helped or hindered you? Please discuss.
3. Do you believe students like yourself have access to all the product related information to make informed choices about vaping? Please discuss.
4. Do you see yourself vaping in the future? Why or why not?

Closing Question

Is there anything else you would like to share that can contribute to this research?

Thank you for taking the time to participate in this interview. Your input is greatly appreciated and will contribute to this research.

Appendix C. Informed Consent



Declaration of consent to be interviewed for:

Understanding vaping perceptions and decision-making among tertiary students in Invercargill, New Zealand

I have had the scope and nature of the research fully explained to me. Any questions about the research have been satisfactorily answered, and I understand that I may request further information at any stage. I accept and note that:

1. My participation in this research is entirely voluntary.
 2. I may withdraw from participation in the research at any time up to the point at which the data is anonymised and amalgamated without explanation, disadvantage or disincentive.
 3. The information given during the interview is being utilised solely for the purpose of the specific research project and will not be disclosed to any other person or agency without my express consent.
 4. The interview will be recorded for later transcription and transcripts will be provided to the participants for verification.
 5. This information may be incorporated into the research report but actual names or other characteristics that may lead to identification of individuals or organisations will not be disclosed.
 6. I may at any time request to view any completed drafts or sections of the research report to which I have contributed.
 7. A copy of the completed research report will be made available to me, on request, at the conclusion of the research.
-

DECLARATION

I have read and understood the information set out on this form and give my informed consent to be interviewed in accordance with the stated terms and conditions.

Name of Participant:

Name of Researcher/Interviewer:

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.....

.....
.....

Signature

Signature

.....

.....

Date

Date

.....

.....

Appendix D. Information Sheet



Understanding vaping perceptions and decision-making among tertiary students in Invercargill, New Zealand

Information Sheet for Participants

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate, I thank you. If you decide not to take part, there will be no disadvantage to you of any kind, and I thank you for considering my request.

Kia Ora, I am Chinthaka De Lanerolle, a master's student at the Southern Institute of Technology Te Pūkenga. I am conducting research on how tertiary students perceive vaping products and make decisions about their use. This research has three key objectives. First, to explore how students are introduced to vaping products. Second, to examine consumer purchasing behaviour and product preferences. Third, to understand how students decide whether to continue, reduce, or quit vaping.

We are looking for tertiary students in Invercargill who are aged 18 years or older, are vaping or have vaped in the past. We intend to recruit 10 to 12 participants for semi-structured interviews.

If you participate in this project, you will be asked to attend the interview, which will last approximately 60 minutes. The interview will be recorded. Your level of participation is entirely voluntary. You will not be asked for any information which is irrelevant to this research. During the interview, you will be asked questions about your experiences with vaping, your preferences, and your decision-making process related to vaping products. The interview will be conducted via Microsoft Teams or Zoom. The interview will be transcribed for data analysis purposes. The transcription of the interview will be verified by the interviewee. It is important to mention that you may decide not to take part in the project at any time without any disadvantage to yourself of any kind.

You may withdraw from participation in the project at any time up until the point at which the data is anonymised and amalgamated into the report, without any disadvantage to yourself of any kind.

The interview will be audio-recorded. Recordings will only be viewed by researcher and supervisor. Your name will not be used in the final report, and you will not be able to be identified in any way. All information will be kept confidential, and the data will be used by the researcher only for the purposes of this study. A copy of the interview transcript will be sent to you after the interview.

The findings will be compiled into a report to fulfil the assessment requirements for the Master of Applied Management degree. The final report may be available on the Research Bank site. Findings may also be presented at a conference and/or written up in a journal.

The data will be stored on a password protected computer and only the researchers will be able to gain access to it. At the end of the project any personal information will be destroyed immediately except that, as required by SIT's research policy, any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed.

If you have any questions about the project, either now or in the future, please feel free to contact:

Researcher: Chinthaka De Lanerolle
Southern Institute of Technology
Email: 2024002490@student.sit.ac.nz

Supervisor: Dr. Vijay Kumar
Email: vijay.kumar@sit.ac.nz

This research has been approved by the Human Research Ethics Committee at SIT.

If you have concerns about the **ethical conduct** of this research or the researchers, the following procedure should occur.

Write to the following:

The Secretary of the Human Research Ethics Committee
Southern Institute of Technology

133 Tay St
INVERCARGILL 9840 NZ
Email researchoffice@sit.ac.nz

All information is confidential and will be handled as soon as possible.

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