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Cosmetic Consumption and Confidence: A Quantitative Investigation of Generation Z Adult Consumers Living in Ireland

Clodagh Cahill

Master of Science in Marketing

National College of Ireland

Submitted to the National College of Ireland: August 2026

Abstract

Cosmetic brands often market their products as a way to feel more confident, but few studies have actually tested whether cosmetic use delivers on that promise. This study investigated whether cosmetic consumption behaviours, specifically frequency of use and spending, relate to self-reported confidence among Generation Z adult consumers in Ireland. Confidence has typically been equated with wider constructs such as self-esteem and body image, leaving it largely unexamined in its own right.

To address this gap, a quantitative, cross-sectional survey was distributed to Generation Z adults aged 18-30 living in Ireland, producing 154 valid responses. Respondents predominantly used a mix of affordable and premium products, engaged with cosmetics frequently, and spent modestly overall. Confidence was measured using an adapted version of the State Self-Esteem Scale. Three hypotheses were tested using Pearson and Spearman correlations and multiple regression analysis.

Contrary to common marketing narratives, all three of the hypotheses were rejected. Neither how often participants used cosmetics nor how much they spent showed any meaningful link to their confidence. Even when the two were combined, they barely accounted for 2% of the variation in confidence scores. What did stand out was the digital side of consumption: social media and influencer exposure were strongly linked to each other and modestly linked to spending but had no impact on confidence.

Together, these findings challenge the assumption that buying or using more cosmetic products helps build confidence. What may matter more is not how much people spend or how often they engage, but the personal reasons behind their cosmetic use. By treating confidence as distinct from self-esteem, this study opens a more precise line of enquiry for future research, using longitudinal designs and more diverse samples beyond a single urban population.

Submission of Thesis and Dissertation

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(Thesis/Author Declaration Form)

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Date: 07/08/26

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To my mother Mairead, or "lil mam" as we call her, thank you for motivating me. You have always placed your confidence in me at times when I did not feel confident in myself or my own abilities. You have been my rock, no matter what new challenge I take on. I would not be where I am today without such a strong woman, mother and best friend by my side. To my dad John, thank you for reassuring me that I am on the right path. You have always supported my ambitions and goals, and I am truly appreciative of you. To my partner Neil, thank you for the countless times you reassured me and believed I could not only carry out my dissertation but my master's degree itself. You made some very stressful days a lot easier to get through and I am wholeheartedly grateful.

To myself, thank you for not giving up, for continuing to learn, grow and evolve as you undertook and finished this piece of work. You have completed your most challenging yet rewarding research project to date. My own worst enemy can be myself at times, but she is also my biggest ally, and I am tremendously proud of her.

Finally, I want to acknowledge the topic itself. My interest in cosmetic products and their relationship with confidence began from working in the beauty industry, being introduced to the different people who use them and my own cosmetic product use. I have seen first-hand how something as ordinary as a daily routine can shape the way people carry themselves and this made me curious. Researching Generation Z consumers gave me the chance to test this curiosity properly. The findings did not always align with what I expected, and I have come to see that as one of the more valuable outcomes of this process. It is a reminder that the relationship between cosmetic use and confidence is complex, and there is a lot still to be understood.

I hope this dissertation offers a useful starting point for future research in this area. There is plenty more to explore, whether that is through interviews to look at the experiences behind the numbers, research that follows people over a longer period, or a closer look at the role social media plays. For myself, I finish this project questioning things a lot more and with a much better sense of the industry that I want to build my career in. I am looking forward to bringing what I have learned here into my future work and discovering what my next chapter holds.

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List of Abbreviations

ANOVA	Analysis of Variance
BCa	Bias-corrected and accelerated
CI	Confidence Interval
CITC	Corrected item-total correlation
H1, H2, H3	Hypotheses 1, 2 and 3
SD	Standard Deviation
SPSS	Statistical Package for the Social Sciences
SSES	State Self-Esteem Scale
VIF	Variance Inflation Factor
α	Cronbach's Alpha coefficient
β	Standardised beta coefficient
r	Pearson correlation coefficient
ρ	Spearman's rank-order correlation coefficient

1.0 Chapter 1: Introduction

1.1 Introduction

Cosmetic consumption is no longer just about improving appearance; it is now closely linked to how individuals present themselves and construct their identity, particularly among younger consumers (Belk, 2013). This link is especially strong for Generation Z, who have grown up in highly digitalised environments. Their cosmetic use reflects not only how they want to look, but how they want to be perceived both offline and online (Djafarova and Bowes, 2021; Tiggemann and Anderberg, 2020). Social media contributes to this process, through highly curated content and influencer marketing (Stephen, 2016).

Cosmetics act as more than just functional products, serving as symbolic tools for identity expression and shaping how individuals are perceived by others (Escalas and Bettman, 2005; Belk, 1988). Cosmetic use may influence perceptions of attractiveness or professionalism (Tommerup and Furnham, 2019). However, less attention has been given to how these behaviours influence how individuals feel about themselves, particularly their confidence.

In this study, confidence is understood as an individual's sense of self-assurance and perceived capability in social and personal situations, rather than an overall judgement of self-worth (Bandura, 1977). This study focuses on how cosmetic consumption behaviours, specifically frequency of use and spending, relate to self-reported confidence.

1.2 Background and Context

The cosmetic industry continues to grow, driven by younger consumers who engage with beauty content on social media (Weaver, Pacchia and Hudson, 2025; Djafarova and Bowes, 2021). Generation Z represents an important segment, characterised by high social media use and a strong focus on self-presentation (Djafarova and Bowes, 2021). Curated content and influencer-driven trends on platforms such as Instagram

and TikTok increase social comparison and appearance awareness (Tiggemann and Anderberg, 2020).

This connects to Maslow's (1943) hierarchy of needs, particularly esteem and belonging. Cosmetic consumption may help meet these needs by supporting confidence, acceptance, and social positioning. Marketing research shows that social media and influencer credibility and relatability shape consumer attitudes and purchase intention within the cosmetics sector (Duffett and Mxunyelwa, 2025; Lim *et al.*, 2024; Lou and Yuan, 2019; Stephen, 2016). However, it tends to focus less on the psychological outcomes of consumption.

Despite these insights, existing research centres on related constructs such as body image (Li *et al.*, 2025), self-esteem (Lang and Ye, 2024) or attractiveness (Tommerup and Furnham, 2019), with confidence often assumed rather than directly examined. Behavioural indicators such as frequency of use and spending are rarely explored as factors affecting psychological outcomes, and focusing on Ireland provides a more context-specific understanding.

1.3 Research Problem

Although cosmetic consumption has been widely studied, its relationship with confidence as a distinct psychological outcome remains unclear. Most existing literature focuses on self-esteem or perceived attractiveness as indirect measures of confidence. This creates a gap, as confidence refers to how capable people feel, while self-esteem represents their overall sense of self-worth.

Another limitation is the way cosmetic consumption is examined. Research prioritises attitudes, motivations, or purchase behaviour, with less emphasis on observable behaviours such as how often products are used or how much consumers spend on them. This leaves limited understanding of how these behaviours relate to confidence. Existing research has used broad or non-Western samples, raising questions about how applicable these findings are to contexts like Ireland, where cultural norms may differ.

Additionally, a lot of this research adopts qualitative approaches focusing on individual experiences (e.g. Sattarpanahi *et al.*, 2024). This limits the ability to examine measurable relationships and highlights a need for more quantitative research. These limitations highlight the need for research that directly examines confidence using behavioural indicators, within a specific consumer context. This study responds to these gaps by exploring how cosmetic consumption behaviours relate to confidence among Generation Z adult consumers living in Ireland.

1.4 Research Aim and Objectives

The aim of this study is to examine the relationship between cosmetic consumption behaviours and confidence among Generation Z consumers in Ireland.

1. To examine patterns of cosmetic consumption, including frequency of use, spending, and product type (e.g. mass-market versus premium/luxury).

2. To investigate the relationship between cosmetic consumption behaviours and self-reported confidence, treating confidence as a distinct psychological construct.

3. To assess the extent to which cosmetic consumption behaviours, specifically frequency of use and spending, relate to confidence levels.

Objectives 2 and 3 are addressed through three hypotheses, presented in Section 2.7, while Objective 1 is addressed through the descriptive analysis presented in Chapter 4.

1.5 Methodology Overview

This study adopted a quantitative cross-sectional survey design to examine the relationship between cosmetic consumption behaviours and confidence among Generation Z consumers. Data was collected using a structured questionnaire measuring consumption behaviours, including frequency of use and spending. This

was carried out alongside self-reported confidence measured through items adapted from the State Self-Esteem Scale (SSES) (Heatherton and Polivy, 1991), an established peer-reviewed instrument.

This approach is widely used in marketing research to capture consumer attitudes and behaviours (Crick, 2025; Bryman, 2016), enabling statistical analysis of relationships between variables (Lim, 2024; Field, 2018; Bryman, 2016). Data was analysed using correlation and multiple regression analysis to examine the strength of these relationships.

1.6 Contribution of the Study

This study contributes to academic literature by focusing on confidence as a distinct outcome of cosmetic consumption, rather than broad constructs like self-esteem. It extends consumer behaviour research by connecting behavioural indicators, specifically frequency of use and spending, with psychological outcomes. From a managerial perspective, the study offers insights for marketers on how cosmetic consumption behaviours relate to confidence among Generation Z consumers, with implications for brand positioning and social media engagement strategies.

1.7 Dissertation Structure

This dissertation is structured as follows: Chapter 2 reviews the relevant literature and develops the research question and the hypotheses. Chapter 3 outlines the research methodology and design. Chapter 4 presents the results of the data analysis. Chapter 5 critically discusses the findings in relation to the existing literature, outlines the study's limitations, its implications, and directions for future research. Chapter 6 concludes the study and reflects on the key findings in relation to the study aims.

2.0 Chapter 2: Literature Review

2.1 Introduction

This chapter reviews the existing academic, psychological and industry literature on cosmetic consumption and confidence among Generation Z consumers in Ireland, with a particular focus on how measurable consumption behaviours relate to self-reported confidence. Across these areas, a common pattern emerges. Cosmetic consumption is frequently discussed in relation to identity, self-presentation, and appearance-related outcomes including body-image and self-esteem, but confidence as a specific construct receives little direct attention (Razmus and Laguna, 2024; Orth and Robins, 2022). Where confidence is discussed, it tends to be treated as an assumed outcome of cosmetic use rather than something examined directly. Existing studies also tend to favour qualitative or attitude-based approaches, with limited attention given to measurable behavioural indicators such as frequency of use and spending (Sattarpanahi *et al.*, 2024). This points to a quantitative gap in the literature that this study aims to address.

2.2 Cosmetic Consumption and Generation Z

For Generation Z, cosmetic use is not just about appearance, but also about identity construction and impression management. Literature highlights that cosmetics are used not only to enhance appearance, but also to communicate the self across physical and digital environments (Djafarova and Bowes, 2021; Belk, 1988, 2013). As digital environments increasingly shape visibility, participation and self-presentation, consumers are given new opportunities to construct and communicate their identity online (Mathers *et al*., 2024). Platforms such as Instagram and TikTok expose users to curated and idealised content, encouraging comparison and promoting appearance-related norms (An and Ngo, 2025; Tiggemann and Anderberg, 2020; Stephen, 2016). Recent research indicates that these environments can intensify appearance-based comparison and contribute to body-related concerns (Li *et al*., 2025; Jiménez-García *et al*., 2025). This points to a shift in consumer behaviour, where cosmetic engagement

is increasingly shaped by both online and offline social environments (Lim *et al*., 2024; Djafarova and Bowes, 2021).

The role of cosmetic consumption is not viewed consistently across the literature. Some researchers argue that cosmetics may reinforce unrealistic beauty ideals and appearance-related pressure, particularly within image-focused digital environments (Li *et al*., 2025; Tiggemann and Anderberg, 2020). Others suggest they offer a positive means of self-expression, identity exploration, and empowerment among younger consumers (Levin *et al*., 2025; Lang and Ye, 2024). These contrasting perspectives suggest that cosmetic consumption may have both empowering and pressurising effects, highlighting the complexity of its relationship with confidence and self-perception. This is particularly evident among Generation Z consumers, who increasingly use beauty and cosmetic practices as part of their identity and view beauty practice as a form of individuality rather than conformity (Numerator, 2024; Shim *et al.,* 2024*;* Djafarova and Bowes, 2021).

Recent research also suggests that younger consumers increasingly associate cosmetic consumption with values such as transparency, sustainability, and self-expression (Sheresheva, Golub and Pavlov, 2025; Shim *et al.*, 2024*)*. Similarly, digital beauty culture suggests that more diverse and inclusive representations, including influencer content, may challenge traditional beauty ideals and promote self-acceptance (Levin *et al.*, 2025). The relationship between cosmetic consumption and confidence may depend on how products are used, the motivations behind consumption, and the digital environments consumers engage with. Despite these perspectives, many studies focus on body image, attractiveness, or self-esteem rather than confidence specifically. While related, these constructs are not interchangeable, and increased social comparison has been shown to reduce body satisfaction and increase appearance-related anxiety (Li *et al.*, 2025). The majority of this research is qualitative, focusing on how cosmetic use and beauty standards are experienced (Lang and Ye, 2024; Sattarpanahi *et al.*, 2024).

2.3 Confidence as a Consumer Construct

Confidence is widely discussed within both psychology and consumer behaviour, but it is not always clearly defined. Generally, confidence refers to an individual's sense of self-assurance and belief in their ability to handle different situations (Bandura, 1977). Recent research also highlights that self-perception in consumer contexts is shaped through ongoing interactions between appearance, social feedback, and identity processes (Chen, 2025; Razmus and Laguna, 2024). Within consumer contexts, this can influence how individuals present themselves, interact with others, or navigate social environments (Escalas and Bettman, 2005).

A key issue within the literature is that confidence is often treated as secondary rather than examined directly. Instead, many studies focus on broad concepts like self-esteem or body image when exploring cosmetic use and self-perception (Li *et al.*, 2025; Tiggemann and Anderberg, 2020). For instance, Ameen, Cheah and Kumar (2022) found that cosmetic purchasing behaviour had a significant impact on self-esteem among Generation Z women, yet confidence as a distinct outcome was not directly examined. This illustrates how confidence and self-esteem are often treated as the same thing in the literature. Self-esteem reflects an overall evaluation of self-worth, whereas confidence is more context-specific and linked to perceived ability (Orth and Robins, 2022; Bandura, 1977). Treating these constructs as interchangeable can limit understanding, since an individual may have high self-esteem yet lower confidence in situations relating to appearance or self-presentation.

Research on the effects of cosmetic use on self-perception shows mixed findings. Some studies suggest cosmetic use can positively influence how individuals feel about themselves, particularly regarding perceived attractiveness and social presence (Lang and Ye, 2024; Tommerup and Furnham, 2019). Other research reports less consistent outcomes. As a result, it remains unclear whether cosmetic consumption builds confidence, or whether more confident individuals are simply more likely to use cosmetics.

The relationship may also vary by context. Cosmetics may improve how consumers feel in certain situations (Lang and Ye, 2024; Tommerup and Furnham, 2019), yet lower confidence when cosmetic use is influenced by external expectations (Li *et al.,* 2025). Confidence may depend on how individuals interpret their cosmetic use rather than the behaviour itself (Sattarpanahi *et al.*, 2024).

The limited Western research on confidence and cosmetic use tends to be qualitative. For example, Robertson and Kingsley (2021) explored motivations for cosmetic use among women in the United Kingdom, identifying confidence and enhancement as key themes, without testing measurable behavioural indicators. Examining confidence in relation to behaviours such as frequency of use and spending, may provide a more focused understanding of how Generation Z consumers engage with cosmetics (Sattarpanahi *et al.*, 2024).

2.4 Cosmetic Consumption Theory and Behavioural Indicators

Although symbolic consumption theory explains why cosmetic products may hold meaning, it does not fully explain how these meanings are reflected in consumption practices. Rather than viewing products as functional, this perspective emphasises their role in expressing and reinforcing aspects of the self (Belk, 1988). With cosmetics, this is particularly relevant, as product use is closely tied to visible self-presentation and how individuals position themselves in society (Escalas and Bettman, 2005; Belk, 1988).

Building on this, Escalas and Bettman (2005) argue that consumers actively use products to align with desired identities, particularly evident in cosmetics, where appearance-related products are directly linked to impression formation. More recent research supports this view, suggesting that cosmetic use can play an important role in shaping identity and self-perception, particularly among younger consumers navigating physical and digital surroundings (Sivapragasam and Wilkinson, 2026; Ma, 2024). Behavioural patterns may also carry symbolic significance. Frequent cosmetic use may reflect stronger engagement with appearance-related identity, while higher

levels of spending, particularly on premium products, may signal status, aspiration, or self-expression (Liu *et al.*, 2025; Belk, 1988). Research rarely connects symbolic meaning with measurable indicators such as frequency of use and spending. By considering how frequency and spending relate to confidence, this study moves beyond theory to how identity-related meanings are displayed through everyday behaviour.

2.5 Behavioural Indicators: Frequency of Use and Spending

Previous research has focused more on the symbolic meaning attached to cosmetics than measurable cosmetic behaviours. Within consumer research, behavioural measures such as frequency of use and spending are often used to capture how individuals interact with products beyond stated attitudes or intentions (Liu *et al.*, 2025; Lim, 2024). In the context of cosmetics, this matters, as product use is often part of routine and embedded in daily habits.

Frequency of use refers to how often individuals engage with cosmetic products as part of their everyday routines. Higher frequency may indicate stronger engagement with appearance-related practices, as well as greater emphasis on self-presentation. However, regular use may support feelings of preparedness, control, or reflect pressure to maintain appearance standards, so its relationship with confidence may not be straightforward.

Spending reflects a different aspect of cosmetic consumption: not how often products are used, but the level of financial investment in them. Higher spending, particularly on premium or luxury cosmetics, may be linked to perceptions of quality, status, self-reward, and positive self-perception (Liu *et al.*, 2025; Calestru *et al.*, 2025). Spending may strengthen positive self-perceptions, or reflect external pressures, such as the need to keep up with trends. As with frequency of use, the direction of this relationship is unclear.

This leaves limited quantitative evidence on whether measurable cosmetic behaviours are associated with confidence in Irish consumer contexts (Sheresheva *et al.*, 2025; Shim *et al.*, 2024). Research is also geographically concentrated. Quantitative studies examining cosmetic consumption and psychological outcomes such as self-esteem and confidence have mainly been conducted in non-Western contexts, including Vietnam (An and Ngo, 2025), Malaysia (Ameen *et al.*, 2022), and Russia (Sheresheva *et al.*, 2025). It is unclear whether these findings transfer to Western markets such as Ireland, where cultural attitudes towards appearance, cosmetic use, and self-presentation may differ. These limitations support examining frequency of use and spending together as measurable indicators, allowing for the possibility that their effects on confidence differ rather than assuming both operate in the same way.

2.6 Social Media and Influencer Marketing

Social media is often discussed as a key driver of cosmetic consumption, but its role goes beyond simply exposing users to products. Platforms like TikTok and Instagram actively shape how cosmetics are seen, discussed, and used, through influencer content and peer interaction (An and Ngo, 2025; Lou and Yuan, 2019; Stephen, 2016). For Generation Z, digital content is not just a source of information but something they actively engage with when forming opinions about brands, appearance and cosmetic products (Mathers *et al.*, 2024; Djafarova and Bowes, 2021).

Social media not only hosts idealised images but shapes how identity is expressed online (Mathers *et al.*, 2024; Carah and Brodmerkel, 2020). Influencers show how products fit into routines, making behaviours feel normal or expected. Repeated exposure may influence how often individuals use cosmetics, as well as what they perceive to be normal, desirable, or necessary. Factors such as credibility, relatability, and perceived authenticity influence how audiences respond to influencer content in beauty marketing (Benevento *et al.*, 2025; Garg *et al.*, 2024; Lou and Yuan, 2019; Djafarova and Rushworth, 2017). Influencers often position themselves as relatable and aspirational, so their content may influence not only what consumers buy, but how often they use products and how much they spend.

However, the influence of social media and influencers is not viewed consistently across the literature. Some studies suggest that beauty-related digital content may support self-expression, social connection, and cosmetic engagement among younger consumers (Levin *et al.*, 2025; Lang and Ye, 2024). In contrast, other research associates extended exposure to idealised appearance-focused content with increased social comparison and appearance-related pressure (Jiménez-García *et al.*, 2025; Tiggemann and Anderberg, 2020). These contrasting perspectives suggest that digital beauty environments may encourage cosmetic engagement while creating pressures towards presentation and appearance norms.

The relevance of social media becomes evident when linked to behavioural indicators. Cosmetic routines shown repeatedly online may encourage more regular use, while the promotion of premium or trending products may encourage higher spending. This is an important consideration when examining cosmetic use and confidence among Generation Z consumers.

2.7 Conceptual Framework and Research Hypotheses

The literature reviewed suggests that cosmetic consumption is shaped by symbolic meaning, social media influence and behavioural engagement. Current research shows that cosmetic products are often associated with identity expression, self-presentation, and appearance-related practices (Escalas and Bettman, 2005; Belk, 1988). At the same time, social media and influencer culture may reinforce cosmetic engagement by normalising certain beauty routines and influencing purchasing patterns (Duffett and Mxunyelwa, 2025; Carah and Brodmerkel, 2020). However, prior studies have focused more on self-esteem, body image, and attractiveness (Li *et al.*, 2025; Tiggemann and Anderberg, 2020).

Based on the literature reviewed, cosmetic consumption behaviours may be associated with self-reported confidence among Generation Z consumers in Ireland. Frequency of cosmetic use and cosmetic spending are examined as key behavioural indicators of cosmetic consumption. Product type preference, social media influence, and

influencer influence are explored as additional consumption-related variables. These variables provide insight into cosmetic consumption behaviours among Generation Z consumers and may highlight differences between consumers of mass-market and premium cosmetic products.

To illustrate the proposed relationships identified within the literature, Figure 2.1 below presents the conceptual framework underpinning this study.

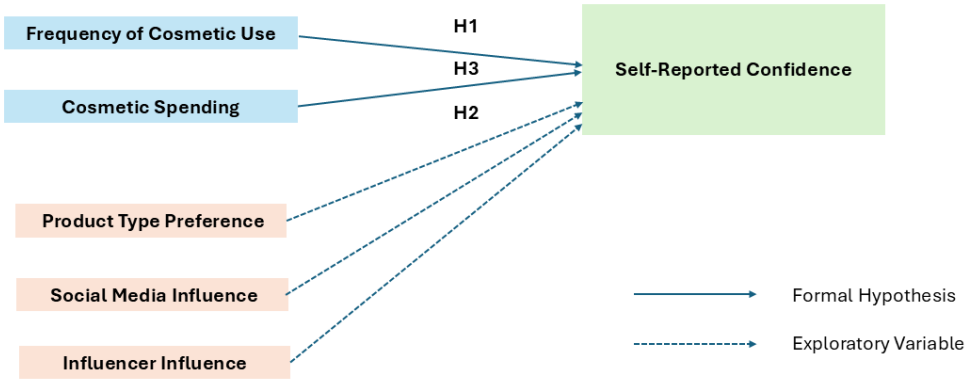


Figure 2.1: Proposed Conceptual Framework of Cosmetic Consumption Behaviours and Self-Reported Confidence among Generation Z Consumers.

Note: Solid arrows (H1, H2, H3) represent the proposed hypotheses tested in this study; dashed arrows indicate exploratory variables examined descriptively rather than as formal hypotheses. Source: Author's own development based on Tiggemann and Anderberg (2020), Lou and Yuan (2019), Escalas and Bettman (2005), Belk (1988), and related literature.

The following hypotheses are therefore proposed:

H1: There is a relationship between frequency of cosmetic use and self-reported confidence among Generation Z consumers.

H2: There is a relationship between cosmetic spending and self-reported confidence among Generation Z consumers.

H3: Frequency of cosmetic use and cosmetic spending jointly affect self-reported confidence among Generation Z consumers.

Note: Product type preference (mass-market (affordable) versus premium/luxury), perceived social media influence, and influencer influence were also explored as additional consumption-related variables within this study.

2.8 Chapter Summary

This chapter reviewed the literature relating to cosmetic consumption, confidence, symbolic consumption theory, behavioural indicators, and social media influence. It highlighted that cosmetic consumption is increasingly connected to identity, self-expression, and online social environments, shaped by appearance-related norms and purchasing decisions. Confidence is often discussed indirectly through self-esteem or body image rather than examined as a distinct outcome. Limited quantitative research has explored how measurable behaviours, particularly frequency of use and spending, relate to confidence within a modern digital consumer environment. This study responds to that gap through a quantitative investigation of cosmetic consumption behaviours and confidence among Generation Z consumers in Ireland. The next chapter outlines the methodology used.

3.0 Chapter 3: Methodology

3.1 Introduction

This chapter outlines the methodology used to investigate the relationship between cosmetic consumption behaviours and confidence among Generation Z consumers in Ireland. The chapter discusses the research philosophy and approach, research design, data collection methods, sampling strategy, and data analysis techniques used. Consideration is given to issues relating to reliability, validity, and research ethics.

The methodological choices within this study were guided by the research aim and objectives. As the study examined measurable cosmetic consumption behaviours, specifically frequency of use, spending, and self-reported confidence, a quantitative approach was considered the most appropriate.

3.2 Research Philosophy and Approach

Research philosophy provides the foundation for how a study is designed, conducted, and interpreted (Saunders, Lewis and Thornhill, 2023). Saunders' Research Onion highlights how philosophical assumptions influence each stage of the research process, including methodological choice, research strategy and data analysis (Saunders *et al.*, 2023). This study adopted a positivist research philosophy because it set out to objectively examine measurable relationships between cosmetic consumption behaviours and self-reported confidence among Generation Z consumers. Positivism is commonly associated with quantitative research and focuses on the objective measurement of observable relationships between variables (Saunders *et al.*, 2023; Bryman, 2016). The study also adopted a deductive research approach, developing hypotheses from existing literature and then testing them using empirical data (Bryman, 2016). This aligned with the study's aims, as the literature review identified gaps relating to confidence, behavioural indicators, and cosmetic consumption.

A quantitative approach was selected over qualitative because the study focused on measurable behaviours and statistical relationships rather than detailed personal experiences. While qualitative research offers valuable insight into consumer perceptions (Vandenbosch, de Laat and Eggermont, 2025; Sattarpanahi *et al.*, 2024), it is less suited to measuring the strength and direction of relationships across larger samples. In contrast, the use of structured data allows for statistical analysis and comparison of relationships across a larger number of respondents (Saunders *et al.*, 2023; Bryman, 2016), making it more appropriate for this study.

3.3 Research Design and Data Collection

This study adopted a quantitative cross-sectional survey design. Quantitative research is used within consumer behaviour research to examine relationships between measurable variables under broader behavioural patterns (Field, 2018; Bryman, 2016). A cross-sectional design was considered appropriate because the study aimed to collect data from participants at a single point in time (Setia, 2016). Primary data were collected through an anonymous and approved structured online questionnaire. Online surveys allow researchers to efficiently collect data from larger sample groups in a relatively short timeframe (Evans and Mathur, 2018). This approach was considered suitable given Generation Z's high digital engagement.

The survey consisted of nine closed-ended questions across six sections from Part A to Part F. Sections covered participant consent, screening criteria, cosmetic product preference, frequency of cosmetic use, cosmetic spending, perceived social media and influencer influence, and appearance-related confidence. The measurement of each variable is described in Section 3.5, and the full survey is provided in Appendix A. Before full distribution, the questionnaire underwent pilot testing on 19 May 2026 with 16 participants who met the study inclusion criteria. The pilot test was conducted to identify potential issues relating to question clarity, wording, structure, and overall usability (Saunders *et al.*, 2023). Feedback indicated that the questionnaire was clear and straightforward to complete. Minor changes were made to the wording and presentation of selected questions before final distribution. The pilot test confirmed

that the questionnaire was suitable for wider distribution. The survey was then distributed publicly online. Data collection ran from 20 May to 5 June 2026.

3.4 Sampling and Participants

The target population for this study consisted of Generation Z adults aged 18-30 living in Ireland who use cosmetic products at least occasionally. These were the eligibility criteria for taking part. A non-probability convenience sampling approach was adopted due to the exploratory nature of the study and the practical constraints associated with postgraduate research (Saunders, *et al.*, 2023; Bryman, 2016). This approach allowed efficient access to individuals who met the study inclusion criteria. The questionnaire was distributed online through social media platforms including Instagram, Facebook, LinkedIn, Snapchat and WhatsApp. The study aimed to obtain approximately 100-150 valid responses to support the statistical analyses.

3.5 Measurement of Variables

This study examined several variables relating to cosmetic consumption and self-reported confidence. The questionnaire measured product type preference, frequency of use, monthly spending, perceived social media and influencer influence, and self-reported confidence. The measurement approach for each is outlined below.

3.5.1 Independent Variables

Frequency of cosmetic product use was measured using a single-item categorical question asking participants how often they typically use cosmetic products. This variable was included to examine whether there was a relationship between cosmetic product usage frequency and self-reported confidence (H1).

Monthly cosmetic spending was measured using a single-item categorical question asking participants to select their average monthly expenditure on cosmetic products. This variable was included to examine whether cosmetic spending was associated with self-reported confidence (H2). Both variables were examined jointly in H3 to assess their combined relationship with self-reported confidence.

3.5.2 Dependent Variable

Self-reported confidence served as the dependent variable in this study. Confidence was measured using ten items adapted from the SSES developed by Heatherton and Polivy (1991), which is peer-reviewed and recognised within self-esteem research. The original scale measures state self-esteem across performance, social, and appearance-related aspects. For the purpose of this study, selected items were adapted to reflect appearance-related confidence, self-perception, and feelings associated with cosmetic product use. Participants responded to each statement using a five-point Likert scale ranging from ‘’Strongly disagree’’ to ‘’Strongly agree’’. Following reliability analysis, one item (Confidence Item 3) was removed from the scale prior to analysis. The rationale for this decision is discussed in Chapter 4, section 4.2.2. A full comparison of the original and adapted items can be found in Appendix B (Table B.1).

3.6 Reliability, Validity and Ethics

3.6.1 Reliability

Reliability relates to the consistency of a research tool and its ability to produce stable and dependable results (Ranganathan *et al.*, 2024; Bryman, 2016; Taherdoost, 2016). The questionnaire used standardised questions and response categories to enhance reliability. Following data collection, the internal consistency of the adapted confidence scale discussed in 3.5 was assessed using Cronbach’s Alpha. Values above 0.70 were considered acceptable indicators of reliability (Field, 2018; Pallant, 2016).

Where reliability fell below this threshold, the item-total correlation statistics were examined to identify items that were weakening the overall scale reliability. Items with low or negative corrected item-total correlations were considered for removal, following the procedure outlined by Pallant (2016). These findings are discussed in Chapters 4 and 5. Where acceptable reliability was achieved, a composite confidence score was calculated and used in statistical analyses.

3.6.2 Validity

Validity relates to whether a research tool accurately measures the concepts or constructs it is intended to evaluate (Ranganathan *et al.*, 2024; Saunders *et al.*, 2023; Taherdoost, 2016). Many steps were taken to increase the validity of the questionnaire. Survey questions were developed from themes and concepts identified in the literature review and that aligned with the study objectives and hypotheses. The confidence measure was adapted from an established scale and pilot tested before wider distribution, as discussed in sections 3.3 and 3.5. This adapted scale was used to measure appearance-related confidence and self-perception in the context of cosmetic product use. These steps helped ensure that the questionnaire was appropriate for both the target population and the research objectives.

3.6.3 Ethics

Ethical considerations were addressed throughout the research process following recognised academic practices (Saunders *et al.*, 2023). Ethical approval was obtained from the National College of Ireland before data collection. Participants received an information sheet outlining the purpose of the research, what participation involved, the researcher's contact details and gave informed consent before proceeding. Participation was voluntary, and respondents could withdraw from the survey at any stage before submitting. No personal information was required or collected, and all responses were recorded anonymously. The data collected was stored securely and

used only for the purposes of this research study. A full copy of the participant information and consent section is provided in Appendix A (Figure A.1).

3.7 Data Analysis

Data collected using Microsoft Forms was exported to Microsoft Excel and imported into IBM Statistical Package for Social Sciences (SPSS) Version 29 (v29) for cleaning, coding and analysis. The dataset was screened for incomplete responses, duplicate submissions, and inconsistencies before analysis. Responses were screened against the study inclusion criteria, and any that did not meet the criteria were excluded. Any missing values identified within the confidence scale items were treated as system-missing values during statistical analysis (Pallant, 2016). The outcomes of this screening process are reported in more detail in Chapter 4.

Likert-scale responses were coded numerically from 1 (Strongly Disagree) to 5 (Strongly Agree) (Field, 2018; Pallant, 2016) and negatively worded items were reverse-coded so that higher scores consistently represented higher confidence (Pallant, 2016), before a composite confidence score was calculated. Response category variables relating to cosmetic use frequency and cosmetic spending were also coded numerically.

Descriptive statistics were used to summarise the sample characteristics and key study variables (Field, 2018; Bryman, 2016; Muijs, 2011). Following the reliability procedure outlined in Section 3.6.1, the analyses were conducted on two versions of the confidence scale (Dataset 1, 10-item and Dataset 2, 9-item) for comparison. The rationale for item removal and the selection of Dataset 2 is discussed in Chapter 4, Section 4.2.2. Full Dataset 1 results (reliability, correlations and regression) are provided in Appendix E.

Pearson correlation analysis was used to examine the strength and direction of the relationship between frequency of cosmetic use and self-reported confidence (H1), as well as the relationship between cosmetic spending and self-reported confidence (H2)

(Howitt and Cramer, 2020; Field, 2018; Pallant, 2016). Preliminary normality testing identified a significant violation for frequency of cosmetic use. Therefore, Spearman's rank-order correlation (rho) was also conducted alongside Pearson correlation for H1 and H2 as an additional non-parametric robustness check, following the recommendations of Pallant (2016).

Multiple regression analysis was used to assess the combined effect of cosmetic use frequency and cosmetic spending on self-reported confidence, by testing H3 (Howitt and Cramer, 2020; Field, 2018; Muijs, 2011). Additional descriptive analysis was conducted for product type preference, perceived social media influence, and influencer influence.

3.8 Chapter Summary

This chapter outlined the methodological approach adopted for this study. A positivist, deductive, quantitative design was used, with data collected through an anonymous online questionnaire over a two-week period. This resulted in a final valid sample of 154 respondents following data screening and eligibility checks. Reliability, validity, and ethical considerations were addressed throughout. Data analysis incorporated descriptive statistics, Cronbach's Alpha reliability testing, Pearson and Spearman correlations for H1 and H2, and multiple regression analysis for H3. The next chapter presents the results of these analyses.

4.0 Chapter 4: Data Analysis and Results

4.1 Introduction

This chapter presents the results of the data analysis conducted to examine the relationship between cosmetic consumption behaviours and self-reported confidence among Generation Z consumers in Ireland. It covers data screening and preparation, reliability analysis, descriptive statistics, the hypothesis tests (Pearson and Spearman correlations for H1 and H2, and regression for H3), and additional exploratory findings. All primary analyses were conducted using the revised 9-item confidence scale (Dataset 2), following a reliability assessment. Full SPSS results for the primary Dataset 2 analyses are provided in Appendix D. Full results for the original 10-item scale (Dataset 1) can be found in Appendix E for comparison purposes. All statistical analyses were conducted using IBM SPSS v29. All figures and tables were generated using this software and interpreted by the author.

4.2 Data Screening and Preparation

4.2.1 Data Screening

Prior to analysis, the dataset was screened for missing values, data entry errors, inconsistent responses, and potential duplicates (Field, 2018; Pallant, 2016). Of the 166 responses collected, twelve were excluded against the study inclusion criteria, giving a final valid sample of N = 154. Demographic variables such as gender, specific age, and income were not collected. Participants were screened only against the study inclusion criteria, which all 154 valid respondents met. Ten responses had identical timestamps but were confirmed unique, as their content differed across all cases, and were kept for analysis. Two isolated missing responses were identified among the confidence scale items, under Confidence Items 2 and 8. Both respondents had completed all other questions and met the inclusion criteria, so both cases were kept. SPSS treated these as system-missing values, excluding them from calculations on a

case-by-case basis (Pallant, 2016). After data cleaning, all confidence scale items were coded numerically from 1 (Strongly Disagree) to 5 (Strongly Agree) (Field, 2018; Pallant, 2016). Six negatively worded confidence items (Items 4, 5, 6, 7, 8, and 10) were reverse-coded so that higher scores consistently represented higher levels of self-reported confidence (Pallant, 2016). Response category variables for frequency of cosmetic use, cosmetic spending, product type preference, social media influence, and influencer influence were also given numerical values to prepare for statistical analysis.

4.2.2 Reliability Analysis (Cronbach's Alpha)

The internal consistency of the adapted confidence scale, based on the SSES (Heatherton and Polivy, 1991), was assessed using Cronbach's Alpha in IBM SPSS v29. Reliability analysis was first conducted on the full 10-item adapted confidence scale across the valid sample of N = 152, following listwise deletion of cases with missing values. The overall Cronbach's Alpha for the 10-item scale was $\alpha = .490$, which falls below the accepted threshold of .70 (Field, 2018; Pallant, 2016). This indicated that the full 10-item scale had poor internal consistency.

Item-total correlation statistics were examined to identify items weakening the overall scale reliability, following Pallant (2016). The corrected item-total correlation (CITC) reflects each item's correlation with the overall scale score. Low or negative values suggest an item is not measuring the same construct as the rest of the scale (Field, 2018). Confidence Item 3 ("I feel that others respect and admire me when I make an effort with my appearance") produced a negative corrected item-total correlation and the highest alpha-if-item-deleted value of the scale, indicating that removing it would improve reliability.

Confidence Item 3 was therefore removed from the scale. Reliability analysis was re-run using the remaining 9-item scale (Dataset 2, N = 152). The Cronbach's Alpha for the revised 9-item scale was $\alpha = .618$. Although still below the commonly reported .70 threshold, lower values can be acceptable in exploratory research using adapted scales

or psychological constructs (Pallant, 2016). This represented an improvement in internal consistency and was considered the most reliable version of the scale available. Confidence Items 1 and 9 also returned negative corrected item-total correlations within the 9-item scale (-.327 and -.393 respectively). No further items were removed beyond Item 3, and these findings are discussed further in relation to the study limitations in Chapter 5. Dataset 2 was selected as the primary scale for all subsequent analyses. Full reliability results for the original 10-item scale (Dataset 1) can be found in Appendix E for comparison purposes. When the hypothesis tests were conducted using the 10-item scale, the same non-significant pattern emerged (Appendix E), confirming that removing Item 3 did not change the overall findings.

Scale	Number of Items	Cronbach's Alpha
Full Adapted Confidence Scale (Dataset 1)	10	.490
Revised Confidence Scale Item 3 Removed (Dataset 2)	9	.618

Table 4.1: Reliability Analysis Results for the Adapted Confidence Scale.

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	152	98.7
	Excluded[a]	2	1.3
	Total	154	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.618	.515	9

Figure 4.1: Case Processing Summary and Reliability Statistics from Dataset 2.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Confidence Item 1 (Numeric)	22.9013	22.116	-.327	.706
Confidence Item 2 (Numeric)	22.8224	20.465	-.113	.665
Confidence Item 4 (Reverse)	24.5197	16.238	.310	.587
Confidence Item 5 (Reverse)	24.7039	13.852	.609	.495
Confidence Item 6 (Reverse)	24.3882	13.471	.636	.483
Confidence Item 7 (Reverse)	24.6250	14.050	.630	.493
Confidence Item 8 (Reverse)	24.9539	14.349	.596	.505
Confidence Item 9 (Numeric)	23.0263	22.595	-.393	.713
Confidence Item 10 (Reverse)	24.6382	13.862	.676	.481

Figure 4.2: Item-Total Statistics Table Dataset 2.

4.2.3 Creation of the Composite Confidence Score

A composite confidence score was then calculated using SPSS (Transform > Compute Variable). This calculated the mean of the nine remaining confidence items (Items 1, 2, 4, 5, 6, 7, 8, 9, and 10) excluding Confidence Item 3. The mean was used rather than the sum to ensure the composite score remained on the original 1-5 scale, making it easier to interpret alongside the other study variables (Pallant, 2016). The resulting variable, Confidence_9Item, had a mean of 3.01 (Standard Deviation (SD) = .508) across N = 154 cases. The two cases with isolated missing responses were scored based on their remaining valid items rather than excluding them, as missing data was minimal (Pallant, 2016). The composite score was used as the dependent variable in all hypothesis tests (H1, H2, and H3).

4.3 Sample Profile and Descriptive Statistics

Descriptive statistics for all key study variables are presented in Table 4.2, based on the final valid sample of N = 154 unless otherwise stated.

Variable	N	Mean	Median	Mode	SD	Min	Max
Confidence (9-item)	154	3.0071	3.0000	N/A	.50841	1.67	4.44
Frequency of Cosmetic Use	154	4.0455	4.0000	4.00	.99240	1.00	5.00
Cosmetic Spending	154	2.2338	2.0000	2.00	.95515	1.00	5.00
Social Media Influence	154	3.6818	4.0000	4.00	1.10083	1.00	5.00
Influencer Influence	154	3.5390	4.0000	4.00	1.09743	1.00	5.00
Product Type Preference	154	1.7208	2.0000	2.00	.54229	1.00	3.00

Table 4.2: Descriptive Statistics for Key Study Variables.

4.3.1 Product Type Preference

Participants were asked to indicate their typical cosmetic product type preference. Most respondents (63.0%, n = 97) reported using a mix of affordable and premium products. Approximately one third of respondents (32.5%, n = 50) reported mainly using affordable products, while a small proportion (4.5%, n = 7) reported mainly using premium or luxury products.

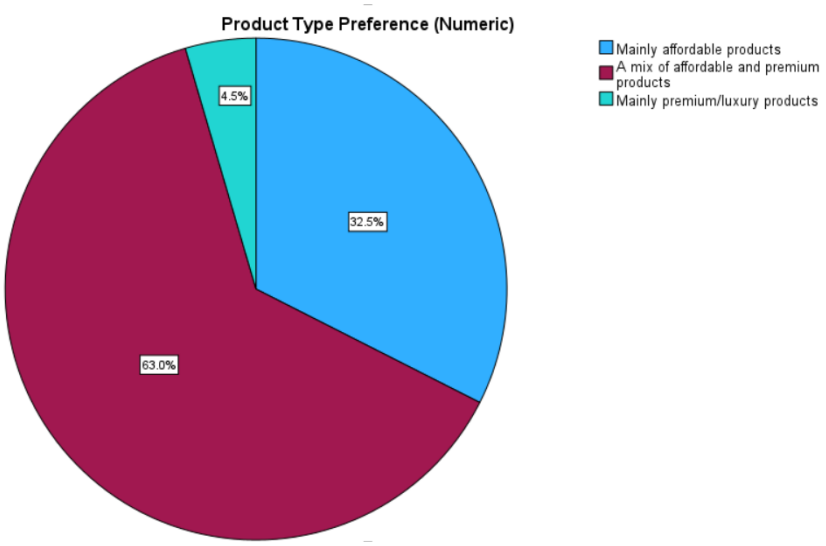


Figure 4.3: Product Type Preference Pie Chart.

4.3.2 Frequency of Cosmetic Use

Frequency of cosmetic use was measured on a five-point scale ranging from 1 (Occasionally) to 5 (Multiple times a day). The mean frequency score was 4.05 (SD = .992), indicating that on average respondents used cosmetic products often. The distribution was negatively skewed (skewness = -1.230), with responses concentrated towards the higher end of scale. The ceiling effect is consistent with the nature of the sample, as participants were required to use cosmetic products at least occasionally as part of the study inclusion criteria.

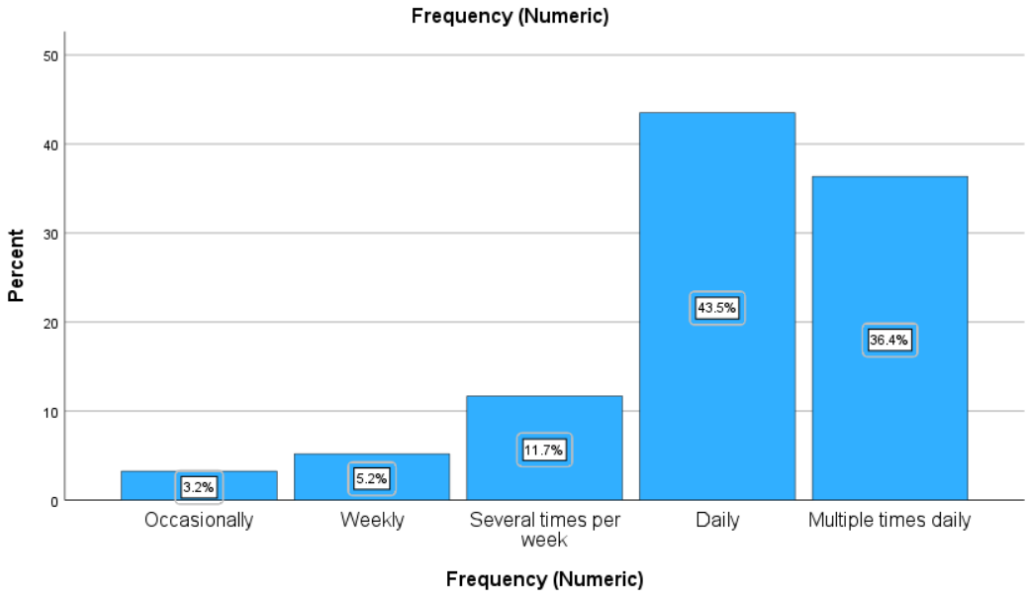


Figure 4.4: Frequency of Cosmetic Use Bar Chart.

4.3.3 Cosmetic Spending

Monthly cosmetic spending was measured on a five-point scale. The mean spending score was 2.23 (SD = .955), indicating that on average respondents reported relatively modest monthly cosmetic expenditure. The distribution was slightly positively skewed (skewness = .609), with spending concentrated towards the lower end of the scale.

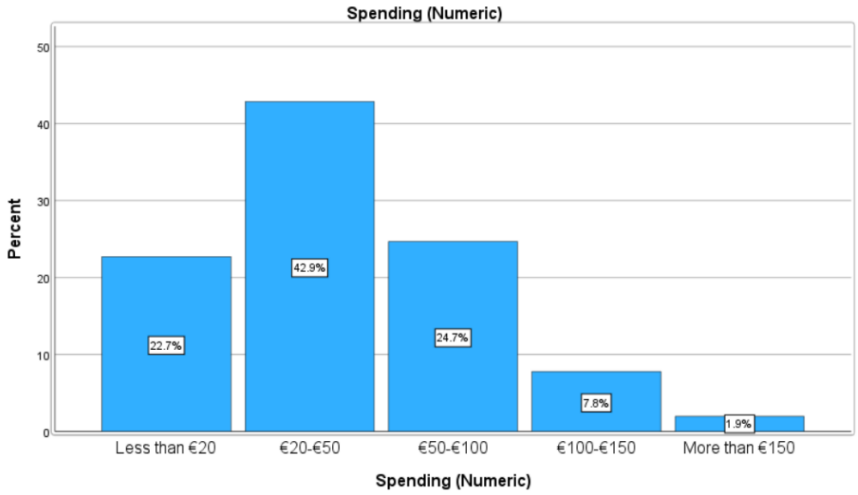


Figure 4.5: Cosmetic Spending Bar Chart.

4.3.4 Social Media Influence

Perceived social media influence was measured on a five-point scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The mean score was 3.68 (SD = 1.10083), indicating that on average respondents agreed social media influenced their cosmetic consumption. The most common response was "4" (Agree, 46.1%), with a further 21.4% selecting "5" (Strongly Agree). Over two-thirds (67.5%) agreed or strongly agreed, suggesting that social media played a notable role in shaping cosmetic consumption in this sample.

Social Media Influence (Numeric)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	11	7.1	7.1	7.1
	2.00	10	6.5	6.5	13.6
	3.00	29	18.8	18.8	32.5
	4.00	71	46.1	46.1	78.6
	5.00	33	21.4	21.4	100.0
	Total	154	100.0	100.0	

Figure 4.6: Social Media Influence Frequency Table.

4.3.5 Influencer Influence

Perceived influencer influence was measured on the same five-point scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The mean score was 3.54 (SD = 1.09743), indicating that most respondents agreed influencers influenced their cosmetic consumption, although less strongly than social media. The most common response was "4" (Agree), selected by 53.2% of respondents and 13.6% selected "5" (Strongly Agree). Overall, 66.8% agreed or strongly agreed that influencers affected their cosmetic behaviour. This suggests that influencers alongside social media, were important factors in this sample.

Influencer Influence (Numeric)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	11	7.1	7.1	7.1
	2.00	19	12.3	12.3	19.5
	3.00	21	13.6	13.6	33.1
	4.00	82	53.2	53.2	86.4
	5.00	21	13.6	13.6	100.0
	Total	154	100.0	100.0	

Figure 4.7: Influencer Influence Frequency Table.

4.4 Hypothesis Testing

Before conducting the correlation and regression analyses, the distribution of the composite confidence score was examined to determine whether the assumptions for parametric testing were met (Pallant, 2016). The results of this normality test informed the choice of analyses used to test H1 and H2.

4.4.1 Normality Testing

The distribution of the composite confidence score (Confidence_9Item) was examined using descriptive statistics, a histogram, and formal tests of normality. The composite score had a mean of 3.01 (SD = .508), with skewness of .366 and kurtosis of -.124. Both the skewness and kurtosis values fell within the acceptable range of ±1, suggesting that the distribution was approximately normal (Pallant, 2016). The median (3.00) and the 5% trimmed mean (2.99) were both very close to the mean, which indicated that the distribution was not distorted by extreme scores.

Descriptives

			Statistic	Std. Error
Confidence_9Item	Mean		3.0071	.04097
	95% Confidence Interval for Mean	Lower Bound	2.9262	
		Upper Bound	3.0881	
	5% Trimmed Mean		2.9932	
	Median		3.0000	
	Variance		.258	
	Std. Deviation		.50841	
	Minimum		1.67	
	Maximum		4.44	
	Range		2.78	
	Interquartile Range		.78	
	Skewness		.366	.195
	Kurtosis		-.124	.389

Figure 4.8: Explore Descriptives for the Composite Confidence Score, Dataset 2.

The histogram of the composite confidence score, presented in Figure 4.9, showed a roughly bell-shaped distribution centred around the scale midpoint, with a slight positive lean consistent with the skewness value reported above (Pallant, 2016).

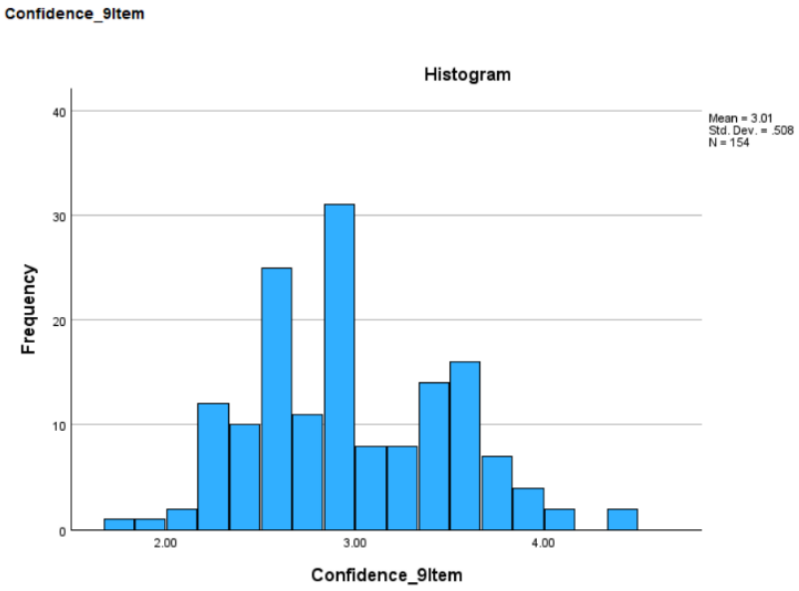


Figure 4.9: Histogram of the Composite Confidence Score (Confidence_9Item).

The Shapiro-Wilk test was significant (W = .978, p = .014), technically indicating a deviation from normality. However, this test is sensitive to small deviations in larger samples and can return significant results even when distribution is only slightly non-normal (Pallant, 2016). As the skewness and kurtosis values were within acceptable

limits and the histogram showed an approximately normal distribution, the composite confidence score was treated as approximately normal for analysis.

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Confidence_9Item	.109	154	<.001	.978	154	.014

a. Lilliefors Significance Correction

Figure 4.10: Tests of Normality for the Composite Confidence Score, Dataset 2.

While the composite confidence score was approximately normal, the frequency of cosmetic use variable was strongly negatively skewed (skewness = -1.230). This showed the ceiling effect noted in section 4.3.2. As normality was not fully met across all variables, Spearman's rho was conducted alongside Pearson's correlation for H1 and H2. Comparing both results provided a robustness check against any distortion caused by the non-normal frequency variable distribution (Pallant, 2016). Bias-corrected and accelerated (BCa) bootstrap confidence intervals (CIs) based on 1,000 resamples were also calculated for the Pearson correlations, as bootstrapping does not assume normality of the sampling distribution (Field, 2018).

4.4.2 H1: Frequency of Cosmetic Use and Confidence

Hypothesis 1 proposed that there was a relationship between frequency of cosmetic use and self-reported confidence. A significance level of $p < .05$ was used throughout this study, meaning a result was considered statistically significant only if the p value fell below .05 (Field, 2018; Pallant, 2016). A Pearson correlation was conducted first, which found a weak, negative and non-significant relationship between the two variables ($r = -.143$, $p = .077$). As frequency of cosmetic use violated the assumption of normality, Spearman's rho was also calculated as a robustness check (Pallant, 2016). This produced a similar result again, showing a weak, negative and non-significant relationship ($\rho = -.155$, $p = .056$). Both tests pointed in the same direction, and neither reached statistical significance at the .05 level (Pallant, 2016), increasing

certainty in the finding. The bootstrap CI for the Pearson correlation did not include zero (95% BCa CI [-.287, -.018]). This differs slightly from the p value of .077, which was above the .05 threshold. As the .05 level was set in advance, this did not alter the outcome, although it suggests a weak negative relationship may exist that a larger sample could detect. As no significant relationship was found between frequency of cosmetic use and self-reported confidence, H1 was rejected.

4.4.3 H2: Cosmetic Spending and Confidence

Hypothesis 2 proposed that there was a relationship between cosmetic spending and self-reported confidence. A Pearson correlation found a very weak, negative and non-significant relationship between the two variables (r = -.015, p =.849). As with H1, Spearman's rho was calculated as a robustness check and found a similar result (ρ = -.037, p = .648). The relationship between cosmetic spending and confidence was even weaker than that found for frequency of cosmetic use and was far from statistical significance under both tests (threshold $p < 0.05$) (Pallant, 2016). The bootstrap CI included zero (95% BCa CI [-.172, .130]), consistent with the absence of a relationship. As no significant relationship was found between cosmetic spending and self-reported confidence, H2 was rejected. The Pearson and Spearman correlation results for both H1 and H2 are presented in Table 4.3 below.

Hypothesis	Predictor Variable	Pearson r	Significance (p)	Spearman ρ	Significance (p)	Results
H1	Frequency of Cosmetic Use	-.143	.077	-.155	.056	Not Supported
H2	Cosmetic Spending	-.015	.849	-.037	.648	Not Supported

Table 4.3: Pearson and Spearman Correlation Results for H1 and H2.

Note: Dependent Variable = Confidence_9Item. N = 154. Correlation is not significant at the .05 level (2-tailed) for either hypothesis. Bootstrap CIs for the Pearson correlations are reported in Sections 4.4.2 and 4.4.3.

Correlations

Correlations

		Frequency (Numeric)	Spending (Numeric)	Confidence_9Item
Frequency (Numeric)	Pearson Correlation	1	.216**	-.143
	Sig. (2-tailed)		.007	.077
	N	154	154	154
Spending (Numeric)	Pearson Correlation	.216**	1	-.015
	Sig. (2-tailed)	.007		.849
	N	154	154	154
Confidence_9Item	Pearson Correlation	-.143	-.015	1
	Sig. (2-tailed)	.077	.849	
	N	154	154	154

**. Correlation is significant at the 0.01 level (2-tailed).

Nonparametric Correlations

Correlations

			Frequency (Numeric)	Spending (Numeric)	Confidence_9Item
Spearman's rho	Frequency (Numeric)	Correlation Coefficient	1.000	.245**	-.155
		Sig. (2-tailed)	.	.002	.056
		N	154	154	154
	Spending (Numeric)	Correlation Coefficient	.245**	1.000	-.037
		Sig. (2-tailed)	.002	.	.648
		N	154	154	154
	Confidence_9Item	Correlation Coefficient	-.155	-.037	1.000
		Sig. (2-tailed)	.056	.648	.
		N	154	154	154

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 4.11: Pearson and Spearman Correlation Results for H1 and H2, Dataset 2.

4.4.4 H3: Frequency of Cosmetic Use, Spending and Confidence

Hypothesis 3 proposed that frequency of cosmetic use and cosmetic spending jointly affected self-reported confidence. To test this, a standard multiple regression analysis was conducted, using the composite score (Confidence_9Item) as the dependent variable and both behaviours as the independent variables (Pallant, 2016). Before interpreting the results, the assumptions of multiple regression analysis were considered. Multicollinearity was assessed using the Variance Inflation Factor (VIF), where values above 10 indicate a problem (Field, 2018; Pallant, 2016). The VIF returned a value of 1.049 for both predictor variables, well below this threshold, so multicollinearity was not a concern (Field, 2018; Pallant, 2016). The normal P-P plot of the standardised residuals showed the points falling reasonably along the diagonal

line, suggesting that the assumption of normality was reasonably met. The residual scatterplot (Figure 4.14) showed no clear funnelling, indicating homoscedasticity was also reasonably met (Pallant, 2016).

The overall regression model was not statistically significant, F(2,151) = 1.599, p = .205. R^2 indicated the proportion of variance in the dependent variable that is explained by the model. It can range from 0 to 1, where higher values indicate greater explanatory power (Pallant, 2016). The model explained only a very small proportion of the variance in self-reported confidence (R^2 = .021, Adjusted R^2 = .008). This means that together the two predictor variables accounted for approximately 2% of the variation in confidence scores. Within the model, neither predictor made a significant unique contribution. Frequency of cosmetic use returned a standardised beta of -.147 (t = -1.778, p = .077), and cosmetic spending returned a standardised beta of .016 (t = .198, p = .844). As the overall model was not statistically significant, and neither frequency of cosmetic use nor cosmetic spending made a significant contribution to predicting confidence, H3 was rejected.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.144[a]	.021	.008	.50643

a. Predictors: (Constant), Spending (Numeric), Frequency (Numeric)

b. Dependent Variable: Confidence_9Item

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.820	2	.410	1.599	.205[b]
	Residual	38.728	151	.256		
	Total	39.548	153			

a. Dependent Variable: Confidence_9Item

b. Predictors: (Constant), Spending (Numeric), Frequency (Numeric)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	3.292	.182		18.051	<.001	2.931	3.652		
	Frequency (Numeric)	-.075	.042	-.147	-1.778	.077	-.159	.008	.953	1.049
	Spending (Numeric)	.009	.044	.016	.198	.844	-.078	.095	.953	1.049

a. Dependent Variable: Confidence_9Item

Figure 4.12: Regression Results for H3 (Model Summary, ANOVA and Coefficients).

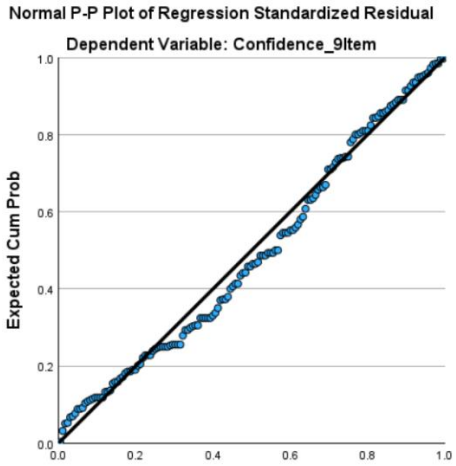


Figure 4.13: Normal P-P Plot of Regression Standardised Residuals.

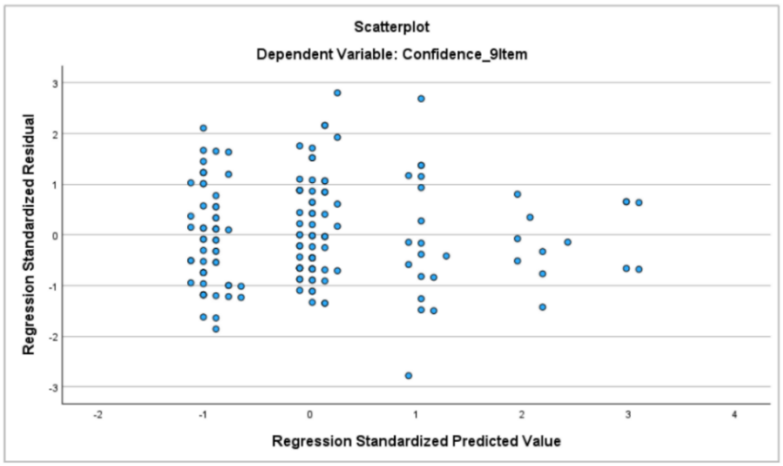


Figure 4.14: Scatterplot of Regression Standardised Residuals.

Predictor Variable	Standardised Beta (β)	t	Significance (p)	VIF
Frequency of Cosmetic Use	-.147	-1.778	.077	1.049
Cosmetic Spending	.016	.198	.844	1.049

Table 4.4: Multiple Regression Results for H3.

Note: Dependent Variable = Confidence_9Item. N = 154. Model: R = .144, R^2 = .021, Adjusted R^2 = .008. F(2,151) = 1.599, p = .205.

4.5 Additional Exploratory Findings

In addition to the three formal hypotheses, exploratory correlations were examined to provide more context on the relationships between the study variables. These are presented for exploratory purposes only. The strongest relationship observed was between social media and influencer influence ($r = .722$, $p < .001$). This very strong, positive and significant correlation indicated that respondents who felt influenced by social media also tended to feel influenced by influencers, suggesting the two were closely linked. Cosmetic spending was also weakly but significantly correlated with social media influence ($r = .220$, $p = .006$) and influencer influence ($r = .160$, $p = .048$), suggesting greater perceived influence was linked to higher spending. A weak but significant relationship was also found between frequency of use and spending ($r = .216$, $p = .007$), showing that respondents who used cosmetic products more frequently tended to spend slightly more.

In contrast, frequency of use was not significantly correlated with either influence variable. Together, these exploratory findings suggested that social media and influencer influence relate more to how much respondents spent than how often they used cosmetics. None of the cosmetic consumption behaviours or influence variables were significantly associated with self-reported confidence, which is consistent with the unsupported hypotheses reported earlier in this chapter.

Variable Pair	Pearson r	Significance (p)	Result
Social Media x Influencer Influence	.722	<.001	Significant
Cosmetic Spending x Social Media Influence	.220	.006	Significant
Cosmetic Spending x Influencer Influence	.160	.048	Significant
Frequency of Cosmetic Use x Cosmetic Spending	.216	.007	Significant
Frequency of Cosmetic Use x Social Media Influence	.109	.178	Not Significant
Frequency of Cosmetic Use x Influencer Influence	.115	.154	Not Significant

Table 4.5: Exploratory Correlations Between Study Variables.

Note: N = 154. Correlations reported are Pearson's r (2-tailed). These correlations were exploratory and did not form part of the formal hypotheses (H1-H3).

Correlations

		Frequency (Numeric)	Spending (Numeric)	Social Media Influence (Numeric)	Influencer Influence (Numeric)	Confidence_9Item
Frequency (Numeric)	Pearson Correlation	1	.216**	.109	.115	-.143
	Sig. (2-tailed)		.007	.178	.154	.077
	N	154	154	154	154	154
Spending (Numeric)	Pearson Correlation	.216**	1	.220**	.160*	-.015
	Sig. (2-tailed)	.007		.006	.048	.849
	N	154	154	154	154	154
Social Media Influence (Numeric)	Pearson Correlation	.109	.220**	1	.722**	-.095
	Sig. (2-tailed)	.178	.006		<.001	.244
	N	154	154	154	154	154
Influencer Influence (Numeric)	Pearson Correlation	.115	.160*	.722**	1	-.093
	Sig. (2-tailed)	.154	.048	<.001		.251
	N	154	154	154	154	154
Confidence_9Item	Pearson Correlation	-.143	-.015	-.095	-.093	1
	Sig. (2-tailed)	.077	.849	.244	.251	
	N	154	154	154	154	154

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Figure 4.15: Pearson Correlation Matrix of Exploratory Study Variables, Dataset 2.

4.6 Chapter Summary

This chapter presented the results of the quantitative analysis carried out on the final valid sample of 154 responses. Following data screening and preparation, the reliability of the adapted confidence scale was assessed. After the removal of Confidence Item 3, the revised nine-item scale achieved a Cronbach's Alpha of .618, and a composite confidence score was created for use in the hypothesis tests. Descriptive statistics showed respondents generally reported frequent cosmetic use, modest spending, and agreed that social media and influencers had some influence on their cosmetic product consumption. The three hypotheses were then tested. H1 (frequency of cosmetic use) and H2 (cosmetic spending) were rejected. H3, which used multiple regression to test their joint effect, was also rejected. Across all three, no significant relationship was found between cosmetic consumption behaviours and self-reported confidence. Exploratory analysis revealed a very strong relationship between social media and influencer influence, and weaker but significant relationships with spending. These findings are discussed in the next chapter.

5.0 Chapter 5: Discussion

5.1 Introduction

This chapter discusses the findings presented in Chapter 4 in relation to the existing literature reviewed in Chapter 2. The study set out to examine the relationship between cosmetic consumption behaviours, specifically frequency of cosmetic use and cosmetic spending, and self-reported confidence in Generation Z consumers in Ireland. Three hypotheses were tested, none of which were supported. This chapter interprets these findings in relation to prior research and reflects critically on why the expected relationships may not have emerged. It then discusses each hypothesis and reflects on the study's limitations and directions for further research.

5.2 Discussion of Findings

5.2.1 Frequency of Cosmetic Use and Confidence (H1)

H1 proposed a relationship between frequency of cosmetic use and self-reported confidence, but this was not supported, as no significant relationship was found. Cosmetic brands and popular opinion often assume that using cosmetic products makes people feel more confident. However, this result aligns with the more balanced view found in the literature. As discussed in Chapter 2, the link between cosmetic use and confidence has often been assumed rather than properly tested, and where it has been studied, findings have shown mixed results (Sattarpanahi *et al.*, 2024; Tiggemann and Anderberg, 2020). The literature also pointed out that confidence is context-specific and depends on the situation a person is in, rather than being a fixed outcome of behaviour (Orth and Robins, 2022; Bandura, 1977). This helps explain why no clear link or relationship appeared in this study.

For some people, frequent cosmetic use may support feelings of preparedness or control; for others, it may reflect pressure to keep up with appearance standards. These

opposing effects may cancel out across the sample, leaving no overall relationship. The ceiling effect on frequency (most respondents used cosmetics very often, leaving very little variation in the data) may also have contributed, and is discussed further in the limitations.

Frequency of use and confidence may not be connected in a simple way (Sattarpanahi *et al.*, 2024). The relationship could be shaped more by why people use cosmetics and the situations they wear them in, which a frequency measure alone cannot capture.

5.2.2 Cosmetic Spending and Confidence (H2)

H2 proposed a relationship between cosmetic spending and self-reported confidence. This was not supported, and the relationship was even weaker than that found for frequency of use. Drawing on Belk (1988) and Escalas and Bettman (2005), spending more on cosmetics, particularly premium products, was expected to signal status, reward, or aspiration, and thereby enhance confidence (Liu *et al.*, 2025). The absence of a relationship suggests higher spending did not translate into greater confidence. Instead, spending might reflect disposable income, brand loyalty, or habit rather than confidence.

The sample's spending habits help explain this. Most respondents spent little each month and very few mainly bought premium or luxury products, leaving little opportunity to detect whether higher, status-type spending related to confidence. The direction of the relationship also remains unclear, as spending might reflect pressure to keep up with trends just as much as feeling good about oneself (Liu *et al.*, 2025). This result fits with the literature's indication that spending is a mixed signal, and its link to confidence should not be assumed.

5.2.3 Joint Effects of Frequency and Spending (H3)

H3 proposed that frequency of cosmetic use and cosmetic spending jointly affected confidence. The regression model was not significant and explained only about 2% of the variation in confidence, so H3 was rejected. This is consistent with H1 and H2: since neither behaviour was linked to confidence individually, they explained little jointly. This explains little about why some people felt more confident than others.

This addresses the identified gap, as these two behaviours are rarely tested together in relation to psychological outcomes (Sattarpanahi *et al.*, 2024; Tiggemann and Anderberg, 2020). It may be that confidence has less to do with what people do with cosmetic products, and more to do with why they use them and how they feel about using them. These are things that behavioural measures alone may not capture.

5.2.4 Discussion of Exploratory Findings

Although the three hypotheses were not supported, the exploratory analysis found several significant relationships that give useful insight and align with the literature reviewed. The strongest relationship in the whole study was between perceived social media influence and perceived influencer influence, a very strong, positive correlation. Respondents who felt influenced by social media also felt influenced by influencers, suggesting the two work together rather than separately. Influencers are embedded within digital platforms, help shape cosmetic engagement, and normalise beauty routines among Generation Z (Djafarova and Bowes, 2021; Carah and Brodmerkel, 2020; Lou and Yuan, 2019).

The analysis also found that cosmetic spending was weakly but significantly linked to both social media influence and influencer influence. Frequency of use, on the other hand, was not linked to either. This suggests that digital influence had more to do with how much people spent than how often they used cosmetics. Social media may push spending upwards by making premium or trending products seem aspirational (Liu *et al.*, 2025; Carah and Brodmerkel, 2020). Everyday cosmetic use may be a settled habit,

whereas spending responds more to trend-driven online content. None of the influence variables were significantly linked to confidence; digital influence shaped what people bought, but not how confident respondents felt.

5.3 Limitations of the Study

5.3.1 Reliability of the Adapted Confidence Scale

Scale items were reworded to focus on appearance-related confidence and cosmetic product use, in line with the aims of the study. Adapting an established scale to a specific research context is a recognised approach, and the adapted items were reviewed and approved prior to data collection.

The reliability analysis ran on the original 10-item scale produced a Cronbach's Alpha of only .490, below the commonly used .70 threshold and indicates poor internal consistency (Field, 2018; Pallant, 2016). Following the standard procedure set out by Pallant (2016), item-total correlation statistics were used to identify any items weakening the scale. Confidence Item 3 was removed because it produced a negative corrected item-total correlation and the highest alpha-if-item-deleted value in the scale. A negative corrected item-total correlation shows that the item was not measuring the same idea as the rest of the scale, which is an accepted reason for its removal (Field, 2018; Pallant, 2016). Removing items using the alpha-if-item-deleted procedure is also a recognised approach in scale development, particularly for shorter scales where a single weak item can have a large effect on overall reliability (Xiao, Hau and Wang, 2024).

Removing Item 3 improved the reliability to $\alpha = .618$, which was the strongest version of the scale available. No further items were removed. This would have shortened the scale and reduced its coverage of the construct, which risks weakening the measure rather than strengthening it. The revised 9-item scale considered the most appropriate version available, and all analyses were carried out on this scale.

While α = .618 is below the .70 benchmark, a reduction in internal consistency is not unexpected when an established scale is adapted for a new context. The negative corrected item-total correlations for Items 1 and 9 suggest the adapted scale may not have measured a single coherent construct, which limits trust in the measure and may have reduced its sensitivity to any relationship with cosmetic consumption behaviours. This is acknowledged as a limitation of the confidence measure used in this study.

5.3.2 Ceiling Effect on Frequency of Cosmetic Use

Another limitation involves the frequency of cosmetic use variable. Because participants had to use cosmetic products at least occasionally, most respondents reported frequent use, and their answers clustered at the top of the scale. This created a ceiling effect and left very little variation in the data. With so little variation, it was harder to detect any relationship between frequency of use and confidence, which might partly explain why H1 was rejected. This is supported by the bootstrap CI for H1, which did not include zero, suggesting a weak negative relationship may exist that this sample was too small to detect.

5.3.3 Research Design and Time Constraints

This study was carried out over a few months within a one-year postgraduate degree, which placed practical limits on its scope. A cross-sectional design collected data at a single point in time, identifying whether relationships exist rather than their direction. Hence, it cannot determine whether cosmetic consumption influences confidence or whether more confident consumers are simply more likely to use cosmetics. Answering this would require a different research design.

5.3.4 Sampling Approach and Reach

The study used non-probability convenience sampling, with the survey distributed through the researcher's own social media networks. As the researcher is based in Dublin, respondents were likely concentrated there and may share similar backgrounds or interests. The findings may reflect an urban sample more than a nationally representative one. The final sample of 154 responses was sufficient for the analyses but relatively small, and the findings relate specifically to Generation Z consumers in Ireland. Much existing quantitative research in this area has been conducted in non-Western countries (An and Ngo, 2025; Ameen *et al.*, 2022). This study cannot claim its findings would apply beyond its context.

Demographic data such as gender, income, and specific age were not collected. This means that the study could not examine whether the relationship between cosmetic consumption and confidence differs across demographic groups. Future research including these variables could explore this.

5.3.5 Self-Reported Data

Finally, all the data in this study were self-reported. Self-reported answers can be affected by memory, estimation, or a desire to present oneself in a certain way. For example, respondents may have over or under-estimated their monthly spending. This means the behavioural measures may not accurately reflect actual behaviour.

5.4 Future Research Directions

A key direction for future research relates to research design. A longitudinal study collecting data from the same people over time could explore whether cosmetic consumption affects confidence, or vice versa (Setia, 2016), which the present cross-sectional design could not answer.

The ceiling effect on frequency also suggests future research should include consumers who use cosmetics rarely or not at all, creating more variation and a clearer picture of whether frequency relates to confidence.

A larger sample would also provide more statistical power to detect weaker relationships (Pallant, 2016). This is relevant given that H1's Spearman correlation approached significance ($\rho = -.155$, $p = .056$). A relationship may exist but be too weak to detect reliably at this sample size.

The exploratory findings also raise a question worth following up. Digital influence was linked to spending but not confidence. It would be worth exploring why it affects what consumers buy without affecting how they feel about themselves. Qualitative research could examine the reasons behind cosmetic use in a way behavioural measures cannot (Sattarpanahi *et al.*, 2024; Robertson and Kingsley, 2021).

Future research could measure the motivations behind cosmetic use directly. This study measured how often people used cosmetics and how much they spent, but not why. As suggested throughout, confidence might depend less on the behaviour itself and more on the reasons behind it (Sattarpanahi *et al.*, 2024). Measuring whether cosmetics are used for self-expression, enjoyment, or to manage appearance-related concerns may reveal relationships that frequency and spending alone cannot capture.

Finally, given the geographic concentration of the sample, a study drawing on respondents from a wider range of counties across Ireland would give a fuller national picture of Generation Z cosmetic consumption behaviours.

5.5 Practical and Broader Implications

Despite the non-significant hypothesis results, the findings of this study still have practical value for marketers, brands and consumers. The clearest implication is how cosmetics are marketed. Brands frequently position their products as a route to greater confidence. This study does not support that assumption: neither frequency of use nor

spending was linked to how confident respondents felt. Confidence-based marketing claims may therefore not reflect how consumers actually experience cosmetic use. Brands relying on this messaging may be promising more than their products can deliver.

The exploratory findings offer a more useful marketing insight: digital influence was linked to spending but not frequency, suggesting digital marketing is more effective at shaping purchases than at changing everyday habits. Influencer partnerships and social media campaigns may therefore be better suited to driving purchases than building routine use. The strong link between the two channels suggests that they work together rather than separately.

The finding that higher spending was not associated with higher confidence is worth highlighting, particularly for younger consumers who may feel pressure to spend more to feel confident. While cosmetics serve valuable purposes, the assumption that spending more improves confidence was not supported here.

5.6 Chapter Summary

This chapter discussed the findings in relation to the literature reviewed. None of the hypotheses were supported, as neither frequency of cosmetic use nor spending was significantly related to confidence. Social media and influencer influence were strongly linked, and both related to spending but not to frequency of use or confidence. This suggests that digital influence shapes what consumers buy more than how they feel. The chapter also discussed the study's limitations, future research directions, and practical implications. The following chapter presents the overall conclusions.

6.0 Chapter 6: Conclusion

This study looked at the relationship between cosmetic consumption behaviours, specifically frequency of use and spending, and self-reported confidence among Generation Z consumers in Ireland. A quantitative, cross-sectional survey was used, with 154 valid responses collected. Confidence was measured using an adapted version of the SSES. The relationships were tested through three hypotheses using Pearson and Spearman correlations and multiple regression analysis.

All three hypotheses were rejected. No significant relationship was found between frequency of cosmetic use and confidence (H1), or between cosmetic spending and confidence (H2). Frequency and spending also did not jointly affect confidence (H3), with the regression model explaining only around 2% of the variation in confidence scores. Descriptive findings showed that respondents used cosmetics frequently but spent relatively modestly, and social media and influencers had a moderate influence on their consumption habits. Exploratory analysis found a very strong relationship between social media and influencer influence, and weaker but significant links between these forms of influence and spending, though not with confidence itself.

Looking back at the study's objectives, Objective 1 was met, as clear patterns of frequency of use, spending, and product type preference were identified. Objectives 2 and 3 were only partially met, since no significant relationships were found between the behaviours and confidence. This does not mean the study failed to answer its questions. A result showing no relationship is still valid, and it challenges the common marketing assumption that using or spending more on cosmetics builds confidence. Overall, this study achieved its aim of examining how cosmetic consumption behaviours relate to confidence among Generation Z consumers in Ireland, even though the expected relationships were not found.

This study contributes to the literature by treating confidence as its own separate construct, rather than treating it as the same thing as self-esteem. It also tested measurable behaviours rather than relying on attitudes alone. The findings suggest that

confidence is more likely shaped by why and how people use cosmetics, not simply how often or how much they spend.

A few recommendations follow. Future research should use a longitudinal design to work out the direction of any relationship between cosmetic use and confidence. A larger, more geographically diverse sample would be beneficial, since this study's sample was concentrated in an urban area. Researchers could consider measuring the motivations behind cosmetic use directly, instead of only measuring frequency and spending. For marketers, these findings suggest confidence-based advertising claims should be used carefully, since digital marketing here seemed to drive purchases more than build lasting confidence. This is worth noting for anyone marketing cosmetics to Generation Z consumers.

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8.0 Appendices

8.1 Appendix A

8.1.1 Final Survey Preview and Questions

All figures in this section were sourced from Microsoft forms.

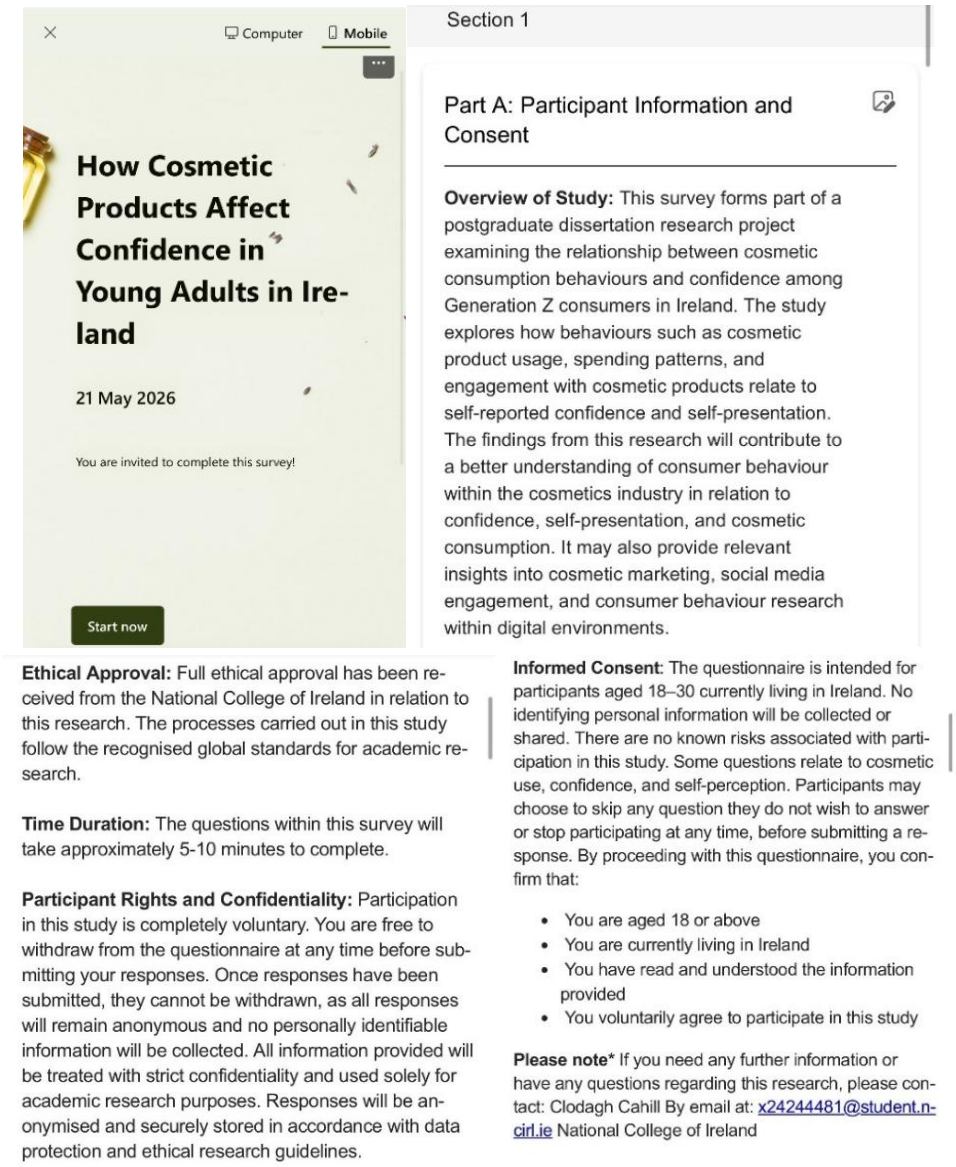


Figure A.1: Section 1, Part A: Participant Information and Consent. Link to Microsoft Survey Form: https://forms.cloud.microsoft/e/iMsBVH3yBz

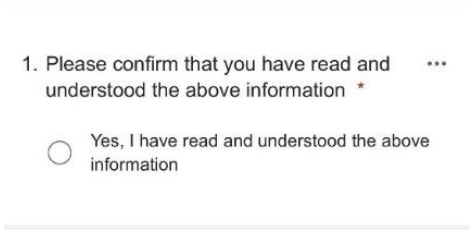


Figure A.1: Continued

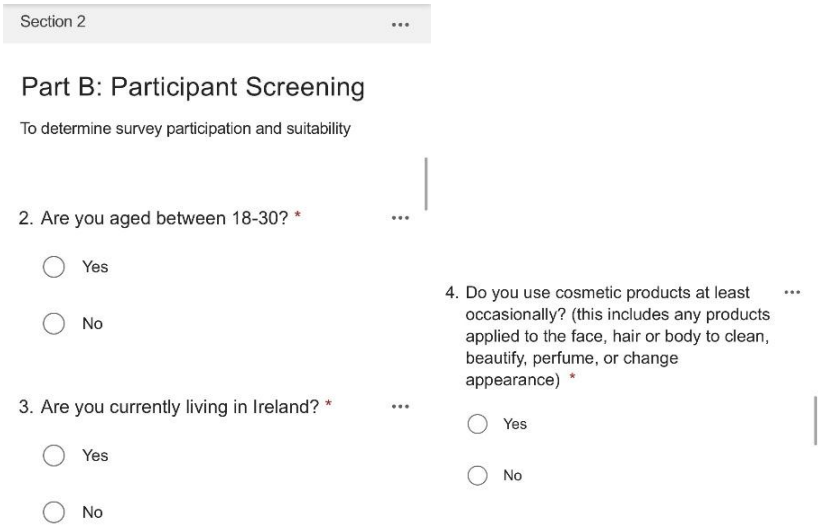


Figure A.2: Section 2, Part B: Participant Screening Questions.

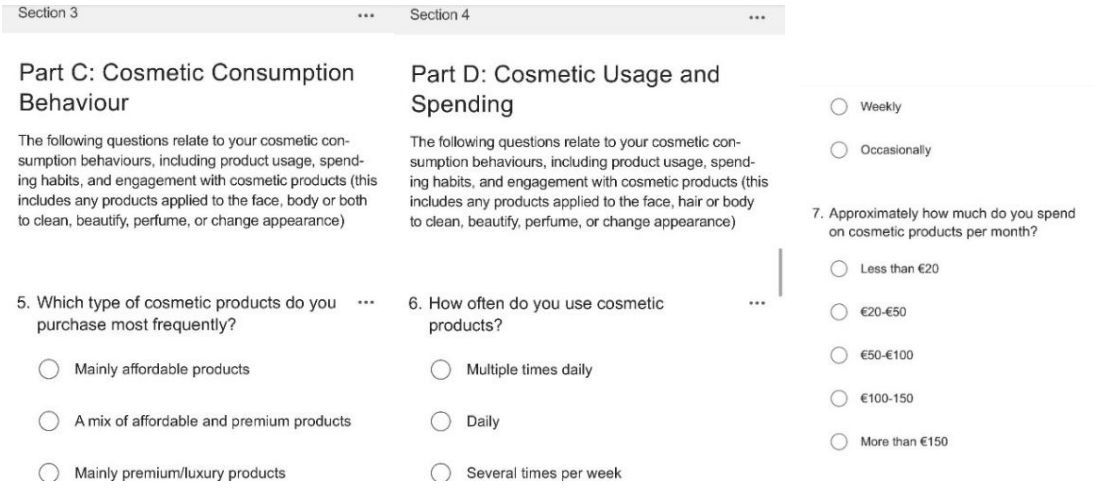


Figure A.3: Section 3, Part C: Cosmetic Consumption Behaviour & Section 4, Part D: Cosmetic Usage and Spending Questions.

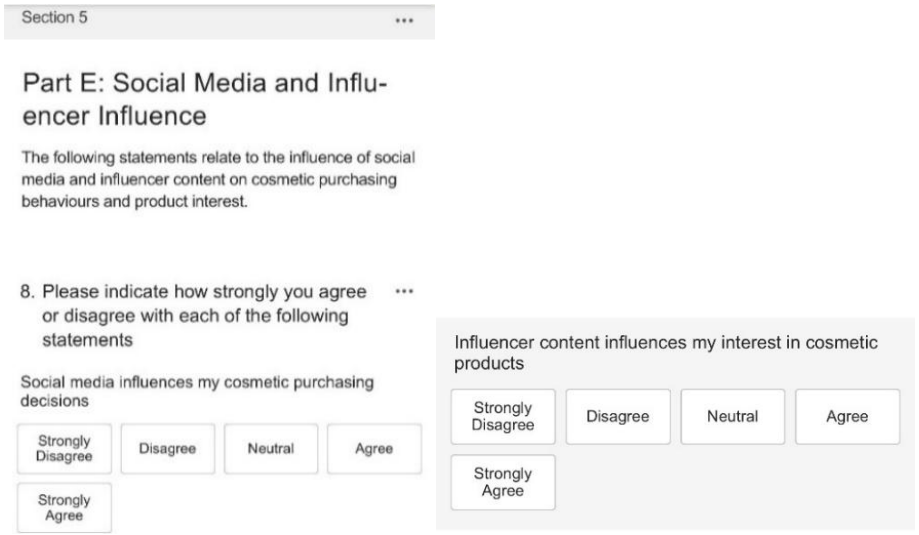


Figure A.4: Section 5, Part E: Social Media and Influencer Influence Questions.

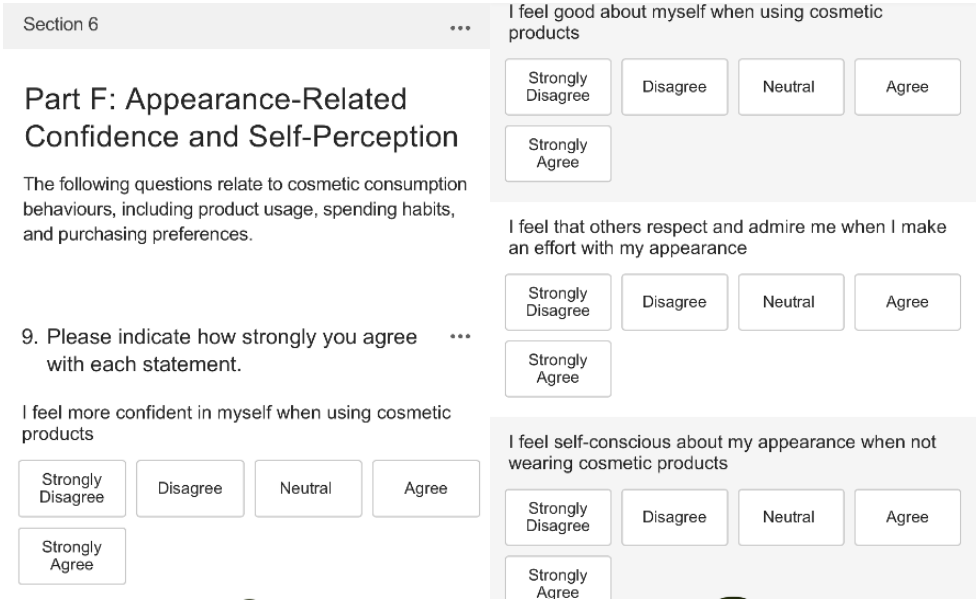


Figure A.5: Section 6, Part F: Appearance-Related Confidence and Self-Perception Questions.

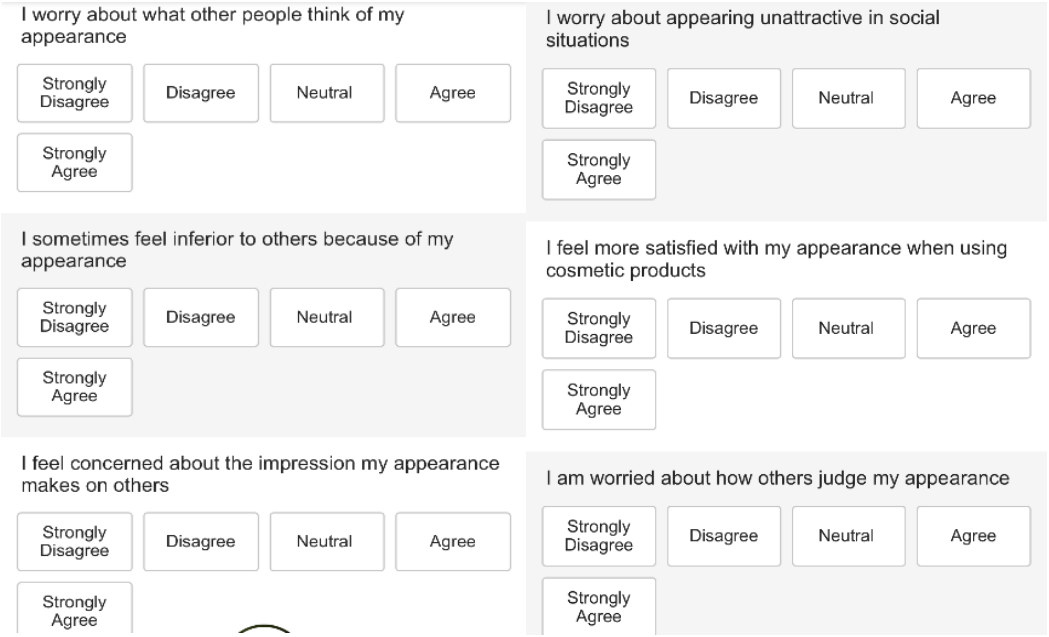


Figure A.5: Section 6, Part F: Continued.

8.2 Appendix B

8.2.1 Adaptation of the SSES Confidence Items

Original SSES Item	Adapted Item Used in This Study
I feel confident about my abilities.	I feel more confident in myself when using cosmetics products.
I feel good about myself.	I feel good about myself when using cosmetic products.
I feel that others respect and admire me.	I feel that others respect and admire me when I make an effort with my appearance.
I feel self-conscious.	I feel self-conscious about my appearance when not wearing cosmetic products.
I am worried about what other people think of me.	I worry about what other people think of my appearance.
I feel inferior to others at this moment.	I sometimes feel inferior to others because of my appearance.
I feel concerned about the impression I am making.	I feel concerned about the impression my appearance makes on others.
I feel unattractive.	I worry about appearing unattractive in social situations.
I am pleased with my appearance right now.	I feel more satisfied with my appearance when using cosmetic products.
I am worried about looking foolish.	I am worried about how others judge my appearance.

Table B.1: Adaptation of the SSES Items (Heatherton and Polivy, 1991).

8.3 Appendix C

8.3.1 Evidence of Final Survey Completion and Distribution

All figures in this section are screenshots of the researcher's own survey distribution across Instagram, Facebook, LinkedIn, WhatsApp and Snapchat.

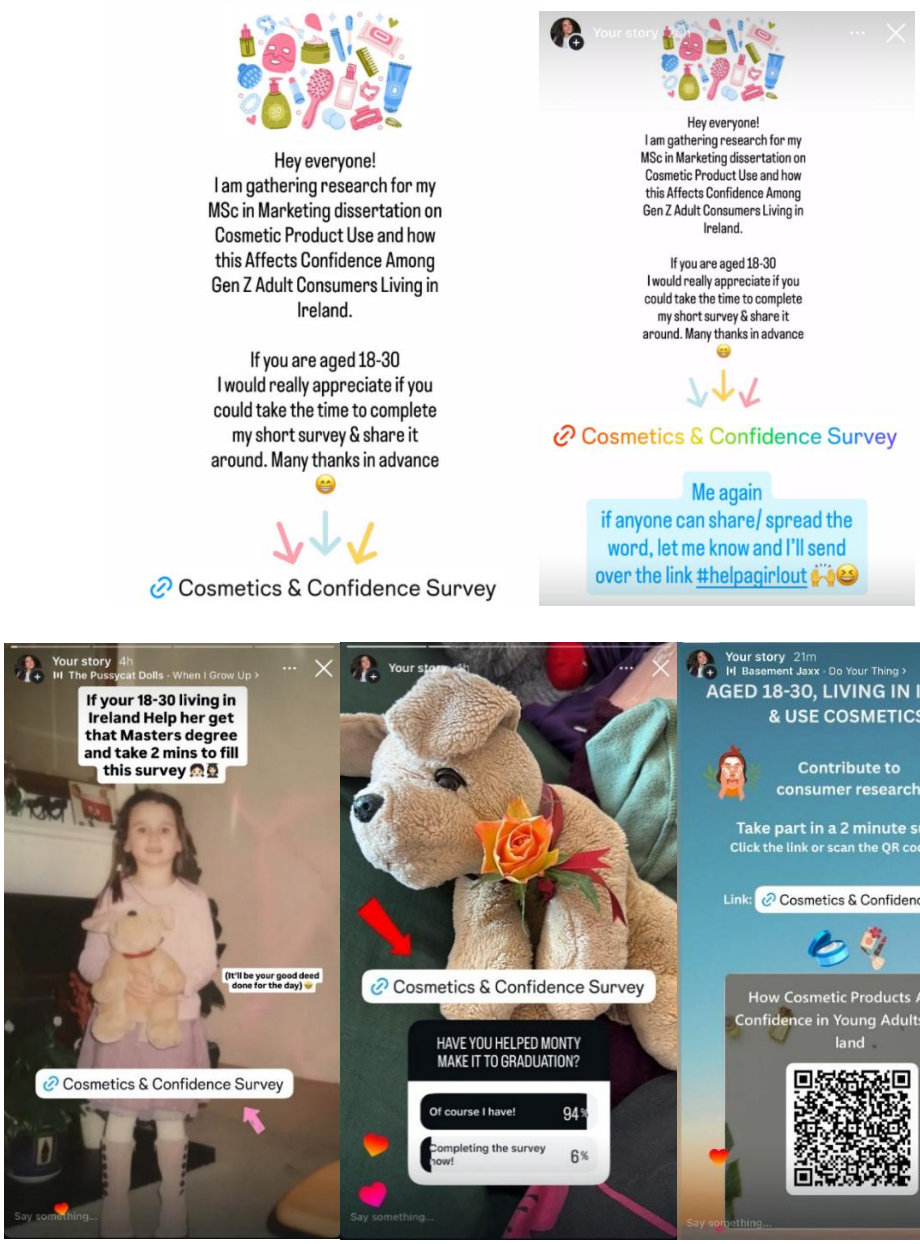


Figure C.1: Survey Distribution via Instagram Stories.

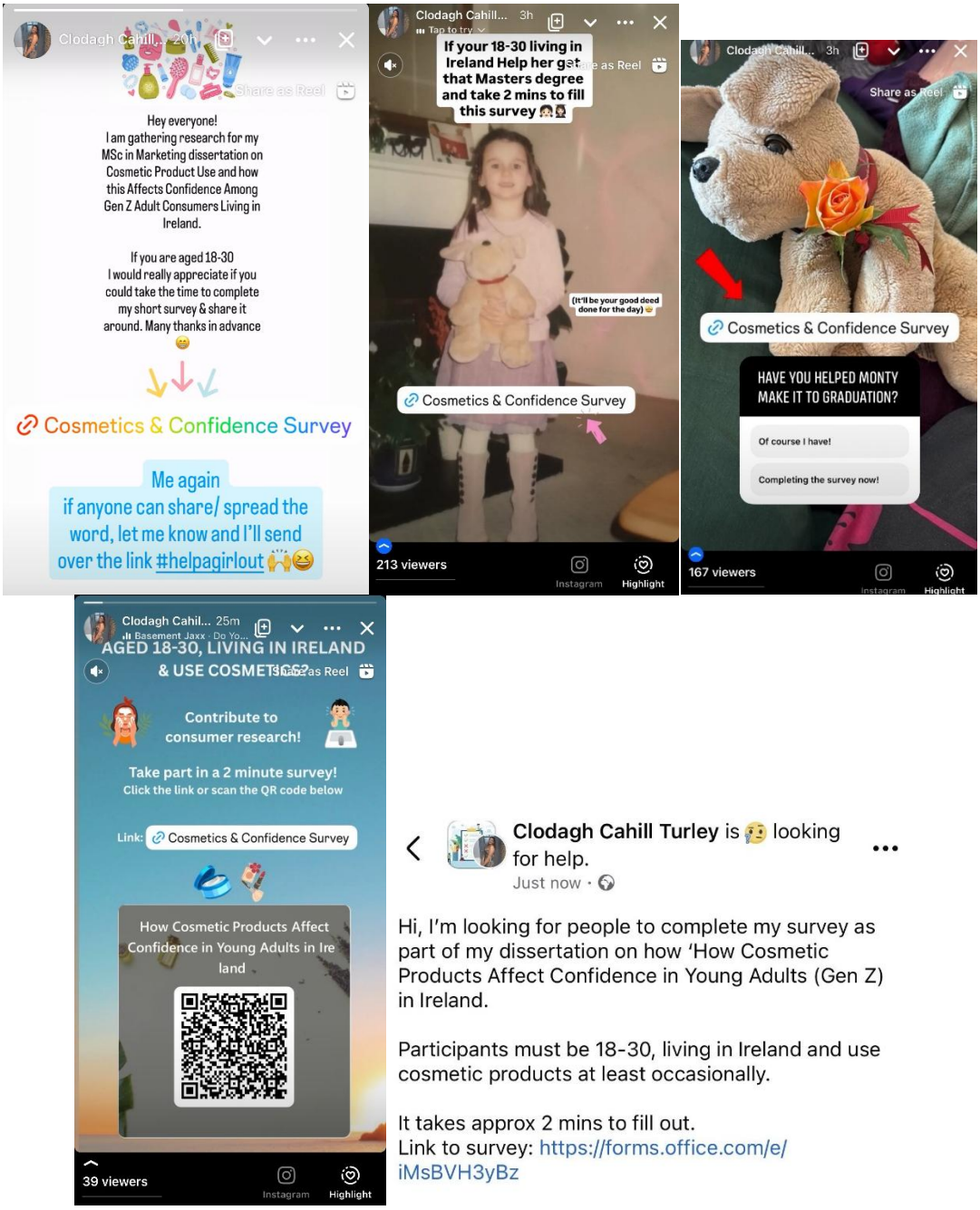


Figure C.2: Survey Distribution via Facebook Stories.

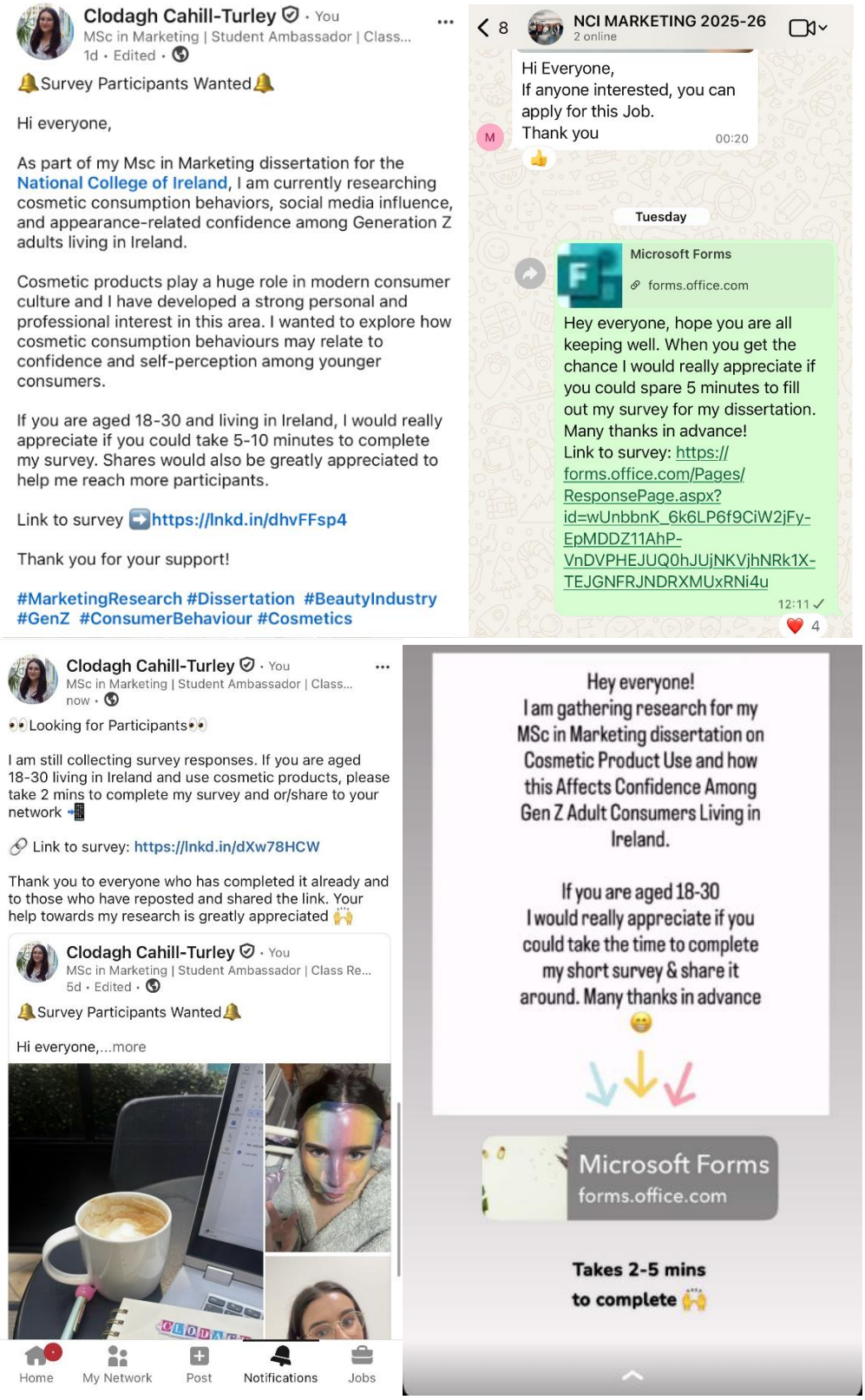


Figure C.3: Survey Distribution via LinkedIn, WhatsApp and Snapchat.

8.4 Appendix D

8.4.1 Dataset 2 (primary 9-item) Supplementary SPSS Outputs

All figures in this section were generated using IBM SPSS v29, using the author's own analysis.

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	152	98.7
	Excluded[a]	2	1.3
	Total	154	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.618	.515	9

Item Statistics

	Mean	Std. Deviation	N
Confidence Item 1 (Numeric)	4.1711	.82008	152
Confidence Item 2 (Numeric)	4.2500	.75687	152
Confidence Item 4 (Reverse)	2.5526	1.11456	152
Confidence Item 5 (Reverse)	2.3684	1.13163	152
Confidence Item 6 (Reverse)	2.6842	1.16472	152
Confidence Item 7 (Reverse)	2.4474	1.07216	152
Confidence Item 8 (Reverse)	2.1184	1.06064	152
Confidence Item 9 (Numeric)	4.0461	.79184	152
Confidence Item 10 (Reverse)	2.4342	1.05272	152

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Confidence Item 1 (Numeric)	22.9013	22.116	-.327	.706
Confidence Item 2 (Numeric)	22.8224	20.465	-.113	.665
Confidence Item 4 (Reverse)	24.5197	16.238	.310	.587
Confidence Item 5 (Reverse)	24.7039	13.852	.609	.495
Confidence Item 6 (Reverse)	24.3882	13.471	.636	.483
Confidence Item 7 (Reverse)	24.6250	14.050	.630	.493
Confidence Item 8 (Reverse)	24.9539	14.349	.596	.505
Confidence Item 9 (Numeric)	23.0263	22.595	-.393	.713
Confidence Item 10 (Reverse)	24.6382	13.862	.676	.481

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
27.0724	20.266	4.50181	9

Figure D.1: Reliability Analysis Output for the Revised 9-Item Confidence Scale.

Bootstrap Specifications

Sampling Method	Simple
Number of Samples	1000
Confidence Interval Level	95.0%
Confidence Interval Type	Bias-corrected and accelerated (BCa)

Figure D.2: Bootstrap Specifications for the Correlation Analysis.

Correlations

				Confidence_9Item	Frequency (Numeric)	Spending (Numeric)
Confidence_9Item	Pearson Correlation			1	-.143	-.015
	Sig. (2-tailed)				.077	.849
	N			154	154	154
	Bootstrap[c]	Bias		0	-.005	-.005
		Std. Error		0	.074	.084
		BCa 95% Confidence Interval	Lower	.	-.287	-.172
			Upper	.	-.018	.130
Frequency (Numeric)	Pearson Correlation			-.143	1	.216**
	Sig. (2-tailed)			.077		.007
	N			154	154	154
	Bootstrap[c]	Bias		-.005	0	.006
		Std. Error		.074	0	.082
		BCa 95% Confidence Interval	Lower	-.287	.	.033
			Upper	-.018	.	.384
Spending (Numeric)	Pearson Correlation			-.015	.216**	1
	Sig. (2-tailed)			.849	.007	
	N			154	154	154
	Bootstrap[c]	Bias		-.005	.006	0
		Std. Error		.084	.082	0
		BCa 95% Confidence Interval	Lower	-.172	.033	.
			Upper	.130	.384	.

**. Correlation is significant at the 0.01 level (2-tailed).

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Figure D.3: Bootstrap Correlation Output with 95% BCa Confidence Intervals.

8.5 Appendix E

8.5.1 Dataset 1 (10-item) Full Results and Comparison SPSS Outputs

All figures in this section were generated using IBM SPSS v29, using the author's own analysis.

Case Processing Summary

		N	%
Cases	Valid	152	98.7
	Excluded[a]	2	1.3
	Total	154	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.490	.367	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Confidence Item 1 (Numeric)	26.8026	18.941	-.260	.575
Confidence Item 2 (Numeric)	26.7237	17.513	-.051	.524
Confidence Item 3 (Numeric)	27.0724	20.266	-.412	.618
Confidence Item 4 (Reverse)	28.4211	14.577	.228	.455
Confidence Item 5 (Reverse)	28.6053	12.042	.565	.317
Confidence Item 6 (Reverse)	28.2895	11.863	.566	.312
Confidence Item 7 (Reverse)	28.5263	12.476	.546	.334
Confidence Item 8 (Reverse)	28.8553	12.827	.501	.353
Confidence Item 9 (Numeric)	26.9276	19.392	-.324	.586
Confidence Item 10 (Reverse)	28.5395	12.118	.619	.306

Figure E.1: Reliability Analysis Output for the Original 10-Item Confidence Scale (Dataset 1).

Correlations

Correlations

		Confidence_10 Item	Frequency (Numeric)	Spending (Numeric)
Confidence_10Item	Pearson Correlation	1	-.121	-.012
	Sig. (2-tailed)		.136	.878
	N	154	154	154
Frequency (Numeric)	Pearson Correlation	-.121	1	.216**
	Sig. (2-tailed)	.136		.007
	N	154	154	154
Spending (Numeric)	Pearson Correlation	-.012	.216**	1
	Sig. (2-tailed)	.878	.007	
	N	154	154	154

**. Correlation is significant at the 0.01 level (2-tailed).

Nonparametric Correlations

Correlations

			Confidence_10 Item	Frequency (Numeric)	Spending (Numeric)
Spearman's rho	Confidence_10Item	Correlation Coefficient	1.000	-.138	-.046
		Sig. (2-tailed)	.	.088	.573
		N	154	154	154
	Frequency (Numeric)	Correlation Coefficient	-.138	1.000	.245**
		Sig. (2-tailed)	.088	.	.002
		N	154	154	154
	Spending (Numeric)	Correlation Coefficient	-.046	.245**	1.000
		Sig. (2-tailed)	.573	.002	.
		N	154	154	154

**. Correlation is significant at the 0.01 level (2-tailed).

Figure E.2: Pearson and Spearman Correlation Results for H1 and H2 (Dataset 1).

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	3.299	.154		21.426	<.001		
	Frequency (Numeric)	-.053	.036	-.124	-1.497	.136	.953	1.049
	Spending (Numeric)	.006	.037	.014	.173	.863	.953	1.049

a. Dependent Variable: Confidence_10Item

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.122[a]	.015	.002	.42764

a. Predictors: (Constant), Spending (Numeric), Frequency (Numeric)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.414	2	.207	1.133	.325[b]
	Residual	27.615	151	.183		
	Total	28.029	153			

a. Dependent Variable: Confidence_10Item

b. Predictors: (Constant), Spending (Numeric), Frequency (Numeric)

Figure E.3: Regression Results for H3 (Dataset 1).