IIIEE Theses 2024:21

Dare to Repair?

Exploring the Intention-Behaviour Gap Among Consumers of Nudie Jeans

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Thesis for the fulfilment of the
Master of Science in Environmental Management and Policy
Lund, Sweden, May 2024

Published in 2024 by IIIEE, Lund University, P.O. Box 196, S-221 00 LUND, Sweden,
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ISSN 1401-9191

Acknowledgements

Completing this thesis has been an enriching journey, made possible by many dedicated people's invaluable support and guidance. Heartfelt thanks to my supervisor, Carl Dalhammar, for your constant encouragement and outstanding feedback at every stage. Your readiness to assist at any hour has been particularly appreciated and made this journey easier. I am also immensely grateful to Nudie Jeans, Voyado, and RISE for the collaboration opportunity. Working with you, Kevin Gelsi, Karin Gardström, and Karolina Vikingsson on this project has been a dream come true. Your support, creative ideas, and joy during our meetings have greatly enriched this experience.

A special mention must go to my family—Joanna Berggren, Sune Berggren, Alicia Dahlbeck, and Alexander Bokander. Your unwavering love and understanding have been a pillar of strength during this time. Huge thanks to my old colleagues and friends in the denim world, including Mauricio Ferrada, Enno Taleb, Johan Fredriksson, Stokki Stockhausen, Sofia Karlsson, and Rasmus Birgersson, for your help with the pilot study. Further gratitude to Eric Sundvall, Tobias Olsson, and Matthew Stone for the interviews and showing us around the Nudie Jeans store in Stockholm.

Thank you, Linda Grahn-Rosell, Isabelle Severholt, Luis Mundaca, and Per Mickwitz, for your insightful discussions and feedback on my statistical work, which greatly enhanced the thesis. Lastly, I express my deepest gratitude to my new family—B29. Words cannot capture what we share. Thank you for welcoming me into this beautiful community; it has been a wonderful experience!

Abstract

The textile and clothing industry, driven by a linear economic model, significantly impacts the environment, underscoring the urgent need for sustainable reforms within this sector. The circular economy (CE) offers a solution by promoting resource reuse and recycling to minimise raw material extraction and waste. A key component of the CE is extending product lifespans through repair, which helps reduce both resource consumption and waste. However, the intention-behaviour gap (IBG) in repair practices presents a substantial challenge to the CE transition, as consumers often intend to repair but seldom do so. This study aimed to measure the repair IBG among Nudie Jeans consumers, assess variations across age, gender, household size, and continent, and evaluate effective email communication strategies to mitigate this gap. In a mixed methods design, 1600 survey respondents were randomly selected for statistical analysis, revealing a statistically significant IBG of medium to large practical relevance. Almost one-fourth of the respondents demonstrated an IBG (8.9-24.1%). There were no demographic variations, except for women, whose IBG was twice that of men. From the initial survey respondents, 12 participants were purposely selected for online interviews due to their substantial IBGs. Thematic analysis of these interviews identified key strategies to encourage repairs: educational content with clear instructions, rational and emotional persuasion emphasising environmental and cost-saving benefits, personalised implementation support, and interactive features like clickable links and rich visual content. The analysis also provided some insight into gender differences. Fashion industry stakeholders, such as marketers and brands, should refine communication strategies by integrating educational initiatives to empower consumers with knowledge, repair skills, and personalised features for encouragement. Policymakers should support policies that encourage repair services accessibility and educational campaigns to elevate consumer awareness. These approaches could be the most effective in bridging the IBG in repair practices.

Keywords: Circular Economy, Intention-Behaviour Gap, Repair Practices, Consumer Behaviour, Textile and Clothing Industry

Executive Summary

Background and Aim

The textile and clothing industry significantly contributes to environmental degradation, with high carbon emissions, water usage, and waste production. The prevailing linear economic model, characterised by mass production and overconsumption, exacerbates these issues by relying on unlimited resource use and perpetual growth. In contrast, the circular economy (CE) proposes a sustainable solution that minimises waste and raw material use by converting waste back into resources. Within this framework, repair is a key strategy for extending product lifespans, thus reducing resource consumption and waste.

A significant challenge for the CE transition remains: the intention-behaviour gap (IBG) in repair practices. For instance, while many consumers intend to repair their garments, they often do not follow through. It is crucial to investigate these inclined abstainers because they represent a significant potential for increasing repair activities. Repair practices depend heavily on consumer engagement. It is thus vital to motivate and recognise consumers as central to the CE transition.

Effective communication and marketing strategies are essential in this regard. These tools can educate consumers and promote repair practices by fostering engagement and facilitating knowledge transfer. Since marketing has traditionally fueled overconsumption, it must also take responsibility for this transition. Instead of encouraging consumption, communication efforts should support sustainable practices to assist in bridging the IBG by offering targeted information and education. This shift requires understanding consumer preferences, which is necessary for tailoring communication effectively. More research is needed to identify the most effective communication strategies and to understand consumer preferences, which is crucial for practitioners to refine marketing and increase CE participation. Addressing these needs is essential for successfully transitioning to a more sustainable, circular textile and clothing industry.

This study aims to measure the IBG in repair practices among Nudie Jeans' consumers and identify the most effective email communication strategies to bridge this gap from a consumer perspective. The research questions addressed are:

- **RQ1**: What is the magnitude of the IBG regarding jeans repair practices among Nudie Jeans consumers?
- **SQ**: Which demographic groups, such as age, gender, household size, and continent of residence, exhibit the largest IBG related to jeans repair practices among Nudie Jeans' consumers?
- **RQ2**: What email communication and marketing strategies are potentially most effective in closing the IBG related to repair practices?

Methodology

This study used an explanatory sequential mixed methods design, beginning with a survey to quantify the IBG and then semi-structured interviews to explore consumer communication preferences. The **quantitative phase (RQ1 and SQ)** involved emailing a survey to 300,000 global Nudie Jeans consumers, from which 2,598 responded. After ensuring informed consent and anonymity, 1,626 responses meeting the inclusion criteria were considered, and 1,600 were selected through single-stage random sampling for final analysis using R software and RStudio. The survey, validated for content accuracy and reliability through test-retest, included four demographic and four specific questions on repair intentions and behaviours, split into two different formats:

- **Dichotomous**: Yes/no questions on intention and behaviour were analysed with McNemar's test to assess the statistical significance of the IBG (RQ1). Additional descriptive statistics and Cohen's *g* for effect size were calculated.
- **Continuous**: Questions using a 0-100 scale measured the magnitude of intentions and behaviours. The Wilcoxon Signed-Rank test determined the median IBG's statistical significance (RQ1). Variations across demographic groups (SQ) were analysed with Kruskal-Wallis tests, effect sizes were provided by *r,* and additional descriptive statistics were included.

The **qualitative phase (RQ2)** explored the most effective email communication strategies to bridge the IBG. Semi-structured interviews were conducted online with 12 survey respondents selected for their significant IBG magnitudes. These interviews, transcribed in real-time, adhered to a protocol informed by a conceptual framework that integrates theories such as the Theory of Planned Behavior (TPB), Social Cognitive Theory (SCT), Prototype Willingness Model (PWM), and Elaboration Likelihood Model (ELM). Thematic analysis identified key themes and insights into consumer preferences for these strategies.

Main Findings

RQ1: What is the magnitude of the IBG regarding jeans repair practices among Nudie Jeans consumers?

The McNemar's and Wilcoxon Signed-Rank tests revealed a statistically significant IBG for inclined abstainers, ranging from 8.9% to 24.1%, with medium to large effect sizes. The median IBG was 11 on a 100-point scale, although most individual IBG values clustered towards the higher end, indicating substantial IBGs among most participants. While 8.9% is relatively modest, 24.1% represents a significant portion, nearly one-fourth of the sample. These consumers are relatively environmentally conscious, suggesting that the gap could be even more prominent in the general population.

SQ: Which demographic groups, such as age, gender, household size, and continent of residence, exhibit the largest IBG related to jeans repair practices among Nudie Jeans' consumers?

The Kruskal-Wallis tests found no significant variations in IBG across demographic factors such as age, household size, and continent, suggesting a similar IBG within these groups. However, a statistically significant difference in median IBG was observed between genders ($p<0.05$), with women exhibiting a median IBG twice that of men but with minimal practical significance. Further studies with equal sample distributions are needed to confirm these findings and assess whether gender-specific strategies are warranted.

RQ2: What email communication and marketing strategies are potentially most effective in closing the IBG related to repair practices?

The qualitative analysis identified key themes for effective email communication strategies. The success of these strategies depends on capturing and retaining the reader's attention. Thus, emails should be short, clear and engaging to avoid being ignored or deleted. Implementing the most effective strategies identified in this research can achieve this goal:

- **Education –** This strategy was ranked as the most effective. Providing clear, step-by-step tutorials and video demonstrations educates consumers and empowers them to engage in repair activities. Directly addressing common barriers, such as lacking skills, shows significant potential in fostering proactive repair behaviours.
- **Rational and Emotional Persuasion –** Highlighting environmental and cost-saving benefits, rational persuasion proved highly effective due to consumer preference for factual information. Emotional persuasion, while slightly less preferred, possibly due to its

subconscious influence, was still effective, mainly through visual appeals like repair customisations. Combining these strategies—clear logic with emotional appeal—may be most effective, engaging conscious preferences and more profound emotional responses.

- **Personalised Implementation Support –** Targeted email reminders with detailed action plans specifying when, how, and where to undertake repairs were perceived as highly effective, as they provide clear guidance and assist with planning, making behaviour more likely to occur. However, effectiveness depends on personalising these emails to ensure relevance and minimise perceived intrusion.
- **Interactive Features and Visual Elements –** Incorporating interactive elements like clickable links and rich visual content, such as videos and before-and-after pictures, effectively engages consumers to maintain interest and enhances the educational value of the content, such as with repair tutorials. Visuals in customer testimonials can also demonstrate repair quality, which was found to be important.

These strategies also address common barriers identified in this study: time constraints, lack of skills, and limited access to professional repair services. In contrast, social influences and observational learning seemed less effective among consumers over 30 who prioritise personal autonomy but may resonate more with younger generations. Additionally, this research indicates that women may exhibit a greater tendency toward clothing self-repair, engaging in more advanced tasks like embroidery. At the same time, men often lack these skills and prefer professional services. These findings suggest the potential for personalised communication strategies to address these differences in repair behaviours more effectively.

Recommendations

In conclusion, integrating educational content, rational and emotional persuasion, personalised implementation support, and engaging features form a robust approach to bridging the IBG in repair practices. Marketers, brands, and retailers in the fashion industry should refine communication strategies by integrating educational initiatives that empower consumers with essential repair skills through clear and accessible video tutorials. Emphasising the environmental and economic benefits of repair can further enhance engagement. Businesses should develop personalised communication features, such as customer profiles on company websites, to allow consumers to track product conditions and receive tailored repair reminders. Incorporating interactive and visual elements into email communications can significantly boost engagement and support effective repair practices. Policymakers should encourage the accessibility of repair services and support educational campaigns to raise consumer awareness about the benefits of garment longevity and sustainability.

This study uniquely advances IBG research through methodological advancements, including ensuring scale compatibility for reliable results, adopting an engaging slider response format, and developing a new conceptual framework for communication strategies. However, further inquiries have emerged:

- Future studies should examine the relevance of SCT and PWM in younger generations, assess the effectiveness of social influences and observational learning in this group, and determine whether to include or exclude these elements from the conceptual framework.
- Investigating the IBG in repair practices among the general population is necessary to identify if other communication preferences emerge, guiding broader interventions.
- Future research should use gender-balanced samples to determine if women exhibit a more pronounced IBG compared to men and to confirm findings that women may prefer self-repair while men opt for professional services. Understanding these differences can help tailor more effective communication strategies for each gender, especially in clothing repair.

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Abbreviations

CE - Circular Economy
CEAP - Circular Economy Action Plan
IBG - Intention-Behaviour Gap
TRA - Theory of Reasoned Action
TPB - Theory of Planned Behaviour
SCT - Social Cognitive Theory
PWM - Prototype Willingness Model
ELM - Elaboration Likelihood Model

1 Introduction

The escalating environmental degradation due to unsustainable consumption and production demands immediate action, especially within the global textile and clothing sector. Approximately 60% of global textile fibre production serves the fashion industry (Niinimäki et al., 2020). This sector notably contributes to greenhouse gas emissions, producing 1.2 billion tonnes of carbon dioxide equivalents in 2015, exceeding emissions from international flights and maritime shipping combined (Ellen MacArthur Foundation, 2017).

The environmental footprint extends beyond carbon emissions, encompassing raw material and land use, water, energy and chemical consumption, and solid waste production (Koszewska, 2018). For instance, the sector's annual water consumption of 93 billion cubic metres contributes 20% of global industrial wastewater pollution. Furthermore, the industry generates over 92 million tonnes of waste annually, with only 13% recycled, less than 1% repurposed into new clothing items, and approximately 75% either landfilled or incinerated (Ellen MacArthur Foundation, 2017; Niinimäki et al., 2020).

Alarmingly, global textile fibre production nearly doubled from 58 million tonnes in 2000 to 109 million tonnes in 2020. This increase highlights the urgent need to address environmental concerns, as projections are set to reach 145 million tonnes by 2030. Furthermore, the rise of fast-fashion business models and shifts in consumer preferences have contributed to the purposeful disposal of numerous new garments even before they are worn—a phenomenon called product destruction (Roberts et al., 2023). Additionally, the average number of times a garment is worn has decreased by 36% (Ellen MacArthur Foundation, 2017; European Parliament, 2023b).

The increase in production and related environmental challenges have drawn adverse criticism to the traditional linear economic model, often named the take-make-use-dispose model. Operating under the assumption of unlimited resources and perpetual growth, this model poses a significant threat to the long-term sustainability of both economic and natural ecosystems (Ghisellini et al., 2016; Kemper & Ballantine, 2023; Vidal-Ayuso et al., 2023). Criticised for disregarding environmental and social impacts, the linear model exclusively prioritises economic gains through continuous promotion of new product consumption, ultimately leading to increased waste generation (Potting et al., 2017; Shehu et al., 2023).

In response to these challenges, the circular economy (CE) has emerged as a promising solution to the linear development model (Ghisellini et al., 2016; Potting et al., 2017). This innovative approach emphasises decoupling economic activity from raw material extraction and waste production while facilitating waste conversion into new raw materials or resources. As the CE replaces the end-of-life approach and reshapes the linear model into a circular regenerative framework (Alves et al., 2022; Cruz & da Cruz, 2023), it is a concept driving the transition towards a more sustainable future (Wiegand & Wynn, 2023)

The CE is grounded in three core principles: eliminating waste and pollution, circulating products and materials at their highest value, and regenerating nature (Ellen MacArthur Foundation, n.d.). These principles are implemented through action strategies called the 'R-principles'. The 9R framework is notable for its comprehensive approach, encompassing 'refuse', 'rethink', and 'reduce' to eliminate waste and pollution, 'reuse', 'repair', 'refurbish', 'remanufacture', and 'repurpose' to circulate products and materials, and 'recycle' and 'recover' to regenerate nature. Prioritising the early stages of this hierarchy promotes greater circularity (Potting et al., 2017; Wiegand & Wynn, 2023).

Implementing R-strategies establishes the basis for developing circular business models, products, and processes. Transitioning to circular business models is crucial for mitigating the environmental impacts of the textile and clothing industry, requiring companies to broaden their focus beyond production phases to encompass product use and end-of-life stages (EEA, 2022; Wiegand & Wynn, 2023). Among the R-strategies, 'repair' is particularly effective in extending product lifetime (Laitala et al., 2021). For example, innovative circular clothing companies like Nudie Jeans have integrated repair services and other R-strategies into their business plan. Nudie Jeans offers free lifetime repairs as part of their eco-cycle philosophy, including the stages of break-in, repair, reuse, and recycle (Nudie Jeans, 2019).

The CE transition also requires significant changes in consumer consumption patterns. Therefore, encouraging pro-circular behaviours is crucial, especially repair practices which rely heavily on consumer engagement (European Parliament, 2023b; Wiegand & Wynn, 2023). Consumers should be recognised as critical actors within the CE, given their participation in extending product lifetime (Vidal-Ayuso et al., 2023). However, most CE research marginalises the consumers' role (Kemper & Ballantine, 2023).

Providing consumers with relevant information encourages interest and engagement in pro-circular practices like repair. Communication and marketing facilitate knowledge transfer, empowering consumer participation in the CE framework (Mostaghel et al., 2023; Vidal-Ayuso et al., 2023). Furthermore, incorporating education into marketing initiatives improves their success (Mostaghel et al., 2023). This suggests that corporate communication initiatives that offer guidance on extending product life could significantly promote pro-circular consumer behaviour. However, achieving this requires re-educating consumers to challenge the perception that new is always the best choice (Shehu et al., 2023; Vidal-Ayuso et al., 2023).

Marketing's role in promoting responsible production and consumption is vital for advancing policy objectives crucial to the transition to a CE, as outlined in initiatives such as the United Nations 2030 Agenda's 17 Sustainable Development Goals (EEA, 2022; Gomes et al., 2022; Ray & Nayak, 2023). Goal 12 emphasises sustainable production and consumption, closely resonating with CE principles. Extending product lifespan also supports Goal 13 on climate change and facilitates waste reduction, contributing to Goals 14 and 15, which focus on protecting terrestrial and aquatic ecosystems (Arman & Mark-Herbert, 2021).

The European Union (EU) has highlighted the importance of CE and sustainable consumption through policy initiatives such as the EU Green Deal for sustainable growth (Wiegand & Wynn, 2023). A cornerstone of this effort is the Circular Economy Action Plan (CEAP), which empowers consumers for the transition and introduces strategies for Sustainable and Circular Textiles (European Parliament, 2023a). Moreover, in March 2023, the EU adopted a proposal for the Right to Repair to facilitate consumer goods repair, promote reuse, and reduce waste, in line with the CEAP and broader EU Green Deal objectives (European Commission, n.d.).

1.1 Problem Definition

Despite significant policy initiatives, a considerable challenge to the CE transition persists in consumer repair practices. Although consumers often intend to repair products, they fail to follow through, highlighting a substantial gap between intention and behaviour. This disparity, known as the intention-behaviour gap (IBG), presents a significant threat to the successful adoption of circular practices (Fachbach, 2020; Laitala et al., 2021; Svensson-Hoglund et al., 2023).

Although the IBG in repair practices is recognised, research on IBG in the CE and sustainability is limited. While some studies explore IBG in energy research and climate change adaptation (Kesternich et al., 2022; Wang et al., 2023), the majority focus on the purchase stage, examining the IBG in sustainable and ethical consumption (Hassan et al., 2016; Kaur & Bhardwaj, 2021; Park & Lin, 2020; Parsatemijani, 2020; Rausch & Kopplin, 2021). This focus aligns with marketing theories concentrating on pre-purchase and purchase stages, reflecting the influence of the traditional linear consumption model, where consumer significance diminishes post-purchase (Mostaghel et al., 2023; Vidal-Ayuso et al., 2023)

As consumer decisions extend beyond purchases in the CE, research should shift focus towards the use and end-of-life phases (Vidal-Ayuso et al., 2023). Some studies have explored the end-of-life stage, investigating the IBG in recycling and waste reduction initiatives (Echegaray & Hansstein, 2017; Fraj-Andrés et al., 2022; Zhang et al., 2023). Fachbach (2020) studied the IBG in the use phase for repair practices, which is one of the rare attempts to measure the IBG.

Most IBG research in the sustainability field focuses on exploring determinants of intention and behaviour, relationships of the constructs[1], or theoretical foundations rather than measuring IBG magnitude (Fraj-Andrés et al., 2022; Kaur & Bhardwaj, 2021; Zhang et al., 2023). A few studies combine theoretical testing with IBG measurements (Fachbach, 2020; Hassan et al., 2016; Kesternich et al., 2022; Parsatemijani, 2020), with Fachbach (2020) standing out as the only study that focuses on repair practices.

While quantifying the IBG for repair is crucial, exploring strategies to bridge it is equally important. Given communication's essential role in empowering consumer participation through information and education provision (Mostaghel et al., 2023), leveraging these tools to bridge the IBG could prove effective. Academic discourse underscores the necessity of exploring the most effective communication strategies (Muranko et al., 2018, 2019; Romero-Luis et al., 2022), while marketing practitioners stress the need for qualitative insights into consumer preferences. Access to such information would enable companies to strategically tailor communication and foster greater adoption of circular practices among consumers rather than only marketing new products (sustainability product engineer, personal communication, December 5, 2023). Nudie Jeans, the circular clothing company mentioned earlier, emphasises the importance of researching consumers' perceptions of company communication and identifying potential strategy improvements. Clear communication incentives are prioritised, as knowledge alone is insufficient for behaviour change. Therefore, the company advocates educating consumers about the benefits of CE practices by combining informative communication with nudging techniques (Circular product manager, personal communication, December 11, 2023).

The practitioners' perspectives align with academic research, indicating consumers' insufficient knowledge of product reparability and durability and the limited research on consumer perspectives of CE in general (European Commission, 2018). Despite a decline in the EU repair industry over the past decades (Korsunova et al., 2023), Nudie Jeans has seen increased demand for their repair services, potentially due to offering free repairs (Laitala et al., 2021). However, Nudie Jeans recognises its growth potential (Circular product manager, personal communication, December 11, 2023), suggesting a possible IBG despite high demands. Thus, this interdisciplinary research holds significance for academia and practitioners, highlighting the need to quantify the IBG in repair practices and understand consumer preferences for more effective CE marketing to bridge the gap.

[1] Constructs serve as the building blocks of theories, which aid in understanding mechanisms underlying specific phenomena (Lærd Dissertation, n.d.).

1.2 Aim and Research Questions

This study aims to assess and measure the IBG in repair practices among Nudie Jeans' consumers and to explore consumer preferences of email communication to bridge the IBG. Thus, this research addresses the broader challenges of transitioning the textile and clothing industry from a linear to a CE.

The primary objective of this research is to describe and quantify the difference between consumers' intention to repair and their actual repair behaviour. Accordingly, the first research question (RQ) and sub-question (SQ) are formulated as follows:

RQ1: What is the magnitude of the IBG regarding jeans repair practices among Nudie Jeans consumers?

SQ: Which demographic groups, such as age, gender, household size, and continent of residence, exhibit the largest IBG related to jeans repair practices among Nudie Jeans' consumers?

The second objective is to explore consumer preferences regarding how companies should market and communicate circular practices such as repair, as this could bridge the IBG in repair practices. Thus, the second RQ is:

RQ2: What email communication and marketing strategies are potentially most effective in closing the IBG related to repair practices?

1.3 Scope and Delimitations

Within the overarching VIVACE project, which investigates the Swedish industry's transition to a CE (Frid, 2024), this research focuses on how companies can drive consumer behaviour change in repair practices to support this transition. The study is conducted in collaboration with Nudie Jeans, Research Institutes of Sweden (RISE), and Voyado—a customer experience platform designed to help retailers understand the entire customer journey. Voyado manages Nudie Jeans' marketing efforts and provides access to an email database comprising 300,000 global Nudie Jeans consumers. This research emphasises email marketing due to the valuable access to an extensive database and the established effectiveness of email as a marketing channel (Bowden & Mirzaei, 2021). Consequently, this collaboration presents a valuable case for examining repair practices and email marketing strategies within the CE framework.

This study adopts a mixed-method design, which affects its scope. From the 300,000 global Nudie Jeans consumers, constituting the population of interest, 1600 survey respondents were selected for IBG quantification (RQ1 and SQ). Delimitations excluded consumers who did not own a pair of Nudie jeans or had not required repair, as these criteria were essential for responding to the questions regarding intentions and behaviours. The qualitative phase is intended to complement the quantitative findings; thus, from the survey respondents, 12 individuals were selected to participate in an online interview (RQ2). Interviews were limited to consumers intending to repair their jeans but not following through, as this group holds significant potential for increasing repair activities and is, therefore, relevant to exploring the most effective email communication strategies for bridging the IBG.

While providing valuable insights into this consumer group, the generalisability of the findings to broader populations or other brands may be limited. However, given Nudie Jeans' sustainability focus, it is probable that their consumers share similar sustainability values.

Consequently, any identified IBG within this environmentally conscious group may indicate a more significant gap among the broader public with lower environmental awareness.

1.4 Ethical Considerations

This research received financial support from RISE, which funded the premium SurveyMonkey account for data collection as part of the collaboration. This support facilitated access to essential survey features tailored to each partner's research needs. However, none of the involved partners influenced the analysis and conclusions drawn in this study. Moreover, survey and interview participants were provided with detailed information about the research collaboration, study objectives, and assurances of anonymity. They were explicitly informed of their right to decline to answer specific questions or withdraw from participation at any stage, ensuring voluntary involvement (Creswell & Creswell, 2018). Data was securely stored on a password-protected hard drive, using assigned codes to protect sensitive participant information. Data on intentions, behaviours, and demographics from the quantitative survey and key themes from the qualitative interviews were available upon publication. Additionally, the research design was reviewed against the criteria for research requiring an ethics board review at Lund University. It was found not to require a statement from the ethics committee.

1.5 Audience

This study aims to contribute to academia by addressing the understudied area of the IBG in repair practices within sustainability and CE research. Fashion stakeholders, such as retailers, brands, and marketers, can use the results on consumer preferences for email communication strategies to facilitate consumers' bridging of the IBG in repair practices, thereby fostering increased consumer engagement, promoting repair behaviour, and advancing circularity. Furthermore, policymakers can use these insights to inform policies promoting CE initiatives within the fashion sector.

1.6 Disposition

Chapter 1, Introduction, provides an overview of CE in textiles, consumer repair behaviour, and marketing, focusing on the specific issue of the IBG in repair practices. It outlines the study's aim and RQs, scope and delimitations, ethical considerations, and intended audiences and provides a thesis outline.

Chapter 2, Literature Review, examines the state-of-the-art knowledge in various relevant research fields and identifies research gaps. The chapter also provides the conceptual framework developed based on existing theories, such as the TPB, which guided data collection and analysis.

Chapter 3, Research Design, Materials and Methods, illustrates the explanatory sequential mixed methods design and then describes the data collection and analysis for the quantitative and qualitative phases, respectively.

Chapter 4, Results, presents the main findings regarding the magnitude of the IBG in repair practices and demographic variations derived from the quantitative survey, along with key themes identified through qualitative thematic analysis of interviews. These results are then further discussed in *Chapter 5, Discussion*.

The final section, *Chapter 6, Conclusions,* summarises the study findings, addresses RQs, offers practical recommendations for businesses and policymakers, and suggests avenues for future research.

2 Literature Review

This section first reviews the current state-of-the-art knowledge across various fields and identifies existing research gaps. Subsequently, relevant theories are discussed, and the conceptual framework is presented.

2.1 Bridging IBG of Repair Practices through Communication

2.1.1 Communication and Marketing

Romero-Luis et al. (2022) argue that traditional marketing has contributed to the prevalence of the linear economic model, intensifying consumption by reinforcing take-make-use-dispose behaviours embedded in social consumption. Nevertheless, marketing continuously adapts to align with market trends and stakeholder expectations in response to dynamic economic changes (Mostaghel et al., 2023; Romero-Luis et al., 2022).

Notably, the field has also frequently embraced concepts that positively impact the environment and society, as exemplified by the emergence of green and social marketing (Jan, 2022; Mostaghel et al., 2023). While green marketing involves strategic consumer-oriented actions, reflecting companies' commitment to minimising environmental impact and ensuring sustainability in their products and services (Jan, 2022; Rainatto et al., 2024), social marketing emphasises societal well-being. Social marketing seeks to influence individuals, encouraging voluntary behaviour change for the collective benefit of individuals and society (Coffie et al., 2023; Romero-Luis et al., 2022). Its effectiveness lies in strategically applying marketing approaches with a dedicated focus on target behaviour and audience benefits, considering barriers and motivational factors for the desired behaviour change (Coffie et al., 2023).

Community-based social marketing is a theoretical framework that assumes that changing behaviour is fundamental to achieving sustainability (Romero-Luis et al., 2022). Persuasive communication is part of this framework and can be described as a behaviour-change intervention that aims to alter or strengthen others' values, beliefs, attitudes and behaviours (Muranko et al., 2018, 2019; Romero-Luis et al., 2022). Several studies have found persuasive communication to be effective in changing people's attitudes, subjective norms, perceived behavioural control (Auwalin et al., 2022; Muranko et al., 2018, 2019), environmental awareness (Auwalin et al., 2022), perceptions, intentions, and behaviours (Muranko et al., 2018, 2019), factors connected according to the Theory of Planned Behaviour (TPB); further clarified in Section 2.2.1.

A common marketing approach for persuasive communication involves the use of 'nudges', a strategy to indirectly influence individuals' behaviour predictably by modifying their environment. Nudging aims to guide individuals' actions towards sustainable choices benefiting the environment and society without restricting their options. Research has also found nudging effective in closing the IBG (Rainatto et al., 2024).

Including education in marketing and communications is a crucial strategy for responsible consumption and sustainable development. Communication strategies should focus on education and building long-term consumer relationships to transform information into concrete action. However, intrinsic behavioural change requires more than brief, isolated traditional advertising—it necessitates ongoing consumer education about sustainability. Nevertheless, traditional marketing captures attention, making it a valuable tool for initiating longer-term communication. By combining conventional marketing with persuasive communication and continuous education, marketing efforts can better inspire actions that

lead to a CE transition (Romero-Luis et al., 2022). This integrated approach is critical in industries like fashion, where education is vital to promoting circular practices (Urmínová & Kusá, 2020). Recognising marketing's contribution to reinforcing the linear economic model, it is reasonable and imperative for the field to shoulder the responsibility of establishing a new ethical relationship between citizens and sustainable consumption (Romero-Luis et al., 2022).

A potential approach to integrating conventional marketing, persuasive communication, and education is through digital content marketing, which involves generating and distributing brand-related content to increase consumer engagement and perceived brand value. Brand-initiated formats like e-newsletters, blogs, quizzes, podcasts, and consumer-generated content, like images, can foster genuine, authentic customer relationships. By offering informative and engaging content, digital content marketing can add value to the consumer's experience and strengthen brand engagement while addressing informational and emotional needs through elements of entertainment and diversion (Bowden & Mirzaei, 2021).

Email marketing is highly effective digital content marketing, offering a cost-effective way for businesses seeking to maximise impact with limited resources. It is the third most popular digital communication channel, surpassed only by social media and corporate websites, as it is valued for its direct and personalised approach. Additionally, email marketing is 40 times more effective at acquiring new customers than social media platforms, partly because it is more personal as it taps into consumers' intrinsic motivations rather than relying only on external incentives. Furthermore, email marketing is favoured for its ability to inform and persuade efficiently (Bowden & Mirzaei, 2021).

Despite this popularity, email marketing has faced criticism. While email communications have been found to increase consumers' propensity to open and view emails, only 18% of consumers in the retail category open the brand-related emails they receive. This low engagement can be due to perceptions of email as intrusive or irrelevant, with many consumers using spam filters to block unsolicited messages. Critics also argue that email marketing can be viewed as a static advertising tool, shaping consumer browsing behaviour without fostering meaningful interaction. However, given its effectiveness in consumer acquisition and its ability to address intrinsic motivations, email marketing is expected to remain a key communication channel despite the rise of more interactive social media (Bowden & Mirzaei, 2021).

Research Gaps in Communication and Marketing

While sustainability within marketing has been explored, research on marketing within the CE remains limited (Jan, 2022; Mostaghel et al., 2023). Studies addressing marketing and CE have predominantly taken a theoretical approach (Mostaghel et al., 2023) or have delved into the IBG concerning circular product purchases (Rainatto et al., 2024). The existing marketing research landscape overlooks various stages in the customer journey, mainly neglecting the post-purchase stage (Mostaghel et al., 2023).

Given the potential effectiveness of nudging in addressing the IBG in purchasing, researchers recognise the imperative for further investigation into nudging (Rainatto et al., 2024). Exploring nudging in the post-purchase IBG is particularly intriguing, especially concerning pro-circular behaviours like repairing. There is a need to study the influence and application of persuasive communication and identify the most effective forms of communication regarding pro-circular behaviours (Muranko et al., 2018, 2019). This research is necessary, as the academic community has faced challenges in identifying the most effective communication approach to encourage sustainable behaviours (Romero-Luis et al., 2022).

Furthermore, researchers emphasise the necessity to explore behaviour change theories like the TPB and others (Coffie et al., 2023; Muranko et al., 2018). While existing studies predominantly adopt an organisational perspective (Jan, 2022), it is crucial to delve into consumer behaviour change influenced by CE communication (Coffie et al., 2023; Muranko et al., 2019; Romero-Luis et al., 2022). There is also a need for a deeper investigation into consumer perspectives and their commitment to pro-circular behaviours (Herédia-Colaço, 2023; Jan, 2022).

2.1.2 Consumer Behaviour and Repair

Examining the CE from the consumer perspective is gaining significance (Korsunova et al., 2023), particularly as consumer behaviour emerges as a crucial factor in driving the transition to a more sustainable system. Consumer behaviour research breaks down consumption into purchase, use, and end-of-life. Notably, the use and end-of-life phases align with the understudied post-purchase stage in marketing, and especially in the use stage, consumer behaviour and decision-making play a key role in the success of repair (Shevchenko et al., 2023). Research into the post-purchase stage of the customer journey, particularly the use phase, holds significant interest from both marketing and consumer behaviour perspectives.

Consumers can contribute to the CE by slowing or closing loops in each step of the consumer journey, particularly as they bridge the usage and end-of-life phases. Repair is key to slowing the loop and ensuring fair access to various products (Shevchenko et al., 2023; Svensson-Hoglund et al., 2023). Prolonged lifespans are made possible by both the intrinsic durability of a product and the care provided by consumers, which ultimately acknowledges consumers as product caretakers (Laitala et al., 2021; Rogers et al., 2021). The decision to initiate repair, inherently driven by consumers, requires understanding their perceptions, motivations, and choices and addressing barriers to repair for cultivating a circular consumption culture (Terzioğlu, 2021).

Research has extensively documented various barriers to clothing repair, including practical, socioeconomic, social, psychological, and systemic barriers (McLaren & McLauchlan, 2015). Practical barriers typically involve logistical challenges that impede repair. A critical practical barrier is the lack of convenience, which deters consumers from seeking professional repair services or attempting repairs themselves (Laitala et al., 2021). Other practical barriers include limited access to repair equipment and necessary skills and a general lack of knowledge and confidence to do repairs (Laitala et al., 2021; Rogers et al., 2021; Terzioğlu, 2021). Furthermore, a lack of awareness of professional repair services further complicates the repair process (Rogers et al., 2021). Time constraints are another significant practical barrier, with many consumers indicating insufficient time for repair (Diddi & Yan, 2019; Terzioğlu, 2021).

Socioeconomic barriers can play a significant role in preventing clothing repair. These barriers are related to financial costs and economic conditions influencing consumer behaviour. A significant socioeconomic barrier is the varying availability of money for repair (Laitala et al., 2021), affecting consumers' ability to afford repair services or even basic repair materials. High costs of professional repair services and low costs of replacement products are additional socioeconomic barriers (Diddi & Yan, 2019; Rogers et al., 2021), which promotes a throwaway culture (McLaren & McLauchlan, 2015).

Social barriers to clothing repair often arise from the stigma associated with visibly mended clothing. This stigma is linked to traditional views of poverty and economic hardship, causing many to avoid wearing repaired clothes to prevent social judgement and a sense of shame (Laitala et al., 2021; McLaren & McLauchlan, 2015; Rogers et al., 2021). Negative perceptions

of repair are also tied to the notion that repair work is 'women's work' or an unnecessary domestic chore rather than a trait of care (Diddi & Yan, 2019; McLaren & McLauchlan, 2015; Rogers et al., 2021). These social attitudes can lead people to avoid visibly repaired clothing (Terzioğlu, 2021).

Psychological barriers to clothing repair arise from the widespread availability of cheap products for consumers (Terzioğlu, 2021). One significant barrier is the cultural reference for new over repairing old items, creating a mindset of devaluing repair (Laitala et al., 2021; Rogers et al., 2021). This perception contributes to a lack of emotional attachment to products, leading to the belief that they are not worth repairing (Laitala et al., 2021; McLaren & McLauchlan, 2015). Another barrier is mistrust in repair quality, and although Rogers et al. (2021) could not confirm this, other studies have identified this barrier. Additionally, many products are presented as 'complete' or finished, discouraging personalisation and customisation of items (Diddi & Yan, 2019; McLaren & McLauchlan, 2015). Thus, society's declining need for repair skills has decreased these capabilities (McLaren & McLauchlan, 2015).

The psychological barriers to clothing repair are primarily influenced by contemporary consumer culture, particularly the fast fashion industry's emphasis on mass production and rapid consumption (Diddi & Yan, 2019; McLaren & McLauchlan, 2015). This culture promotes emotional detachment and a throwaway mindset on a systemic level, wherein inexpensive and disposable clothing is valued over durable, repairable garments (McLaren & McLauchlan, 2015). Another systemic barrier is the limited access to education and training in repair skills (Laitala et al., 2021). Additionally, in some education systems, gender norms can affect students' acquired skills, potentially influencing their access to repair-related education (Rogers et al., 2021).

Across all categories, the three most common barriers to clothing repair are a lack of skills and confidence, financial costs, and time constraints (Diddi & Yan, 2019; Laitala et al., 2021; McLaren & McLauchlan, 2015; Rogers et al., 2021; Terzioğlu, 2021). Some studies suggest that basic mending techniques require minimal abilities, equipment and time (Laitala et al., 2021; McLaren & McLauchlan, 2015). However, other research indicates that even highly skilled quilters and embroiderers often do not view their expertise as applicable to clothing repair (Diddi & Yan, 2019), revealing a gap between general crafting and specific repair skills.

Table 2-1. Table showing practical, socioeconomic, social, psychological, and systemic barriers to clothing repair

Practical	Socioeconomic	Social	Psychological	Systemic
Lack of convenience	Varying availability of money for repair	Stigma and social judgement associated with repair	Emotional detachment	Fast fashion culture
Limited access to repair materials, tools, and professional repair services	High cost of professional repair services	Gender stereotypes	Perception that new is better	Limited education and training
Lack of necessary skills, knowledge, or confidence for repair	Low cost of replacement products		Perception of products as complete	Education reinforcing gender norms
Time constraints for repair activities			Mistrust in repair quality	

Source: Diddi & Yan, 2019; Laitala et al., 2021; McLaren & McLauchlan, 2015; Rogers et al., 2021; Terzioğlu 2021.

Research Gaps in Consumer Behaviour and Repair

Scholars have extensively examined consumer behaviours and contributions to CE development (Jan, 2023; Korsunova et al., 2023). Recently, studies have shifted focus from theoretical decision-making models and individual decision processes to more comprehensively exploring consumers' actual practices and experiences (Korsunova et al., 2023; Shevchenko et al., 2023). Research has explored various aspects, including consumer knowledge, culture, awareness of product circularity, and barriers to consumer behaviour in CE practices (Shevchenko et al., 2023).

However, a research gap persists in understanding behaviour change within the CE (Muranko et al., 2018). Further studies are needed to address previously identified barriers and facilitate the development of effective strategies to promote pro-circular behaviours (Rainatto et al., 2024). This gap extends to repair research, requiring exploring methods to motivate individuals (Terzioğlu, 2021).

2.1.3 The 'Intention-Behaviour' Gap

The IBG underscores the inconsistency between consumers' stated intentions and their actual behaviours at various stages of the consumption process, including purchasing, usage, and post-usage activities (Shevchenko et al., 2023). As most research on the IBG has focused on the purchase phase, there is a growing need to research the latter stages. The use phase requires particular research attention, as some studies suggest a significant gap exists in repair practices (Laitala et al., 2021; Svensson-Hoglund et al., 2023).

Studies on consumer repair practices for household appliances among EU-28 citizens reveal that 77% of consumers are willing to repair rather than buy a new product, but only 64% engage in repair activities (Laitala et al., 2021). Further research indicates that younger consumers are most interested in repair but have limited knowledge, skillset, and lack of motivation to acquire these skills to engage in repair behaviour (Svensson-Hoglund et al., 2023). These findings indicate a noticeable IBG, suggesting that stronger intentions may not necessarily translate into corresponding behaviours. Nonetheless, these studies do not attempt to quantify the extent of the gaps.

Theories suggest that strong intentions often translate into a higher likelihood of corresponding actions (Coffie et al., 2023; Muranko et al., 2019). However, stronger intentions that do not lead to action indicate a larger IBG, emphasising the importance of accurate measurement and quantification of the gap. Despite this, only a few studies have undertaken efforts to quantify and statistically test the IBG, indicating the need for more comprehensive research.

A few studies have attempted to quantify the IBG, each using a different approach (Fachbach, 2020; Hassan et al., 2016; Kesternich et al., 2022; Parsatemijani, 2020). As noted earlier, Fachbach (2020) is the only study quantifying the IBG in repair practices. The results revealed a statistically significant difference ($p<0.01$) between stated intentions and actual repair behaviour, indicating a considerable IBG in this context. However, using different scales as response formats to measure intention and behaviour caused scale incompatibility, reducing the correlation between constructs. Since scale compatibility improves the accuracy of predictions, it is essential for the reliable measurement of the IBG (Fishbein & Ajzen, 2009).

Another study that attempted to quantify the IBG also highlighted the issue of scale incompatibility (Hassan et al., 2016). A literature review of 15 studies on ethical consumption showed that none satisfied the condition of scale compatibility. However, Parsatemijani (2020)

quantified the IBG in ethical consumption and met the condition of scale compatibility. Lastly, one study that attempted to quantify the IBG in climate change adaptation was a longitudinal study in which intention and behaviour were measured on different occasions (Kesternich et al., 2022).

The IBG can be attributed to individuals who intend to act but ultimately do not and those who act without prior intention. This inconsistency can be examined through a 2x2 matrix that contrasts intention (positive vs. negative) with behaviour (performance vs. non-performance). As shown in Table 2-2, this matrix helps categorise participants into four patterns of association between intention and behaviour: those with positive intentions who act (inclined actors), those with positive intentions who do not act (inclined abstainers), those with negative intentions who act (disinclined actors), and those with negative intentions who abstain (disinclined abstainers) (Sheeran, 2005).

Table 2-2. Matrix demonstrating the four patterns of association between intention and behaviour

	Behaviour	
Intention	Performance	Non-Performance
Positive	Inclined Actors	Inclined Abstainers
Negative	Disinclined Actors	Disinclined Abstainers

Adapted from Sheeran (2005).

The 2x2 matrix offers a structured framework for analysing the IBG, allowing researchers to identify patterns of consistency and inconsistency in intention and behaviour (Sheeran, 2005). Consistency is observed in inclined actors and disinclined abstainers, indicating no gap between intention and behaviour. In contrast, inconsistency arises from inclined abstainers and disinclined actors contributing to the IBG. Sheeran (2005) found that inclined abstainers—individuals with positive intentions who do not act—are primarily responsible for the IBG, contributing the most to this gap.

2.1.4 Demographics

The IBG in consumer repair practices requires consideration of demographic differences such as age, gender, continent, and household size as they serve as key indicators of pro-circular behaviours and may impact the results. As the observed rate of actual repair behaviour may exhibit variation based on the studied consumer group, considering demographic factors is crucial in anticipating consumer behaviour in the CE (Laitala et al., 2021; Rogers et al., 2021).

Research indicates that traditional gender roles strongly influence repair tendencies. Regarding self-repair, men are more likely to undertake tasks demanding mechanical abilities, such as repairs of household appliances, electronics, and vehicles, rather than mending clothes. In contrast, women typically engage in maintenance and care activities, such as clothing and furniture self-repair. Regarding hiring professional repair services, women tend to do so more frequently for most product types, except clothing, where the sample size was not large enough to indicate whether men or women were more likely to seek professional repair (Rogers et al., 2021).

Age-related findings reveal contradictions, emphasising the role of demographic factors. Rogers et al. (2021) observed no significant age differences, while Laitala et al. (2021) noted a higher inclination toward repair activities among older consumers. Socioeconomic factors, such as larger household sizes, correlate with an increased likelihood of repair (Rogers et al.,

2021). However, families with small children, possibly constrained by time, demonstrate lower repair tendencies (Laitala et al., 2021).

In CE research, consumers are often "oversimplified" when portrayed as rational actors, neglecting the intricate interplay of individual characteristics shaping dynamic decision-making in diverse contexts. Thus, scholars advocate for additional research on demographic factors and a nuanced understanding of individuals within their contexts. Additionally, qualitative research is crucial for comprehensively understanding demographic differences and gaining deeper insights into consumer behaviour in the CE (Rogers et al., 2021).

Summary of Current Knowledge and Research Insights

Examining various research gaps across communication and marketing, consumer behaviour, and repair practices within the CE reveals a compelling connection, particularly in understanding and exploring the IBG of consumer repair practices post-purchase. This presents an opportunity to research how marketing can bridge this gap, providing valuable insights into changes in consumer behaviour and practical benefits for the collaborating parties.

2.2 Theories and Conceptual Framework for Bridging the IBG through Communication

2.2.1 Theory of Reasoned Action and Theory of Planned Behaviour

According to the Theory of Reasoned Action (TRA), individual behaviour depends on the individual's intention, which is determined by two conceptually independent factors: attitude and subjective norm. Attitude reflects an individual's positive or negative evaluation of a particular behaviour based on expectations of its consequences. Subjective norm encompasses an individual's beliefs about the approval or disapproval of significant individuals or groups regarding the specific behaviour and their perceptions of whether these influential figures engage in or refrain from the behaviour (Fishbein & Ajzen, 2009).

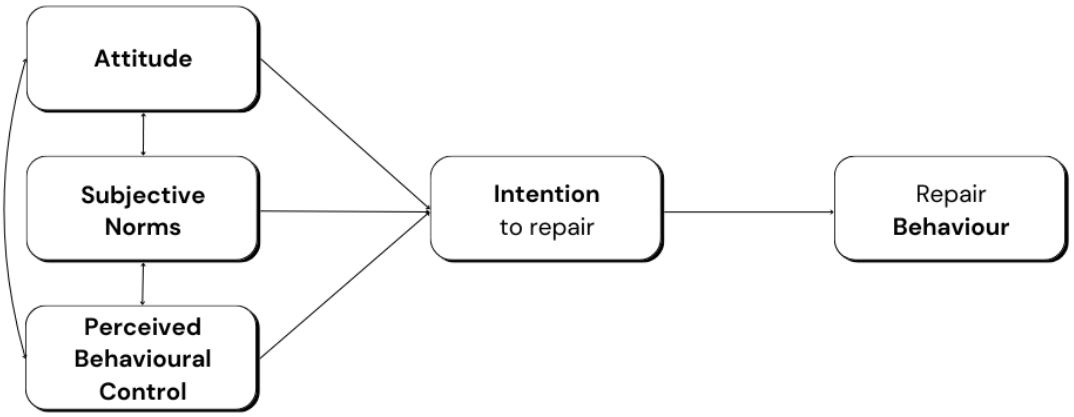


Figure 2-1. Theoretical framework of Theory of Planned Behaviour. *Adapted from Coffie et al. (2023).*

Including a third factor for determining intention, perceived behavioural control, into the TRA led to the development of the Theory of Planned Behaviour (TPB), presented in Fig. 2-1. The integrated construct of self-efficacy from the Social Cognitive Theory (SCT) aimed to improve the TRA's ability to account for behaviours influenced by factors beyond the individual's complete volitional control. Perceived behavioural control, or self-efficacy, encompasses individuals' confidence in their ability to perform the behaviour and the

perceived ease or difficulty influenced by personal and environmental factors (Coffie et al., 2023; Fishbein & Ajzen, 2009).

2.2.2 Social Cognitive Theory

While the TPB is commonly employed to study the IBG, some researchers argue that it may overlook specific external influences. Integrating SCT with TPB thus offers an opportunity to enhance the comprehensiveness of behavioural models. SCT provides additional insights by examining the dynamics between personal cognitive, environmental, and behavioural factors, as illustrated in Fig. 2-2 (Shanbhag et al., 2023). This triadic relationship suggests that learning occurs within a social context and underscores the significance of observational learning, where individuals acquire new behaviours through observation and imitation. However, individuals do not automatically imitate observed behaviour; it involves a deliberate cognitive process where they consider whether to imitate the behaviour (Connolly, 2017).

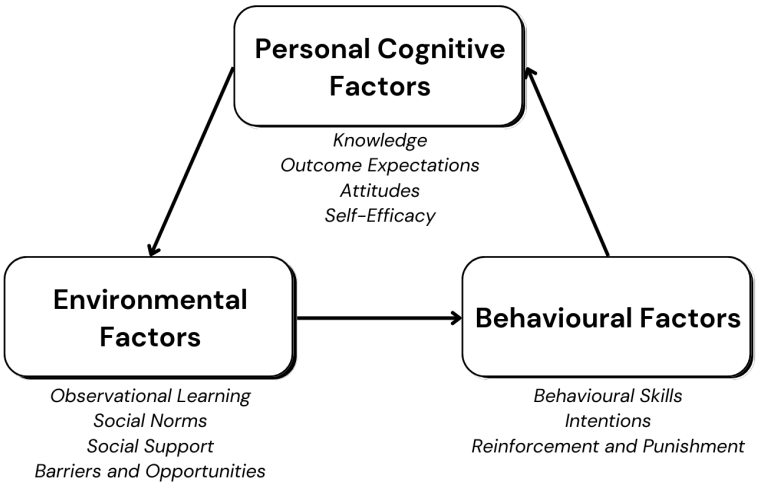


Figure 2-2. Theoretical framework of Social Cognitive Theory. Adapted from Rad et al. (2023).

2.2.3 Implementation Intentions

TPB has also faced criticism due to the noted inconsistency between the intention-behaviour relationship as demonstrated in the IBG, which suggests that efforts to change an individual's intentions often do not result in significant changes in actual behaviour (Hagger & Chatzisarantis, 2014). Therefore, theories such as TRA and TPB that focus on the motivational phase, which describes how intentions are formed, might not be enough to investigate the translation of intentions into actions. One approach has been to add a volitional phase into the theory, which describes how intentions are enacted and is represented by integrating a planning construct, such as implementation intentions (Hagger & Chatzisarantis, 2014; Hagger & Hamilton, 2020).

An implementation intention is a simple intervention where individuals formulate a specific action plan indicating when, where, and how they will carry out the intended behaviour when a specific situational cue is encountered, such as recognising the need for repair. Action planning effectively reduces the IBG as it grants individuals a sense of control by linking their intentions with guidance for specific environmental cues, thereby facilitating the execution of the intended behaviour. Formulating implementation intentions is assumed to facilitate the recall of the particular situation more readily, enabling the behaviour to transition into an automatic process when encountered, demanding minimal cognitive deliberation (Ajzen et al., 2009).

2.2.4 Prototype Willingness Model and Elaboration Likelihood Model

Although TRA, TPB, and SCT assume that behaviour arises from reasoned decision-making processes, some theorists acknowledge that not all behaviour conforms to this pattern. Individuals frequently act with minimal information and less reliance on deliberate, intentional decision-making. This has prompted the emergence of dual-process models, which assume that individuals' behaviour is influenced by two parallel processes: one aligned with the intention-behaviour pathway, marked by deliberate reasoning and cognitive effort, and another by heuristics, operating unconsciously with minimal cognitive deliberation (Hagger & Hamilton, 2020).

The Prototype Willingness Model (PWM), depicted in Fig. 2-3, operates within a dual-process framework, particularly relevant in scenarios among inclined abstainers. If intentions do not translate into actions, strengthening intention alone may not elicit behaviour. Thus, exploring PWM's less deliberate social reactive pathway could be promising for bridging the IBG. This pathway is influenced by perceived prototypes of the behaviour, which are mental representations and images of typical individuals engaging in the behaviour. It operates via behavioural willingness, indicating the inclination to act based on social context and past behaviour. Consequently, if individuals perceive the prototype positively, they are more inclined to engage in the behaviour through the social reactive pathway (Hagger & Hamilton, 2020).

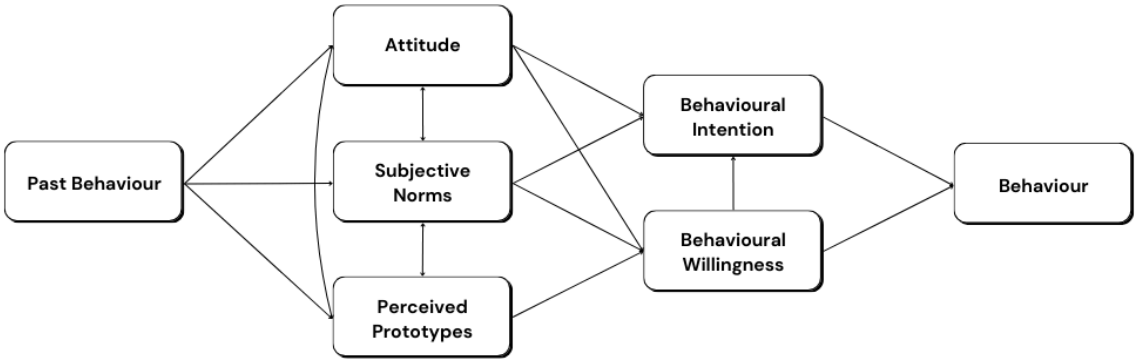


Figure 2-3. Theoretical framework of Prototype Willingness Model *Adapted from Hagger & Hamilton (2020).*

The social reactive pathway in the PWM derives from the Elaboration Likelihood Model (ELM), a dual-process theory of persuasion (Hagger & Hamilton, 2020). According to the ELM, persuasive communication induces attitude change via central or peripheral routes, contingent upon message elaboration (Kamal et al., 2022). Individuals tend to process information centrally when motivated and cognitively capable, especially when the message is personally relevant. However, distractions may impede analysis of the message, but repeated exposure increases capacity. Central processing thus involves conscious consideration of message content, with persuasive effectiveness hinged on strong argument quality[2], as weak arguments fail to alter cognitive structure under this processing mode (Fishbein & Ajzen, 2009; Kamal et al., 2022).

In contrast, low motivation and ability prompt peripheral processing, relying on mental shortcuts, intuitive judgements, peripheral signals, and emotional cues, such as emotional appeals, communicator credibility, or the number of arguments rather than argument quality. Individuals in this mode lack interest and cognitive engagement while often making

[2] Argument quality refers to whether an argument is high-quality and normatively good or low-quality and normatively poor (O'Keefe & Jackson, 1995).

subconscious decisions, so peripheral cues should be used to persuade as argument quality becomes less significant. Central processing drives primary attitude and belief change, intrinsically tied to underlying beliefs, resistant to counterarguments, enduring, and behaviourally influential. Peripheral processing yields less durable, superficially changed, and short-lived attitudes, exerting minimal subsequent behavioural impact (Fishbein & Ajzen, 2009; Kamal et al., 2022). However, when facing information overload, individuals resort to peripheral cues (Luo et al., 2023). In today's society, information overload is widespread, posing challenges to information quality assessment. The volume of information generated every two days now exceeds that created by the earliest human civilisations until 2003. Consequently, despite weaker effects, exploring the peripheral route remains crucial, given its prevalence among individuals dealing with modern society's pervasive information overload (Arnold et al., 2023).

2.2.5 Nudging

Nudging is not typically classified as a formal theory; instead, it serves as a versatile framework for interventions aimed at behaviour change by altering the environment in which behaviour occurs and guiding individuals towards sustainable choices without restricting their options (Marteau et al., 2020; Rainatto et al., 2024). This approach draws from various disciplines and incorporates principles that align with the theories discussed in this theory section.

For example, nudging is grounded in dual-process theory, where System 1 and System 2 generate behaviour. System 2 involves the deliberate processing of information, characterised by logical reasoning and cognitive analysis, while System 1 operates intuitively and automatically, based on mental shortcuts rather than careful reasoning. Consequently, System 1 can lead to difficulty resisting temptation, biased judgements, and a tendency to conform to social norms. Recognising the prevalence of automatic decision-making in today's society, nudging predominantly targets System 1, as this is the most influential pathway and does not require extensive conscious deliberation (Holligan, 2017; Southerton & Evans, 2017).

Lehner et al. (2016) propose four nudging instruments: simplification and framing of information, changes to the physical environment, alterations to default policies, and use of social norms and comparisons. Subsequently, three additional tools were incorporated: feedback mechanisms, reward and punishment schemes, and goal-setting and commitment devices (OECD, 2017).

Simplification and framing of information enhance argument quality, perceived behaviour control, knowledge and skills, and implementation intentions. For instance, in email communications, emphasising the benefits of repair, ease and convenience and presenting clear instructions and guidance can equip individuals with the necessary knowledge, skills and confidence to engage in repair and strengthen their intentions to adopt the pro-circular behaviour. The information can also be used as reminders and to set goals, facilitating behaviour change by prompting individuals to set specific repair-related plans. For example, email reminders can encourage users to schedule repair time, reinforcing their commitment to repair practices (Lehner et al., 2016; OECD, 2017).

Leveraging changes to the physical environment, like embedding repair-related peripheral cues in emails, serves as reminders of repair services' availability and accessibility. For example, including clickable icons leading to repair resources nudges individuals toward sustainable choices. Additionally, the peripheral pathway connects social norms and comparisons in emails to promote repair practices by highlighting success stories, fostering social validation and collective responsibility, and cultivating perceived behavioural control and willingness to participate. Exposure to these narratives facilitates observational learning as individuals model

favourable behaviours. Framing repair as positive and socially desirable thus shapes prototype perceptions, reinforcing its normative value within society (Lehner et al., 2016; OECD, 2017).

These examples illustrate how nudging instruments align with and can be informed by theoretical frameworks in behavioural science, offering practical communication strategies for bridging the IBG in repair practices.

2.2.6 Conceptual Framework

The behavioural theories, concepts, and nudging techniques outlined in this section informed the development of the conceptual framework, as illustrated in Fig. 2-4. This framework is designed to bridge the IBG in repair practices through effective communication strategies. Although research on the IBG within CE, sustainability, and marketing remains limited, other disciplines such as health, physical activity, and entrepreneurship have extensively utilised established theories, including TRA, TPB, SCT, II, PWM, ELM, and nudging to address IBG (Adam & Fayolle, 2016; Fishbein & Ajzen, 2009; Hagger & Chatzisarantis, 2014). Therefore, this framework served as a robust foundation for formulating survey and interview questions and guiding thematic analysis with some predetermined themes towards actionable solutions within the repair domain.

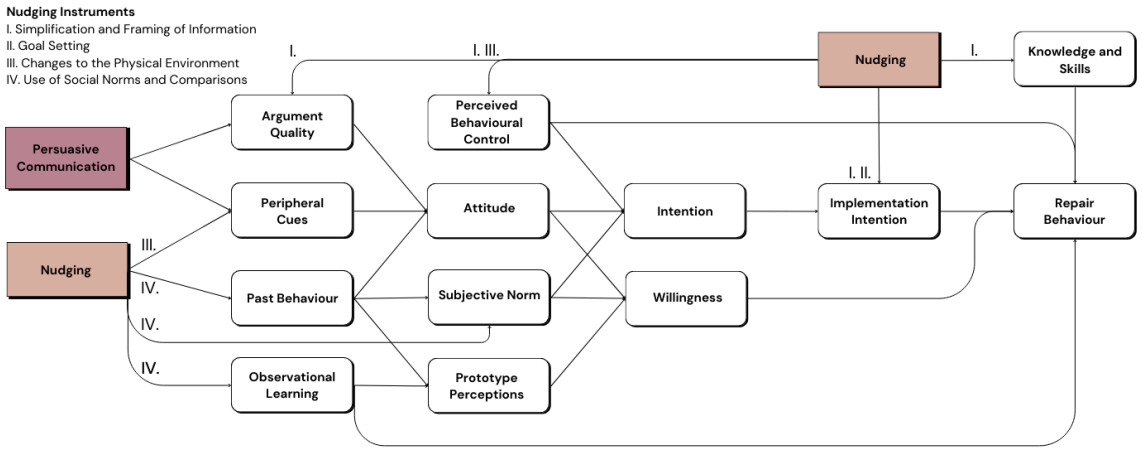


Figure 2-4. Conceptual framework developed from Theory of Planned Behaviour, Social Cognitive Theory, Implementation Intentions, Prototype Willingness Model, Elaboration Likelihood Model, and Nudging.

In conclusion, the literature review reveals persistent research gaps, particularly concerning the IBG in repair practices within the CE. Emerging concepts such as nudging and persuasive communication offer promising avenues for promoting sustainability, diverging from traditional marketing methods that historically reinforce the linear economic model. However, despite these advancements, the IBG related to repair practices remains a critical area for exploration. The collaborative nature of the research provides a unique opportunity to investigate the IBG among Nudie Jeans consumers. Established theoretical frameworks and concepts, combined with practical approaches like nudging, illuminate the complexities of consumer behaviour. Consequently, the conceptual framework establishes a robust foundation for measuring the extent of the IBG and identifying effective communication strategies to address this gap. This underscores the urgent need for continued research to advance the understanding of sustainable consumer behaviour and the effects of marketing within the CE.

3 Research Design, Materials and Methods

3.1 Research Design

This research adopts a mixed methods design, combining quantitative (closed-ended) and qualitative (open-ended) data collection through a survey and semi-structured interviews. Mixed methods use quantitative and qualitative research strengths while mitigating the limitations inherent in each approach. Consequently, this approach provides a more comprehensive understanding of the research problem than using either method alone (Creswell & Creswell, 2018).

This study's explanatory sequential mixed methods design enhances understanding by allowing researchers to explain initial quantitative findings with subsequent qualitative data for in-depth insights. This design emphasises a two-phase structure, where quantitative and qualitative data are collected and analysed separately. However, the key to integration is established by linking the quantitative results to the qualitative data collection process. This connection is essential because the quantitative findings guide the qualitative sampling process and influence the types of open-ended questions in the second phase (Creswell & Creswell, 2018).

The explanatory sequential mixed methods design is particularly suitable given the research objectives—investigating and quantifying the IBG (RQ1) and exploring how marketing can address it based on consumer preferences (RQ2). The quantitative phase enables the measurement of IBG and identification of individuals with the most significant IBGs for subsequent interviews. The qualitative phase delves into consumer preferences, offering insights into how marketing strategies could help bridge these gaps.

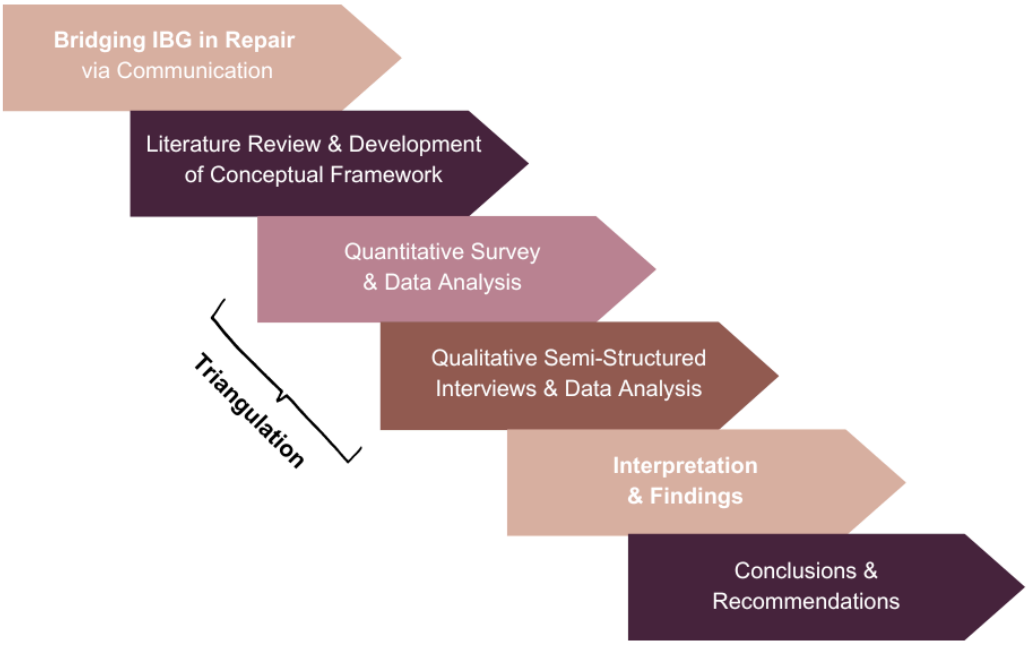


Figure 3-1. Sequence of research activities in this explanatory sequential mixed methods design.

Despite its advantages, the explanatory sequential mixed methods design presents several challenges, notably the extensive data collection and time-consuming quantitative and qualitative data analysis. A detailed research plan with ample contingency time was developed to address these challenges. Additionally, the complex nature of mixed methods requires

precise planning and execution. Fig. 3-1 illustrates the sequence of research activities to facilitate understanding.

Ensuring the validity of the overall research findings is crucial, particularly regarding two critical issues. First, neglecting to consider all avenues for exploring quantitative results may undermine the accuracy of the findings, stressing the need to carefully evaluate various options before choosing an approach (Creswell & Creswell, 2018). Given the specific focus of this research on bridging the IBG, prioritising individuals with the largest IBGs for interviews was a strategic choice. This approach offers a deeper understanding of consumer preferences among inclined abstainers, where marketing interventions can be most impactful. Second, to strengthen the explanatory power of the qualitative data, the qualitative sample should ideally be drawn from the participants in the quantitative phase. This study follows this approach, which enhances the connection between phases and mitigates potential validity risks (Creswell & Creswell, 2018).

3.2 Quantitative Research Approach

3.2.1 Methods Used to Collect Data

Survey Design

A survey was used to collect quantitative data and demographics to measure the IBG in jeans repair practices among Nudie Jeans consumers, providing answers to RQ1 and SQ. The survey employed a cross-sectional design, was distributed via email and conducted online through SurveyMonkey. The survey design was chosen for its efficiency in overcoming challenges in explanatory sequential mixed methods designs, enabling rapid data collection from a large and diverse sample of participants by leveraging Nudie Jeans' extensive consumer database. This wide distribution enhances the reliability and generalisability of the findings (Creswell & Creswell, 2018).

While online surveys offer rapid and wide distribution, they are also cost-effective by eliminating the need for manual data entry. Additionally, the online format provides convenience, allowing participants to respond at their own pace, leading to higher response rates and deeper engagement. Furthermore, surveys systematically produce data suitable for standard statistical analyses (Creswell & Creswell, 2018).

Despite its many strengths, the online survey design has some limitations. Online surveys can introduce biases due to the digital divide, where specific demographics may be underrepresented because of limited access to technology or internet connectivity. However, the online format of surveys remains a widely accepted and effective tool for data collection, particularly for studies targeting large and geographically dispersed populations (Creswell & Creswell, 2018; Daniel, 2012).

Pilot Study

The pilot study was conducted to evaluate the reliability of the survey instrument and gather feedback for its refinement. The survey instrument was administered to the researcher's contacts and during an event at a Nudie Jeans store in Stockholm in February 2024, explicitly targeting attendees who met the predetermined criterion of being a Nudie Jeans consumer. The 10 participants who completed the survey comprised the pilot study's sample size.

The survey was administered on two separate occasions to assess test-retest reliability. In the initial session, it was distributed in person and online. After a one-week interval, it was

redistributed via email for the second online session, allowing the same participants to complete the same survey again, which provided data for the test-retest reliability analysis. Feedback from participants in both sessions was carefully considered and incorporated into subsequent refinements.

Population and Sample Size

The study's population consists of 300,000 global Nudie Jeans consumers. This extensive consumer database contains the email addresses of all registered consumers since 2018 who became members through product purchases or by providing their email during a repair service. The database served as the sampling frame, enabling systematic access to the target population (Creswell & Creswell, 2018).

The survey was distributed to the entire population, essentially aiming to gather data from all individuals and ensure comprehensive coverage of Nudie Jeans customers. The total number of survey responses was 2,598. Given the limited prior knowledge of the population's demographics, stratification was considered infeasible. Consequently, the study used single-stage simple random sampling without stratification to select 1600 respondents as a representative sample, ensuring each individual had an equal opportunity to be included in the analysis (Creswell & Creswell, 2018; Daniel, 2012). The minimum sample size was 1380, determined through power analysis conducted with G*Power software. This study aimed for a larger sample to increase the probability of finding statistical significance; thus, 1,600 respondents were selected. For more detailed information on sample size determination, see Appendix I.

Survey Administration

An email containing a survey link was distributed to the entire population, serving as an informed consent form and providing detailed information on the research's purpose and collaborative context. Participants were informed of voluntary participation, including their rights to refuse to answer specific questions or withdraw from the study at any time. The email also outlined the benefits of participation and the required level and type of involvement. It emphasised no collection of identifiable personal information and that all data would be coded for anonymity and stored securely on a password-protected external hard drive (Creswell & Creswell, 2018). Participant consent was indicated by clicking the link to access the survey. For a complete description of the informed consent form, see Appendix I.

3.2.2 Data Collected

Instrument Description

A 30-item questionnaire was designed as part of the collaborative research project, drawing from the TPB constructs for intention and behaviour (Ajzen, 1991; Fishbein & Ajzen, 2009; Francis et al., 2004) and well-established measurement scales (Vagias, 2006). An extensive review of relevant literature and existing questionnaires guided this development. Four of the 30 items were used to measure intention and behaviour relating to RQ1, while another four collected demographic information relating to SQ. The remaining 22 items addressed other elements of the collaborative research. The complete instrument is available in Appendix I.

The intention to repair was assessed using two distinct items. One question used a dichotomous format, asking participants to indicate their intention to repair with a simple 'yes' or 'no'. The second question employed a continuous rating scale, where participants indicated the likelihood of their repair intention on a slider from 0 (not at all likely) to 100 (extremely likely), allowing for decimal precision.

Following the same pattern, repair behaviour was also evaluated through two items. One question used the dichotomous format to determine participants' repair behaviour by allowing them to respond with a binary 'yes' or 'no'. The second item also used a continuous rating scale, where participants self-reported the likelihood of their repair behaviour on a slider from 0 (not at all likely) to 100 (extremely likely).

Combining dichotomous and continuous questions in the instrument allows for data triangulation and versatile insights into the IBG. Dichotomous questions are straightforward and encourage quick responses but limit responses to a simple 'yes' or 'no', potentially missing finer distinctions and forcing polarised responses. Continuous questions demand more time from respondents but provide more detailed data. This combination of various response formats supports a broader array of statistical analyses and a deeper understanding of participant perspectives (Rivera-Garrido et al., 2022).

Four items in the instrument were dedicated to demographic information. Two items measured age and household size, with responses organised as ordinal categorical, with seven and four levels, respectively. Another item collected was the participant's country of residence, later grouped into continents for analysis, resulting in a nominal categorical variable with five levels. The final item identified respondents' gender, a nominal categorical variable with four levels.

The final item in the questionnaire invited respondents to an online interview, offering an efficient means to engage and select candidates for the subsequent qualitative phase of the study. Interested participants were given the opportunity to provide their email addresses for further communication.

3.2.3 Methods Used to Process Data

Instrument Validity and Reliability

While the instrument's development adhered to established theories and scales, systematic testing was nonetheless conducted to validate the appropriateness of the adaptation, thereby ensuring the instrument's validity and reliability within the study's specific context (Creswell & Creswell, 2018). This was ensured through content validity assessment and test-retest reliability, which confirmed both high validity and reliability.

A panel of 12 experts in quantitative research, statistics, survey methodology and development, theory of planned behaviour, marketing, and customer experience was convened to ensure the instrument's content validity. This panel systematically assessed each item in the questionnaire based on predefined rating criteria, categorising them as "essential," "useful but not essential," or "not necessary", thereby ensuring that each item effectively captures demographic content or the intended constructs of repair intention and behaviour (Almanasreh et al., 2019; Creswell & Creswell, 2018).

The instrument's reliability was evaluated using the test-retest method, which measures the degree to which the participant's test scores remain consistent over two separate occasions (Vilagut, 2014; Yu, 2005). The instrument was administered to 10 participants, selected as a representative sample of the target population, and then re-administered after a one-week interval, generating paired test scores. In both sessions, participants responded to the questions and had the opportunity to provide feedback in case of any uncertainties. Detailed methods and calculations for assessing test-retest reliability and content validity are provided in Appendix I.

Data Analysis

Given its suitability for analysing paired binary data, McNemar's non-parametric test was selected to investigate the IBG derived from the dichotomous questions in the survey instrument. This statistical method facilitates the determination of whether a statistically significant difference exists between the proportions of discordant and concordant pairs (McNemar, 1947). Discordant pairs are the two groups of individuals with IBG—inclined abstainers and disinclined actors. In contrast, concordant pairs represent the two categories with no IBG—inclined actors and disinclined abstainers.

The data for these four categories of association patterns between intention and behaviour was organised into a 2x2 contingency table, contrasting intention (yes vs. no) against behaviour (yes vs. no). McNemar's test was applied to evaluate the statistical significance of the overall IBG for discordant pairs. The null hypothesis assumes no difference in the proportion of discordant and concordant pairs. The alternative hypothesis assumes a difference in the proportion of discordant and concordant pairs, indicating an IBG not due to random chance alone. A p-value <0.05 indicates a statistically significant difference, leading to the rejection of the null hypothesis (McNemar, 1947). Effect sizes were calculated using Cohen's *g*. It provided insights into the magnitude, precision, and practical implications of the observed gap within the study's sample, thereby enriching the understanding of its statistical significance (Creswell & Creswell, 2018; Lee, 2016; Mangiafico, 2023).

It is essential to note that McNemar's test is employed to ascertain the statistical significance in the proportion of discordant and concordant pairs (McNemar, 1947). Consequently, the examination of the overall IBG includes both inclined abstainers and disinclined actors. Since inclined abstainers were the focus of this research, the percentage contribution of each type of discordant pair to the overall IBG was calculated to assess their extent of contribution and significance.

The study then examined the IBG derived from the continuous slider rating questions in the survey instrument. This gap was calculated for each participant by subtracting the total value of behaviour from the total value of intention, resulting in a new variable representing the IBG. These values ranged from -100 to +100, where positive values were for inclined abstainers, negative for disinclined actors, and zero for both inclined actor and disinclined abstainer—indicating no IBG. Larger magnitudes (e.g., +100 and -100) represent larger IBGs, whereas smaller magnitudes (e.g., +1 and -1) signify minor disparities.

The median and interquartile range (IQR) of the IBG were calculated separately for the positive and negative values. Given the research emphasis on inclined abstainers, the positive dataset underwent a normality assessment using the Shapiro-Wilk test ($p<0.05$), which demonstrated a non-parametric distribution. The results led to applying the Wilcoxon Signed-Rank test to determine whether the median IBG significantly deviated from zero (Riina et al., 2023). The null hypothesis assumes no difference between the median IBG and zero, with the alternative hypothesis proposing a significant deviation from zero (King & Eckersley, 2019). Significance was set at a p-value threshold of <0.05, rejecting the null hypothesis. Effect sizes were calculated through *r* to complement the analysis (DATAtab Team, 2024)[3].

Kruskal-Wallis tests were conducted to explore the variation in the median IBG across categories within each of the four demographic factors due to the non-parametric nature of the data. The null hypothesis stated no difference in median IBG among groups, while the

[3] $r = Z/\sqrt{(N)}$

alternative hypothesis suggests that at least one group's median differed from the others (Leon, 1998). The data was structured so that the demographic factors were associated with each participant's IBG measurements. Separate Kruskal-Wallis tests were performed with a predetermined statistical significance threshold at $p<0.05$. The p-value, median, and IQR for each category within all demographic factors were recorded. Effect sizes were calculated through *r* for significant results (Mangiafico, 2023)[4]. All statistical analyses were conducted using R software (version 4.3.2) with the support of RStudio (version 2023.12.1+402).

3.3 Qualitative Research Approach

3.3.1 Methods Used to Collect Materials

Semi-structured Interviews

Semi-structured interviews were used to collect qualitative data exploring consumer preferences of communication and marketing to bridge the IBG of repair practices and, therefore, to answer RQ2. Semi-structured online interviews were selected for their ability to provide in-depth insights into participants' thoughts, beliefs, and experiences on the topic, building on the quantitative findings of this mixed methods design with detailed descriptions (Creswell & Creswell, 2018).

Semi-structured interviews employ a flexible set of predetermined questions, enabling interviewers to adjust as necessary for in-depth responses and facilitate probing and follow-up questions. This approach leverages the flexibility of semi-structured interviews and allows participants to express preferences and opinions while enabling researchers to explore nuances and adapt the interview to new information (Creswell & Creswell, 2018). Thus, the comprehensive data obtained from semi-structured interviews will reveal participants' preferences beyond what could be obtained from other methods, such as observations or document reviews.

However, while semi-structured interviews offer valuable insights, they come with limitations. For example, participant responses may be influenced by the interviewer's presence or actions (Creswell & Creswell, 2018). To mitigate this, the researcher will adhere to an interview protocol, detailed in Section 3.3.2 Materials Collected.

Participant Selection and Interview Procedure

The semi-structured interviews were conducted online through Zoom with a subset of purposefully selected survey respondents. Participants with the largest IBG regarding repair practices, who provided interesting answers about why they did not engage in repair and had indicated a willingness to be interviewed, were contacted by email and asked to sign a consent form. This approach resulted in 12 participants and reflected saturation, where no new insights emerged from the data collection process.

The online format via Zoom also offers an opportunity to utilise software such as Fireflies AI Notetaker, a voice assistant and transcription tool that enhances transcription efficiency during interviews by providing real-time transcriptions (Fireflies.ai, n.d.). Streamlining the transcription process saves time and ensures better documentation accuracy than manual transcriptions.

[4] $r = \sqrt{(X^2/N)}$

3.3.2 Materials Collected

Interview Protocol

The qualitative phase collected consumer preferences regarding marketing and communication to bridge the IBG. These insights were gathered using an interview protocol, a structured set of predetermined questions guiding the researcher's data collection process. Consistency in questioning, with queries posed in the same order and manner to all participants, ensures data comparability, aiding in theme identification, pattern recognition, and research reliability (Creswell & Creswell, 2018).

The interview protocol comprises several components. First, it covers basic information such as time, date, names, and interview length. The following section is the introduction, which includes the purpose of the study, a general outline of the interview, and an introduction to the topic to provide context and background. The interview starts with an opening question, asking participants to provide information about themselves. After this, content questions are asked to answer RQ2. The content questions are categorised into five sections: General communication preferences, implementation intentions, persuasive communication, social influence, and education. Probes were included to remind the researcher to ask for more information or an explanation. Lastly, the interview protocol concludes with closing instructions, including a reminder to express gratitude to the participant, ensure confidentiality, and ask for a follow-up interview if necessary. Additionally, participants were informed about how they could access the results (Creswell & Creswell, 2018). The whole interview protocol and the consent form can be found in Appendix II.

3.3.3 Methods Used to Process Materials

Strategies for Ensuring Validity and Reliability

Various strategies are implemented to ensure the validity of the qualitative phase. Given the inherent challenge of extracting preferences and opinions from observations, documents, and images, the conventional triangulation approach was not feasible in this context. Instead, strategies such as member checking and using rich, thick descriptions were employed as alternative means of increasing validity (Creswell & Creswell, 2018).

Member checking involves sharing the final thesis or relevant sections thereof with interview participants to solicit their feedback on the accuracy of the results. Additionally, rich, thick descriptions of the findings aim to engage the reader within the research environment and foster a sense of shared experience. This approach makes the qualitative results more realistic and nuanced, enhancing their overall validity (Creswell & Creswell, 2018).

While the interview protocol enhances the reliability of the qualitative phase, an additional procedure for ensuring qualitative reliability involves checking the transcripts. Although the Fireflies AI Notetaker is primarily used for transcribing, verifying transcription accuracy remains essential to minimise potential errors. This process significantly strengthens the reliability of the data (Creswell & Creswell, 2018).

Data Analysis

The data underwent thematic analysis using the qualitative software program Nvivo. Thematic analysis identifies and interprets patterns of significance within qualitative data, also known as 'themes' (Clarke & Braun, 2017). As previously mentioned, the initial stage involved real-time transcription of the interviews. Subsequently, the researcher thoroughly reviewed the transcripts, annotating comments as necessary for comprehensive understanding (Creswell & Creswell, 2018).

Following the transcription review, the coding process commenced. This involved labelling text segments with descriptive terms representing specific categories of information by utilising predetermined and emerging codes, including expected, surprising, and unusual ones. Subsequently, these coded segments were organised into clusters of similarity to facilitate the generation of themes presented in the results section (Creswell & Creswell, 2018).

4 Results

This section first presents quantitative results derived from the survey, addressing both RQ1 and SQ. Initially, the outcomes of McNemar's test, which examines the dichotomous question in the survey instrument, are detailed. Subsequently, the results obtained from the Wilcoxon signed-rank test and the Kruskal-Wallis test are presented, focusing on the analysis of continuous questions. Finally, the qualitative findings from the interviews addressing RQ2 include the themes derived from the thematic analysis.

4.1 Quantitative Survey Results

4.1.1 Results of Dichotomous Questions

McNemar's Test Results

The frequency and percentage distribution of dichotomous intention and behaviour responses from the survey are illustrated in Table 4-1. Among the 1600 participants, 142 respondents were categorised as inclined abstainers (8.9%), while 31 were classified as disinclined actors (1.9%). Table 4-2 demonstrates that the combined percentage of both types of discordant pairs amounted to 10.8%, indicating that this portion of participants gave rise to the IBG. Disinclined actors contributed 17.9% to this phenomenon, while inclined abstainers represented 82.1% of the total gap. Consequently, inclined abstainers also account for 82.1% of the results from McNemar's test.

Table 4-1. Contingency table for McNemar's test demonstrating the frequency and percentage distribution of dichotomous intention and behaviour responses

	Behaviour		
Intention	Yes	No	Total
Yes	1346 (84.1%)	142 (8.9%)	1488 (93%)
No	31 (1.9%)	81 (5.1%)	112 (7%)
Total	1377 (86%)	223 (14%)	1600 (100%)

Note: Percentages in parentheses represent the percentage contribution to the total sample.

Table 4-2. Table showing the frequency, percentage distribution, and contribution of response categories to the overall IBG

Response Category	**Frequency**	**% of Total Sample**	**% of Overall IBG**	**Contribution to Overall IBG (%)**
Inclined Abstainers	142	8.9%	10.8%	82.1%
Disinclined Actors	31	1.9%		17.9%
No gap*	1427	89.2%	-	-
Total	1600	100%	-	-

**Inclined actors and disinclined abstainers*

An exact McNemar's test revealed a statistically significant difference in the proportion of discordant and concordant pairs (Chi-square = 69.942, $p < 0.001$*, df = 1). Consequently, the null hypothesis was rejected in favour of the alternative hypothesis, indicating a statistically significant IBG not attributable to random chance alone (McNemar, 1947). With a Cohen's *g* of 0.209, the observed effect was considered to have medium practical significance since the

interpretation range is categorised as small (0.05 - < 0.15), medium (0.15 - < 0.25), and large (≥ 0.25) (Mangiafico, 2023).

4.1.2 Results of Continuous Questions

Wilcoxon Signed-Rank Test Results

Table 4-3 illustrates the frequency, percentage distribution, median, and IQR of the survey's continuous intention and behaviour responses. Within the sample of 1600 participants, 386 individuals were identified as inclined abstainers (24.1%), while 243 participants were categorised as disinclined actors (15.2%). Collectively, these two categories accounted for 39.3% of the sample, indicating that this percentage of the participants demonstrated an IBG. Disinclined actors contributed 38.6% to this phenomenon, while inclined abstainers represented 61.4% of the overall IBG. The median IBG for inclined abstainers was 11, with an IQR of 24.8, illustrated in Fig. 4-1, whereas disinclined actors exhibited a median IBG of -4, accompanied by an IQR of -7.

Table 4-3. Table demonstrating the frequency and percentage distribution, median, and interquartile range of continuous intention and behaviour responses

Response Category	Frequency	% of Total Sample	% of Overall IBG	Contribution to Overall IBG (%)	Median of IBG	IQR of IBG
Inclined Abstainers	386	24.1%	39.3%	61.4%	(+) 11	(+) 24.8
Disinclined Actors	243	15.2%		38.6%	(-) 4	(-) 7
No gap*	971	60.7%	-	-	-	-
Total	1600	100%	-	-	-	-

**Inclined actors and disinclined abstainers*

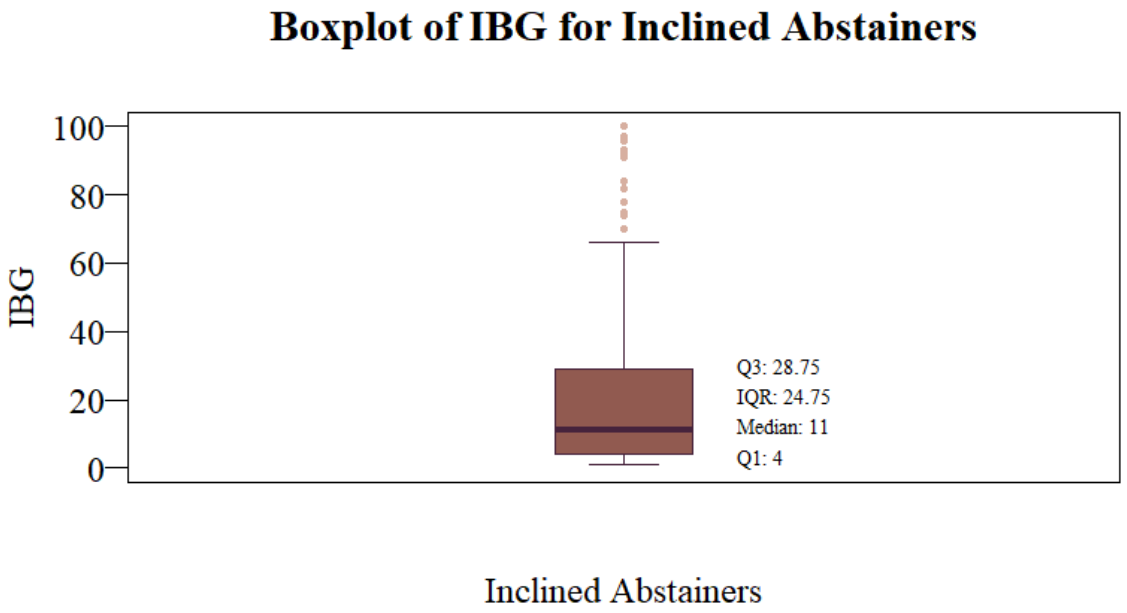


Figure 4-1. Boxplot of IBG for inclined abstainers (N=386) illustrating the median value of 11, with the upper quartile (Q3) at 28.75 and the lower quartile (Q1) at 4. The IQR is 24.75, representing the spread between the upper and lower quartiles.

The Shapiro-Wilk test disclosed that the dataset for inclined abstainers deviated significantly from a normal distribution (W=0.77934, p<0.001*), indicating a non-parametric distribution. The Wilcoxon Signed-Rank test performed on the data for inclined abstainers revealed that the median IBG significantly deviated from zero (V=74691, p<0.001*). The alternative hypothesis was therefore supported over the null hypothesis, showing a statistically significant IBG derived from the continuous questions that were not attributable to randomness. The effect size (*r*=0.867) was considered to have large practical significance: small (0.10–<0.40), medium (0.40–<0.60), and large (≥0.60) (Mangiafico, 2023).

Kruskal-Wallis Test Results

Several Kruskal-Wallis tests were conducted to investigate differences in median IBG for inclined abstainers across various demographic categories. The results showed no statistically significant differences among continents (Chi-square=5.2947, p=0.2584, df=4), with a median IBG score of 30.5 for Africa, 19.0 for Asia and North America, 10.0 for Europe, and 7.0 for Oceania, as seen in Fig. 4-2. Given the small sample size for Africa (*N*=2), additional analyses were performed excluding this continent. However, these tests also returned statistically insignificant results (Chi-square=5.154, p=0.1609, df=3). The findings align with the null hypothesis, indicating no significant differences in IBGs across the continent categories (Leon, 1998).

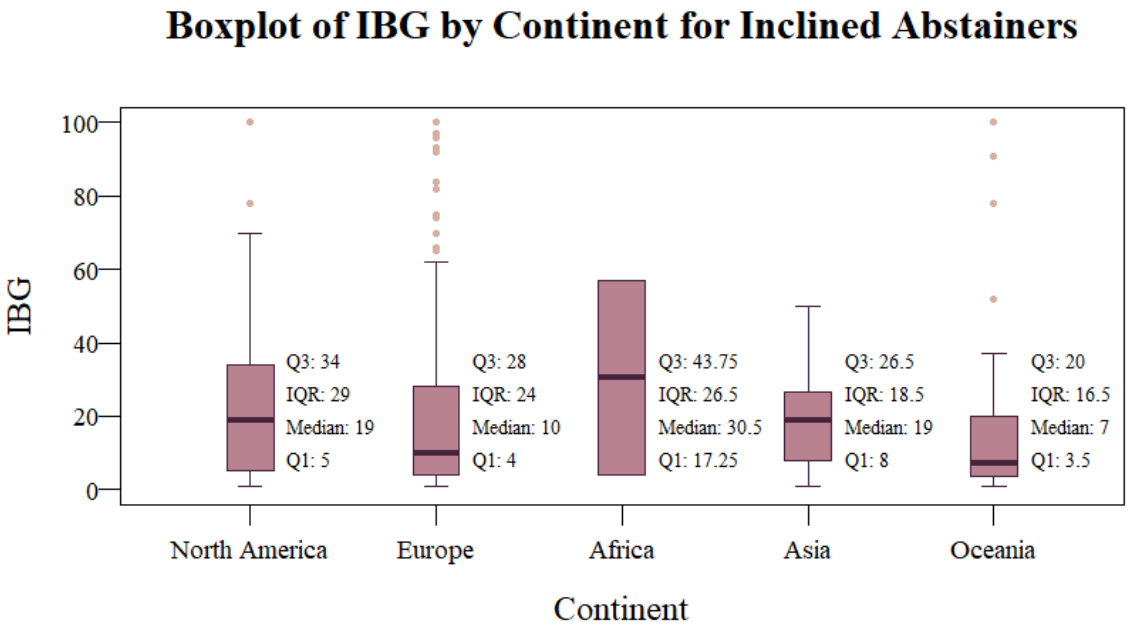


Figure 4-2. Boxplot of IBG by continent for inclined abstainers illustrating the median, upper quartile (Q3), lower quartile (Q1) and the spread between these as the IQR for each continent: North America (N=41), Europe (N= 97), Africa (N=2), Asia (N=11), and Oceania (N=35).

Statistical analyses for household size did not reveal any significant differences among the groups (Chi-square=1.4375, p=0.6968, df=3). Fig. 4-3 shows that the median IBG scores were 12.0 for medium households with 4-5 members, 11.0 for small households with 2-3 members, 10.0 for single-member households, and 6.0 for large households with six or more members. Due to the limited sample size for large households (N=2), additional analyses were conducted excluding this group, yet these did not generate statistically significant results either (Chi-square=0.4849, p=0.7847, df=2). These findings are consistent with the null hypothesis, implying no significant difference in IBG across household size groups (Leon, 1998).

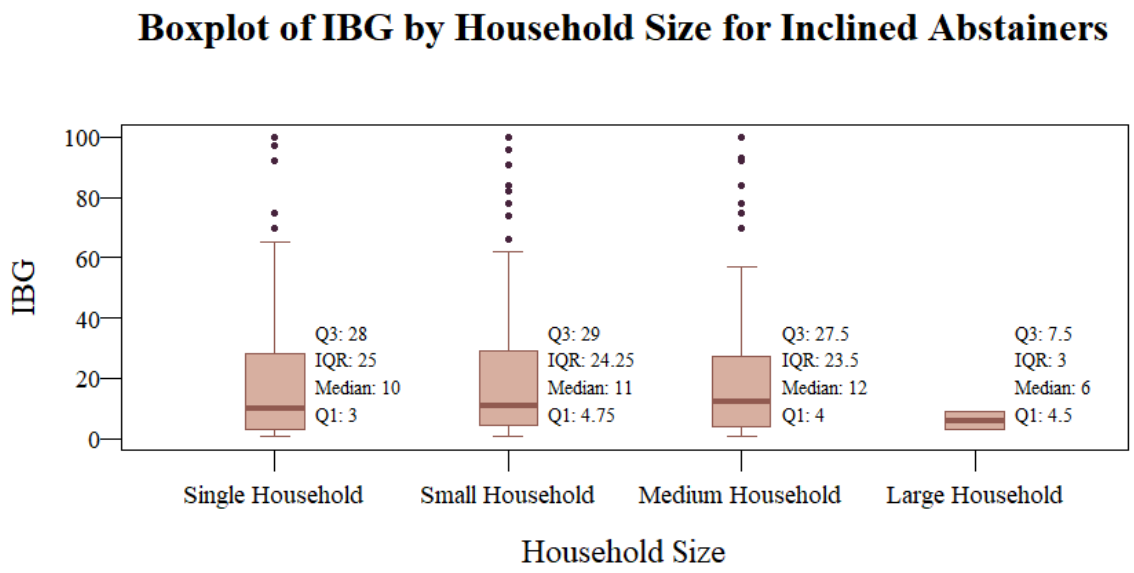


Figure 4-3. Boxplot of IBG by household size for inclined abstainers illustrating the median, upper quartile (Q3), lower quartile (Q1) and the spread between these as the IQR for each household size: single household (N=69), small household (N=188), medium household (N=127), and large household (N=2).

The Kruskal-Wallis test indicated no statistically significant differences in median IBG scores across age groups (Chi-square=11.191, p=0.08265, df=6). The median IBG for 0-20 years was 20.0, 21-30 years was 18.0, 31-40 years was 16.0, 61-70 years was 12.0, 41-50 years was 10.0, 51-60 years was 7.0, and above 70 years was 4.0, illustrated in Fig. 4-4. Due to small sample sizes for people aged 0-20 (N=7) and above 70 (N=3), additional analyses were conducted excluding these groups in various combinations. Excluding only those above 70 years did not generate statistically significant differences (Chi-square=10.809, p=0.05531, df=5); neither did removing only the 0-20 years group (Chi-square=9.6955, p=0.08434, df=5), nor omitting both groups (Chi-square=9.3089, p=0.05382, df=4). Although none of the analyses reached statistical significance, the p-values come close to the 0.05 threshold, suggesting there might be trends or tendencies for some variation among certain age groups.

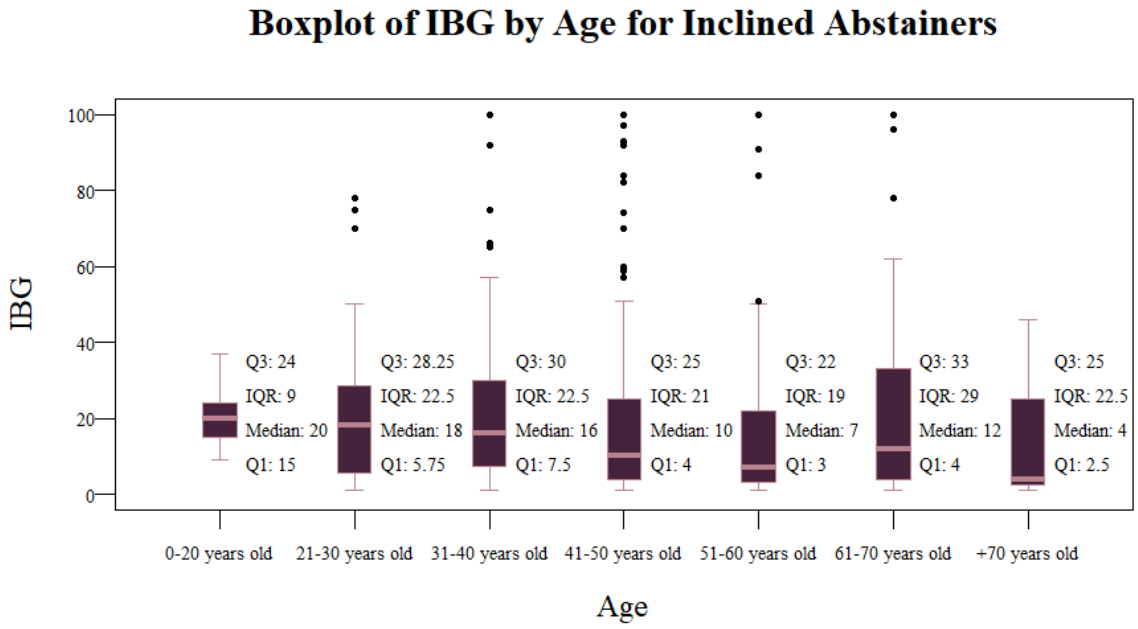


Figure 4-4. Boxplot of IBG by age for inclined abstainers illustrating the median, upper quartile (Q3), lower quartile

(Q1) and the spread between these as the IQR for each age group: 0-20 years old (N=7), 21-30 years old (N=28), 31-40 years old (N=107), 41-50 years old (N=139), 51-60 years old (N=77), 61-70 years old (N=25), and +70 years old (N=3).

The statistical analyses for gender did not indicate statistically significant differences in median IBG scores when testing across all four categories (Chi-square=4.9416, p=0.1761, df=3). The median IBG score for women was 20, 11.0 for other/non-binary, 10.0 for men, and 4.0 for participants preferring not to answer, illustrated in Fig. 4-5. However, when excluding other/non-binary (N=2) and participants preferring not to answer (N=1), the Kruskal-Wallis test did reveal statistically significant differences between women and men (Chi-square=3.8841, p=0.04875*, df=1). Although the results are statistically significant, the practical significance or the magnitude of the differences may be minor due to a small effect size (r=0.101): small (0.10–<0.40), medium (0.40–<0.60), and large (≥0.60) (Mangiafico, 2023).

Table 4-4. Table demonstrating the frequency, percentage, median IBG and interquartile range of IBG for each category within the four demographic factors: continent, household size, age, and gender

Response Category	Frequency	% of Inclined Abstainers	Median of IBG	IQR of IBG
Continent				
Europe	297	76.9%	10.0	24.0
North America	41	10.6%	19.0	29.0
Africa	2	0.5%	30.5	26.5
Asia	11	2.8%	19.0	18.5
Oceania	35	9.1%	7.0	16.5
Household Size				
Single Household (1 member)	68	17.6%	10.0	25.0
Small Household (2-3 members)	188	48.7%	11.0	24.3
Medium Household (4-5 members)	127	32.9%	12.0	23.5
Large Household (6 or more members)	2	0.5%	6.0	3.0
Age				
0-20 years old	7	1.8%	20.0	9.0
21-30 years old	28	7.3%	18.0	22.5
31-40 years old	107	27.7%	16.0	22.5
41-50 years old	139	36.0%	10.0	21.0
51-60 years old	77	19.9%	7.0	19.0
61-70 years old	25	6.5%	12.0	29.0
Above 70 years old	3	7.8%	4.0	22.5
Gender				
Women	46	11.9%	20.0	21.5
Men	337	87.3%	10.0	23.0
Other/Non-binary	2	0.5%	11.0	9.0
Prefer not to answer	1	0.3%	4.0	0

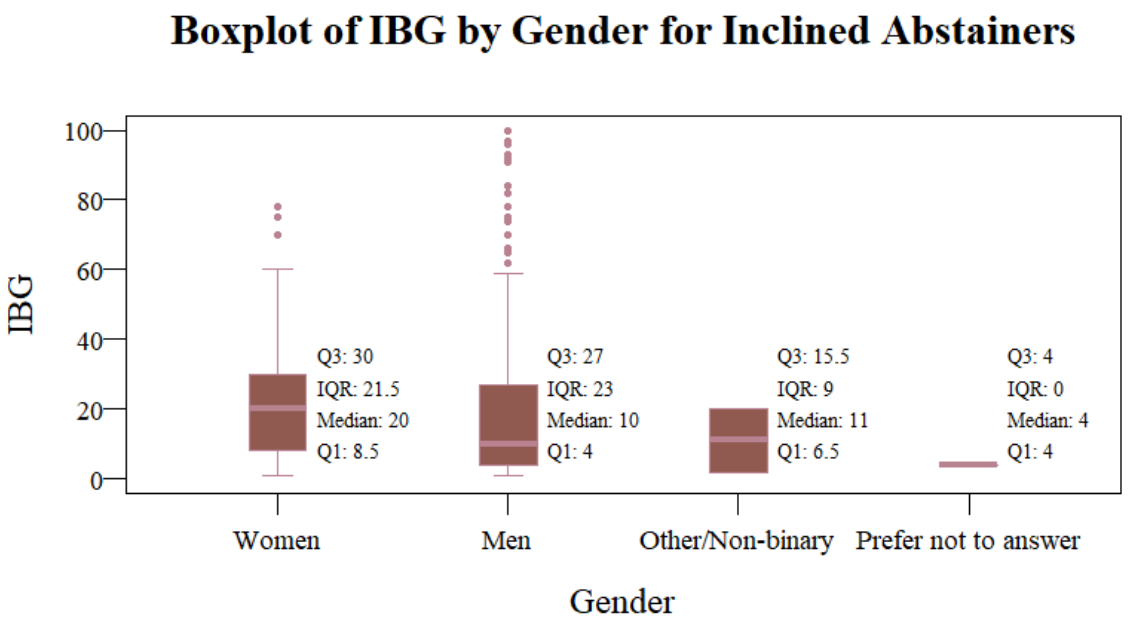


Figure 4-5. Boxplot of IBG by gender for inclined abstainers illustrating the median, upper quartile (Q3), lower quartile (Q1) and the spread between these as the IQR for each gender: women (N=46), men (N=337), other/non-binary (N=2), and prefer not to answer (N=2).

4.2 Qualitative Interview Results

4.2.1 Description of Participants

A total of 12 participants were interviewed for this study, comprising nine men (75%) and three women (25%). Most participants were in the 31-40 age group, with five individuals (42%). The second most common age group was 41-50, with four participants (33%). Two participants (17%) were in the 51-60 age group, while one participant (8%) was in the 61-70 age group. Household size was relatively balanced, with seven participants (58%) living in small households and five (42%) in medium-sized households. Regarding geographical distribution, 10 participants (83%) were from Europe, and 2 (17%) were from Oceania. This group of participants provided a mix of ages, household sizes, and geographical backgrounds, offering a variety of perspectives for the study. The following sections present the key themes from the interviews with these participants.

4.2.2 Thematic Analysis Results

Barriers to Repair

Half of the respondents identified limited access to repair materials, tools, and professional repair services as a significant barrier to clothing repair (Respondents 2, 4, 8, 9, 10, and 12). This issue largely stems from a lack of convenience (Respondents 2, 4, 8, 9, and 10), with many participants living far from Nudie Jeans repair stores. Half of the participants also mentioned they lacked the skills, knowledge, or confidence to repair clothes themselves (Respondents 5, 6, 7, 10, 11, and 12). Additionally, a third of the participants pointed to time constraints as obstacles (Respondents 3, 4, 5, and 8).

Although Nudie Jeans offers free repair services, some participants noted the high cost of professional repairs as a barrier (Respondents 11 and 12), usually due to the indirect costs associated with long travel distances to repair locations. Thus, varying financial resources for repair-related expenses also emerged as a barrier (Respondents 8 and 12).

A few respondents expressed mistrust in repair quality as an obstacle (Respondents 10 and 11), while others preferred buying new instead of repairing (Respondent 9). Another respondent mentioned emotional detachment from their clothing, stating, *"I think I have too many pairs of jeans and too many clothes to care about repairing the ones that break. Even though I save them at home to fix them, I never really get there"* (Respondent 1, personal communication, April 18, 2024). This feeling is consistent with another barrier stated among a few participants—indolence (Respondents 1, 6, and 7).

Email Communication Preferences

Many participants mentioned that they deleted most of their emails (Respondents 1, 2, 3, 8, and 9). They found the sheer volume of emails overwhelming and responded by deleting many before even reading them. Respondent 2 shared, *"I find regular emails incredibly frustrating, and I get so many that regular ones end up in the junk mailbox, so they don't get read"* (personal communication, April 19, 2024).

Due to email overload, participants reported shorter attention spans, making it difficult for them to open emails and engage with the content in the first place. Several participants underscored the importance of a compelling subject line to address this (Respondents 1, 3, 7, 8, and 11). They noted that it should be "interesting", "engaging", and "eye-catching" (Respondents 1 and 8), contain key messages like 'free repairs' (Respondents 3 and 7), or be easily searchable, as Respondent 8 described: *"The subject line is relevant, so I can do a subject line search to find what I want, and then the information is there"* (personal communication, April 16, 2024).

Half the participants shared their views on promotional content in emails (Respondents 1, 2, 3, 5, 7, and 11). Some indicated that uninteresting promotional content in the subject line would immediately lead them to delete the email and that they valued education over promotions (Respondents 1 and 2). Others suggested a balance between promotional and non-promotional content (Respondents 5), while a few appreciated advertisements because they captured their attention as long as there was a clear distinction between promotional and personal emails (Respondents 7 and 11).[5]

Despite many participants indicating that they deleted many emails, one-fourth preferred email as their communication channel (Respondents 10, 11, and 12). The primary reason was that they did not use social media platforms like Instagram, relying solely on email for communication. Respondent 11 explained, *"I'm quite old. I'm not very into social media and no longer have active social media accounts. If I were 25 or 30, I would be on Instagram and see all these pictures of [repaired jeans]. But I'm not, so it doesn't come to me that way"* (Respondent 11, personal communication, April 15, 2024). A few respondents indicated that they prefer email and social media for communication (Respondents 3 and 6). Respondent 3 mentioned that email is easier than social media for personalised support, such as email reminders and action planning, presented in detail in the section 'Personalised Implementation Support'.

Respondent 12 shared thoughts on the decline of the social media era: *"I think the age of the beautiful Instagram influencer is coming to an end…This idea of someone standing there and giving a big spiel about what they think it means to be happy or sustainable is like - no one cares. Let's get to action"* (personal communication, April 19, 2024). Participants preferred communication that emphasises genuine connections instead of relying on beautiful, stylish, and unattainable influencers who shift the focus to themselves rather than what is important. This trend was observed among several respondents (Respondents 6, 11, and 12), and one stated, *"I'm*

[5] Promotional content aims to drive sales, while non-promotional content focuses on educating, informing or entertaining the audience without direct promotion (Speed Commerce, n.d.).

beginning to realise more and more that you want honesty…There's something about connecting with a real person" (Respondent 3, personal communication, April 19, 2024). Similarly, *"I like seeing 'real' people doing 'real' stuff"* (Respondent 6, personal communication, April 27, 2024). Respondents 11 and 12 preferred down-to-earth, funky, and fun communication while recognising that life can be messy, reflecting a shift away from the polished image of influencers toward more authentic and relatable communication approaches.

Personalised Implementation Support

Almost all participants agreed that receiving implementation support through email reminders or emails that help them develop specific action plans would effectively aid in bridging the IBG (Respondents 1, 2, 3, 4, 5, 7, 8, 10, 11, and 12). Respondents described this approach as useful and helpful and said they would happily welcome such support. Respondent 7 remarked: "It would make me feel relieved to receive such an email, and it would prompt me to [perform the repair]" (personal communication, April 17, 2024).

Several participants suggested different approaches to combining email reminders with action plans. Some recommended sending both in one communication (Respondent 5), while others advocated sending an initial reminder to create interest, followed by an action plan to guide the next steps (Respondents 7 and 11).

Almost all respondents who valued email reminders indicated they would prefer to receive them every 6, 9, or 12 months, as daily, weekly, or monthly reminders would be too frequent (Respondents 3, 4, 7, 11, and 12). One respondent noted, *"I don't need a daily or weekly reminder about repairing jeans; probably less frequently...It's not really relevant during my day, so I might think, 'Okay, I'll do that later'. So getting a reminder of my intention [to repair] isn't a bad thing"* (Respondent 4, personal communication, April 15, 2024). Additionally, Respondent 5 suggested that reminders could be added as a footnote to weekly newsletters, as frequent standalone reminders could lead to email fatigue.

A quarter of the participants did not value email reminders, suggesting they had little impact and would not motivate them to take action (Respondents 1, 6, and 9). Others indicated that while reminders might be effective initially, they could become repetitive or feel like nagging over time. As Respondent 8 said, *"That's helpful the first time, but after that, I already know. You don't have to tell me what I already know...It would be reasonable to say: 'I don't know whether you remember, but we offer repair if you want it done.' But you don't want to feel like you've been nagged to take your jeans, then you're sounding like my mother."* (personal communication, April 16, 2024). This perspective aligns with other respondents who preferred a friendlier tone in communication (Respondents 5 and 9), which could help avoid a sense of nagging.

Several participants preferred 'clicking' in an email (Respondents 3, 7, and 12). One respondent noted, *"Having a specific, step-by-step process, like clicking a link to book your appointment or find a location, always helps"* (Respondent 3, personal communication, April 16, 2024). Another added, *"Basically, I want to do this. Let me click*" (Respondent 7, personal communication, April 17, 2024). A third respondent described how a flowchart with clickable steps could streamline finding and booking services, which is especially beneficial for people in rural areas where long travel is often required. The ideal flowchart would allow users to enter their location and then guide them through a series of clickable links—such as locating the nearest repair shop, checking its availability, and booking a time slot. This process could conclude with a summary box, presenting essential information such as wait times and contact information, all at the click of a button (Respondent 12).

Respondent 2 stressed that email reminders combined with action planning should bring new information to users. However, to accomplish this, emails need personalisation to be specific and relevant, *"Knowing that I can get jeans repaired in London isn't helping me at the moment because I'm not going to be in London, and I don't know when next. But if something were to happen more locally, knowing about that and trying to plan around it would be effective. I think the specificity is what's needed, so it doesn't become generalised and ignored"* (personal communication, April 19, 2024).

One practical solution to enhance personalisation is to encourage consumers to create customer profiles where they can log details and monitor the condition of their jeans. This feature could include updates on whether the jeans are nearing the point of breaking, require repairs, or remain in good condition. Although Respondent 4 wants to avoid using the word 'gamification', this approach allows for more targeted communication, as it helps consumers identify items needing repair and receive relevant email reminders and action plans tailored to their needs.

A second suggestion to improve personalised implementation support is through purchase profiling. Respondent 6 explained that email reminders about repairs can sometimes be generic, but a more targeted approach based on purchase history can offer more effective and personalised communication. Tracking of customer purchases allows the brand to send reminders at appropriate intervals. For example, a customer who purchased jeans six, nine, or twelve months ago might receive an email suggesting a repair check-up. This approach provides a timely reminder without feeling intrusive, as it is based on the customer's purchasing patterns.

Rational and Emotional Persuasion

Half of the respondents considered themselves rational individuals, preferring communication that presents high-quality arguments (Respondents 1, 2, 3, 6, 7, and 8). One participant preferred rational arguments because they are logical and concrete, making them easier to understand (Respondent 1). Similarly, another would only consider arguments, *"Anything that relies on either a feeling or a belief, I'm going to question"* (Respondent 2, personal communication, April 17, 2024). Many participants stated that they are convinced by factual information (Respondents 1, 2, 3, 6, 10, and 12), particularly those that emphasise environmental impact (Respondents 1, 2, 3, 6, 7, 10, and 12), and personal cost savings (Respondents 1, 2, 6, 7, 10, and 12). A few participants indicated that discussions about product quality are particularly persuasive (Respondents 6, 7, and 8). A combination of these facts was expressed by Respondent 6:

> *"Messages should be easy to understand, e.g. why it's important for both the planet and the customer, the main benefits for the customer, and clarify why and when it's better to repair instead of buying new…In my opinion, it's important to emphasise that repairing an expensive, high-quality product is not only economical but also ecological. First of all, you get good-looking, high-quality clothing that can last a long time. Secondly, it's good for the environment because you don't need to buy more cheap, low-quality products" (Respondent 6, personal communication, April 27, 2024).*

Two participants attributed their preference for rational persuasion to their research backgrounds (Respondents 2 and 12). Participant 2 noted that being an academic professional made them accustomed to fact-checking, a practice that might be less common among others. These varying levels of information validation underscore the importance of transparency in communication to ensure the credibility of arguments, a critical aspect of rational persuasion. Similarly, another participant noted that the prevalence of misinformation has led people to examine the environmental aspects of communication more closely, indicating a growing interest in understanding the real impact of circular practices and highlighting the importance of transparency (Respondent 3).

While most respondents valued high-quality arguments based on logic and facts, some indicated that these arguments can also trigger emotional responses that influence their behaviour (Respondents 3 and 8). One mentioned that while they prefer rational persuasion, emotional response is often triggered by arguments highlighting broader environmental issues, such as the sheer volume of production and manufacturing. This emotional reaction, however, stems from a rational understanding of the problem rather than an appeal to personal sentiment (Respondent 3). Similarly, the other noted that sustainability arguments evoke an emotional response: *"For me, it's all about sustainability because that creates the emotional argument. If I feel like my action is meaningful, even in a small way, that's the sort of argument I'll respond to"* (Respondent 8, personal communication, April 16, 2024). These perspectives suggest that arguments can trigger emotional responses even within the rational pathway, indicating that logic and emotion combined may influence behaviour.

Building on this idea, a quarter of the participants preferred communication that combines logical reasoning with emotional appeals for effective persuasion (Participants 5, 10, and 12). A common observation was that arguments and factual information aid in making quick decisions (Participants 5 and 12). However, as much decision-making occurs subconsciously, emotional appeals can enhance communication's impact by creating a sense of connection (Participants 10 and 12). Participant 5 referenced a cycling brand's newsletter that balances scenic imagery, personal stories, and product information to engage the audience's logical and emotional aspects.

Another group of respondents acknowledged their rational tendencies but indicated that emotional cues and peripheral signals ultimately influence their decisions (Respondents 3, 9, and 11). This suggests that emotional connections can be as influential in shaping behaviour as factual information. As Respondent 9 expressed, *"Rational arguments don't make me go there and actually [repair it]"* (personal communication, April 15, 2024). This group prefers communication that appeals to their emotions through sentimental attachments, visual elements, or authority rather than detailed logical arguments.

A third of the participants noted that emotional attachment to a cherished item can drive repair behaviour and serve as a compelling element in persuasive communication (Respondents 3, 6, 10, and 12). Respondent 12 said, *"There's something about that sense of nostalgia and things that stay with you for a long time - it really matters"* (personal communication, April 17, 2024). This sentiment was echoed by other participants (Respondents 9 and 11), indicating that evoking the emotional value of a product can be significant in persuasion. A few participants noted the importance of stimulating emotional responses through visual examples of others' repair efforts (Respondents 9 and 11). Personal stories and unique repair customisations can foster the emotional connection needed for effective persuasion. Additionally, the importance of communicator credibility was underscored, indicating that brand loyalty and trust in a brand's message can also evoke emotion that drives behaviour (Respondent 9).

Lastly, regardless of the type of persuasion they preferred, several respondents shared a common theme (Respondents 3, 4, 7, 8, and 12). They discussed the importance of making a meaningful contribution, whether by supporting a greater altruistic cause or making a positive impact. Various aspects of this concept were highlighted, including *"doing the right thing"* (Respondents 4 and 10, personal communication, April 15 and 18, 2024) and *"meaningful action"* (Respondent 9, personal communication, April 16). One even mentioned that they find satisfaction in *"doing something good for the environment and then bragging about it"* (Respondent 7, personal communication, April 17, 2024).

Social Influences

Several participants noted that emails featuring content where other individuals perform repairs would be valuable in inspiring them to engage in similar behaviour (Respondents 3, 5, 6, 7, and 12). Others thought it might be effective (Respondents 1, 2, 10, and 11). Respondent 7 stated, *"I'd probably repair more often if I saw more people doing it...But I usually don't see it, so observing others would also serve as a reminder"* (personal communication, April 17, 2024).

Respondent 3 suggested that a top-down approach through observational learning could contribute to changing cultural habits on a broader societal level, as it would challenge the preference for purchasing new, especially in communities where repairing is less common. Thus, a cultural shift could increase the visibility of repair practices in society, providing more opportunities for individuals to see others for inspiration to act on their intention to repair.

Although Respondent 5 preferred to believe they are driven solely by their own free will, they mentioned that everyone is influenced by others to some degree. They suggested that observing others can offer the encouragement needed to take action, highlighting the benefit of seeing role models in action. Respondent 6 agreed that others' behaviour has an influence but noted that the impact is relatively minor.

There were nuanced views regarding which individuals consumers prefer to observe performing repairs, although specific common themes emerged. Some respondents indicated that observing members of their social circle could be effective, especially if it involved practical recommendations for repair services (Respondents 1 and 3). Another participant indicated that observing unexpected individuals, such as leaders from traditionally conservative or non-environmental sectors, engaging in repair could significantly alter perceptions. When prominent figures not typically associated with repair or sustainability undertake these actions, it may encourage others to adopt similar behaviour. This approach was considered more compelling than observing someone already recognised for environmental advocacy, as it challenges stereotypes and widens the range of inspiring examples (Respondent 5).

One-fourth of the participants indicated that who performs the repair does not strongly affect their encouragement as long as the behaviour serves a greater cause (Respondents 3, 7, and 12). However, in contrast to what Respondent 5 said, one participant expressed scepticism about the motives behind unexpected individuals promoting repair (Respondent 12). Observing positive behaviours from unexpected sources might not entirely discourage them, but it could raise questions about the underlying motives, leading to lower trust.

Similar sentiments were expressed regarding observational learning in line with the findings from the 'Email Communication Preferences' section, which highlighted a preference for down-to-earth, authentic individuals. Some participants preferred observing repair activities conducted by genuine individuals, such as company personnel, customers, or everyday people, rather than pop stars or influencers (Respondents 6 and 11). Respondent 6 stated, *"I find the actions of celebrities and high-profile fashion influencers often appear fake and can harm the brand's credibility"* (personal communication, April 27, 2024). This suggests that promoting repair through authentic sources could be more effective than celebrity endorsements. For example, one suggestion involved sending an email featuring a video in which brand representatives straightforwardly demonstrate repair techniques (Respondent 11).

Several participants were sceptical about the effectiveness of observational learning (Respondents 4, 8, 9, 10, and 11). Similar to the video suggestion from Respondent 11, others noted that they preferred a focus on repair tutorials rather than the individuals performing

them (Respondents 5 and 9). A common theme among those who did not favour observational learning was their preference for personal autonomy, as they emphasised the importance of internal motivation instead of needing external influences to guide their actions (Respondents 4, 8, and 10). However, one participant suggested that their generation might influence this perspective, stating, *"Maybe I'm a different generation...But I don't think it's a bad thought, because I think when you're 20, you probably look more for these role models"* (Respondent 4, personal communication, April 19, 2024).

Reflecting the view that observational learning might substantially impact younger people, several participants who favoured this approach pointed to their culture and family backgrounds where repairing was a common practice. Growing up in environments where repair was the norm could have shaped their current attitudes toward repair and sustainability (Respondents 1, 3, and 12).

Only one-fourth of the participants acknowledged that social norms had some influence on their behaviour (Respondents 7, 8, and 10). One stated, *"Yes, of course [social norms] are important. But I mean, it's really hard to assess their impact because we are all embedded in our culture"* (Respondent 8, personal communication, April 16, 2024), and further indicated that social norms are an influence but not the main driver. Similarly, Respondent 7 mentioned that while they might not be consciously aware of it, social norms do have some impact on their behaviour.

However, several participants stated that social norms did not influence their repair behaviour (Respondents 1, 2, 3, 5, and 6). For instance, some lived in communities where sustainability and repair culture are not widely embraced (Respondents 3 and 5), others mentioned that their social circle did not focus on sustainability, yet they did not feel pressured to conform to these norms (Respondent 12). A few participants considered themselves role models within their social circles, promoting sustainable practices and leading by example (Respondents 2 and 3). Participant 12 also highlighted the cultural perceptions of sustainability, noting that it is often viewed as an 'elite' practice associated with wealthier individuals in their local area. Another indicated their friends were more interested in secondhand and vintage clothing than repair (Respondent 6).

In the 'Rational and Emotional Persuasion' section, visual examples of others' repair efforts were presented as a way to stimulate the emotional responses needed for persuasion. Half of the participants found customer testimonials through pictures or videos effective because they illustrate real-life results (Respondents 2, 4, 5, 6, 9, and 11). One participant commented, *"You need to see the perspectives of what people have done with their jeans. If it's personal, it's even better, like when someone has used a different thread colour or created something unique from a repair"* (Respondent 9, personal communication, April 15, 2024). Another participant emphasised the importance of social proof and customer testimonials as they lend credibility through third-party validation (Respondent 2). However, Participant 8 mentioned that customer testimonials could be perceived as similar to TripAdvisor reviews, which they typically do not read or pay attention to.

Information and Educational Content

Effective communication in consumer outreach relies on delivering information concisely and engagingly. Several participants preferred short, direct, and engaging emails (Respondents 5, 6, 7, 8, and 11). This preference aligns with the shorter attention spans discussed in the 'Email Communication Preferences' section, as participants lose interest when confronted with lengthy text or excessive images that obscure the email's purpose. As Respondent 8 stated: *"Tell me what you want and get to the point…If I have to search through stock image photos and all these*

statements about how wonderful the company is, I won't bother." (personal communication, April 16, 2024).

Most participants emphasised the importance of being provided with information (Respondents 2, 4, 5, 7, 8, 9, and 12). A few participants preferred receiving information at the point of purchase rather than through email (Respondents 5 and 9). The reasoning was that if consumers were well-informed from the start, there would be less need for follow-up communication (Respondent 5). Some respondents also noted that they did not require more information, as their knowledge was not the limiting factor in their decision to repair (Respondents 1 and 11).

Half the respondents commented on generic versus specific information content, revealing a nuanced view (Respondents 2, 5, 7, 8, 10, and 11). Most participants preferred specific and well-targeted information over generic content (Respondents 2, 8, and 10). One participant described a company that switched from sending weekly emails to sending emails only when there was important information or required action:

> *"They're saying something specific. It's probably a psychological effect because they've said we will only email you when we have something to tell you...[that] we think is important. That makes you feel like somebody's actually thought about what they're sending, so you pay attention to it" (Respondent 2, personal communication, April 19, 2024).*

Others preferred a mix of generic and specific information (Respondent 5), while some appreciated generic content that communicated the existence of repair services and how to use them (Respondents 7 and 10).

Two-thirds of the participants valued emails with educational content (Respondents 1, 2, 3, 5, 6, 7, 11, and 12). Some of these respondents noted that while they already possess the knowledge required for repair, educational content was considered beneficial for others in general (Respondents 1, 2, and 6). In contrast, another participant stressed the concept that the more one learns, the more one realises how much remains unknown:

> *"I also know that the more you learn at university, the more you realise how little you actually know. Education is always important because our understanding is constantly changing and evolving. I believe that education is fundamentally the solution to much of our ignorance and inability, especially when it comes to things like learning how to repair" (Respondent 2, personal communication, April 19, 2024).*

Another principle that emerged among participants favouring educational content was that 'knowledge is power' (Respondents 1 and 3). Respondent 3 related this concept to sustainability, indicating that knowledge can inspire positive change and promote responsible behaviour. The participant who preferred emails with educational content over promotional messages, mentioned in the section 'Email Communication Preferences', suggested that education could be a more effective way to encourage repair than direct persuasion. Educational content can demonstrate the value of repair, explain its benefits, and offer practical guidance on the techniques required to perform repairs (Respondent 2).

Three-quarters of the respondents found repair tutorials useful for learning practical skills and wanted more step-by-step content in email communications (Respondents 1, 2, 3, 5, 6, 8, 10, 11, and 12). One participant highlighted the importance of knowledge regarding specific repair techniques when using professional services, enabling them to give clear instructions to the tailor to ensure the repair is completed to their satisfaction (Respondent 11). Others stressed the need for self-repair tutorials, noting that some people find the task challenging

(Respondents 2, 5, and 6). Respondent 5 explained, *"Getting that step-by-step guidance helps you realise that it's not that difficult"* (personal communication, April 17, 2024).

Several participants indicated that repair tutorials should be easy to understand, allowing individuals to feel empowered and confident in undertaking repairs on their own (Respondents 5, 6, and 12). In contrast, some participants appreciated more complex tutorials with advanced embroidery techniques (Respondents 1, 3, and 12). Repair tutorials were also viewed as helpful for people living in rural areas far away from professional repair centres. Additionally, some respondents indicated that watching repair tutorials was their preferred learning method as they do not like reading (Respondents 10 and 12).

Visual Communication

Consistent with the preference for concise emails with minimal text noted in the 'Information and Educational Content' section, all participants emphasised the significance of including visual elements in communication (Respondents 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12). Given that visual communication can be integrated with any of the strategies discussed, it emerged as a standalone theme.

Half of the respondents indicated a preference for emails featuring visuals of both traditional repairs and more artistic and customised ones (Respondents 1, 6, 9, 11, and 12). Some participants mentioned they were inspired by Japanese embroidery, combining functional reinforcement with decorative elements (Respondents 1, 3, and 12). Respondent 12 noted, *"Instead of standard stitching, repair tutorials could be made more interesting with techniques like the Japanese art of embroidery, where you stitch while you patch your clothes. It's quite creative!"* (personal communication, April 19, 2024).

Participants discussed the preferred types of visual communication, mentioning infographics, images, and videos. One-fourth of the respondents mentioned using infographics, provided they contain minimal text (Respondents 5, 6, and 10). Pictures were favoured by three-quarters of the participants in email communications (Respondents 3, 4, 5, 6, 7, 8, 9, 11, and 12). While one respondent suggested using step-by-step pictures with descriptions to illustrate the repair process (Respondent 6), most participants preferred images that focused on demonstrating repair quality and techniques. They emphasised end results (Respondents 3, 9, and 10), prior repairs (Respondent 5), and before-and-after images as sources of inspiration (Respondents 9 and 11).

Two-thirds of the respondents emphasised the importance of video communications in the context of repair tutorials (Respondents 1, 2, 3, 5, 6, 10, 11, and 12). As noted in the 'Information and Educational Content' section, videos are necessary for some individuals to understand repair techniques fully. Respondent 12 explained,

> *"When someone uses only words to tell me how to do something, I don't understand. But if they show me a video where I can watch a close-up of the actual patch with someone explaining and demonstrating, then I can pause it and try it myself—that's how I learn" (Respondent 12, personal communication, April 19, 2024).*

Additionally, Respondent 12 suggested that transcribing video tutorials would enhance accessibility for people with hearing impairments and non-native English speakers. Providing transcriptions would allow a wider audience to access the educational content, ensuring inclusivity and a broader understanding of the repair process.

As an example of preferred communication, one participant mentioned a video tutorial from Nudie Jeans titled 'How to Repair Your Jeans Using the Nudie Jeans Repair Kit.' This video demonstrates how to use the free repair kit Nudie Jeans provides its customers with as part of their eco-cycle philosophy, allowing them to repair their jeans at home (Respondent 6). In contrast, another participant shared that they had ordered the repair kit from the website but were unsure how to use it due to a lack of instructions (Respondent 5). This highlights the need for clearer communication and accessible visual guidance in repair tutorials.

Stated and Revealed Preferences for Communication Strategies

Stated preferences were derived from participants' subjective rankings of the effectiveness of various communication strategies. Table 4-5 shows ranking results, including mean and standard deviation (SD). A lower mean score suggests a higher preference, while a higher SD indicates a broader range of opinions. Education emerged as the most favoured (mean=2.67, SD=1.15), followed by rational persuasion (mean=2.75, SD=1.60), emotional persuasion (mean=3.75, SD=1.82), and action planning (mean=3.92, SD=2.23). The least favoured were social influences (mean=4.42, SD=1.73), email reminders (mean=4.50, SD=2.39), and observational learning (mean=6.00, SD=1.04). The highest SDs were seen in email reminders, action planning, emotional persuasion, and social influences, indicating higher variation in participants' opinions of these strategies.

Revealed preferences were derived from thematic analysis of the interview content. Tables 4-5 show the rankings based on the number of participants favouring the strategy in general rather than their own subjective ranking. This approach provides a broader view of consumer opinions on communication strategies, capturing nuances that might not be reflected in the stated rankings; thus, revealed rankings may differ. For example, although action planning and email reminders were ranked lower in stated preferences (4 resp. 6), they ranked higher in revealed preferences (1 resp. 4). This discrepancy occurred because while participants did not find these strategies personally compelling, neither did they object to them and acknowledged their potential usefulness for others.

Table 4-5. Table demonstrating ranking of communication strategies according to stated consumer preferences with mean and standard deviation, and revealed consumer preferences with respondent count

	Ranking Stated Preferences	**Mean**	**SD**		**Ranking Revealed Preferences**	**Respondent Count**
1	Education	2.67	1.15	1	Education	10
2	Rational Persuasion	2.75	1.60	2	Action Planning	9
3	Emotional Persuasion	3.75	1.82	3	Rational Persuasion	9
4	Action Planning	3.92	2.23	4	Email Reminders	8
5	Social Influences*	4.42	1.73	5	Emotional Persuasion	7
6	Email Reminders	4.50	2.39	6	Observational Learning	7
7	Observational Learning	6.00	1.04	7	Social Influences*	6 + 3

** Social influences cover both social norms (3) and social proofs (6).*

Overall, the revealed preferences identified education (N=10) as the most favourable strategy in terms of effectiveness, followed by action planning (N=9), rational persuasion (N=9), email reminders (N=8), emotional persuasion (N=7), observational learning (N=7), and social influences, which covered social proofs (N=6) and social norms (N=3).

Gender Differences

Although all women participating in the qualitative phase of this study indicated that they were open to using professional repair services, they primarily emphasised the importance of video tutorials for self-repair. Email communication with this content significantly encouraged this gender group to act on their intention (Respondents 1, 3, and 12). This suggests that women are more inclined to self-repair their clothes than to use professional repair services in this context.

Interestingly, Japanese embroidery was a topic of discussion among all women, both as a technique to explore through advanced repair tutorials and as a source of aesthetic inspiration. The beautiful, artistic, and intricate repairs evoked a sense of calm and encouraged them to engage in repairing themselves. As Respondent 12 explained, *"I love videos that are slow-paced, with lovely colours, and zoomed-in shots. Like when you see someone stitching, and the camera zooms in on their fingers as they work through a particular stitch"* (personal communication, Respondent 12, April 19, 2024).

In contrast, most men interviewed preferred not repairing their own items (Respondents 4, 5, 8, 10 and 11). One noted, *"If customers are like me—older men—I don't really want to sit down and repair jeans, to be honest. The idea of self-repair just doesn't appeal to me"* (Respondent 4, Age group 41-50 years old, personal communication, April 15, 2024). Another male participant even mentioned he would rather trade in his jeans for a discount voucher to purchase a new pair than repair them (Respondent 9).

Three men indicated they were willing to make minor repairs themselves (Respondents 7, 9, and 10), and a few men stated a capability to make smaller repairs (Respondents 2, 4, and 5). One mentioned that while he could sew socks, he doubted his ability to repair jeans to a professional standard but was willing to attempt it (Respondent 2). Another respondent, a self-proclaimed perfectionist, stated that while he could repair smaller items, he would not try to repair jeans unless he could achieve professional-quality results (Respondent 5).

Two-thirds of the men in this study believed self-repair would not meet professional standards as they lacked the necessary skills (Respondents 2, 4, 5, 6, 7 and 11). As Respondent 3 explained, *"I don't want to repair my jeans because I know it won't look great. I'd rather outsource that to a professional—that's how I approach things in my professional life as well"* (personal communication, April 15, 2024). Most men preferred professional repair services over self-repair (Respondents 2, 4, 5, 7, and 11). One participant suggested that promoting professional repair services would be more engaging for men like him rather than providing information on how to repair items (Respondent 4). However, as mentioned in the 'Information and Educational Content' section, most men still found repair tutorials and visuals of beautiful artistic repairs in email communications useful and engaging (Respondents 2, 5, 6, 8, 9, 10, and 11).

5 Discussion

This chapter consolidates the key findings from the questionnaire and interviews and discusses them by answering the research questions. The analysis connects the results to existing academic knowledge, emphasising their contribution to addressing identified research gaps. This section also includes reflections on the theoretical and methodological approaches used in the study, along with broader considerations of legitimacy and generalisability.

5.1 Knowledge Contribution

5.1.1 Quantitative Insights

Section 5.1.1 discusses the results from the quantitative phase to answer RQ1 and SQ. RQ1 examined the magnitude of the IBG regarding jeans repair practices among Nudie Jeans consumers, while SQ explored which groups within the demographic factors of age, gender, household size, and continent exhibit the largest IBG.

RQ1: What is the magnitude of the IBG regarding jeans repair practices among Nudie Jeans consumers?

The McNemar test analysis of dichotomous questions identified an overall IBG of 10.8%, with inclined abstainers contributing 82.1%. Although inclined abstainers represented only 8.9% of the total sample, they were the largest group following inclined actors. In contrast, the Wilcoxon Signed-Rank test, applied to continuous questions, revealed a larger overall IBG of 39.3%. Despite this larger IBG, the contribution of inclined abstainers to the overall gap was lower (61.4%) than the dichotomous results (82.1%). Additionally, the continuous questions showed that inclined abstainers accounted for 24.1% of the total sample, significantly larger than the 8.9% indicated by the dichotomous questions.

The findings from both statistical tests support Sheeran's (2005) conclusion that the primary source of inconsistency between intentions and behaviour comes from inclined abstainers, not disinclined actors. This aligns with TRA and TPB, which state that behaviour largely depends on intention (Fishbein & Ajzen, 2009), suggesting individuals are less likely to engage in behaviour without prior intention.

Given the potential for dichotomous questions to force participants to polarise their moderate responses (Rivera-Garrido et al., 2022), a larger IBG might be expected when using these questions instead of continuous ones. For instance, someone with a moderate intention to repair their jeans might still indicate 'yes' in a dichotomous intention question, even if their commitment is not absolute. Similarly, they might answer 'no' for behaviour even if they actually repair occasionally, suggesting that forced polarisation could lead to a larger IBG.

However, the results showed the opposite, as the continuous questions indicated an IBG that was 28.5% larger. This might be because continuous scales capture more subtle distinctions, allowing respondents to express nuanced variations between intention and behaviour. Some individuals who appeared to have no IBG from dichotomous questions may demonstrate a gap when using a continuous scale. For example, a person could indicate 'yes' for both intention and behaviour in a dichotomous question yet reveal a gap of 10 points when using a continuous scale. This broader range of response variations might explain why the gap is more extensive when analysing continuous questions.

The McNemar and Wilcoxon Signed-Rank tests confirmed that the IBG observed in this study was statistically significant, indicating that the gap was not due to random chance alone.

These results are consistent with Fachbach (2020), which also demonstrated a statistically significant IBG in repair practices. However, as incompatible scales were used, the study potentially compromised the reliability of its results and reduced the correlation between measures of intention and behaviour (Fishbein & Ajzen, 2009). Given these issues, direct comparisons with this research should be cautiously approached.

Practical Significance

The effect sizes from both the McNemar and Wilcoxon Signed-Rank tests provided insights into the magnitude and practical significance of the results, indicating that the effects were substantial enough to be relevant in practice (Bhandari, 2023). Notably, the large effect size associated with the IBG based on continuous questions was significantly greater than the medium effect size observed with dichotomous questions, aligning with the descriptive statistics. In summary, the IBG ranged between 8.9-24.1%, with nearly one-fourth of participants exhibiting an IBG. This substantial proportion underscores a valuable opportunity for targeted marketing and communication strategies to bridge this gap effectively.

SQ: Which demographic groups, such as age, gender, household size, and continent of residence, exhibit the largest IBG related to jeans repair practices among Nudie Jeans' consumers?

The median for inclined abstainers from the continuous questions was 11, indicating a relatively low central tendency, given the maximum possible value of 100. The IQR of 24.75 shows that the middle 50% of scores fall between 4 and 28.75, indicating a moderate spread among respondents. However, several outliers with values between 70 and 100 suggest some extreme instances of the IBG. This distribution pattern indicates that while the central tendency is relatively low, there is considerable variability in the data, with a significant portion of variation occurring above the median of 11. This variation was also observed for most groups within all demographic factors (80%).

Continents

Kruskal-Wallis tests assessed median differences in IBG for inclined abstainers across various demographic factors. Although Africa had the highest median IBG (30.5), the analysis revealed no statistically significant differences among continents, indicating that any observed differences might result from random variability rather than underlying demographic distinctions. The results still showed no statistically significant differences when groups with small sample sizes were excluded. This could suggest that the uneven distribution of participants might have affected the results, as Europe accounted for 76.9%. Alternatively, the variations in IBG across continents might be too subtle to detect. Further research with more balanced and potentially larger samples is needed to confirm these results and better understand IBG trends across continents.

Household Size

Household size showed no statistically significant differences, regardless of whether all groups were included or only those with smaller sample sizes were excluded. Although the distribution was unequal, it was more balanced when focusing only on single, small, and medium households. The median IBG was highest for medium households with 4-5 members (12). However, the scores across the different household size groups were quite similar, indicating that the lack of significant results for household size might be because there are no substantial differences.

These results contradict Roger et al. (2021), who found that larger households were more likely to repair, suggesting a lower IBG for this group. However, as Roger et al. did not define what constitutes a large household and including larger households (N=2) in this research created unequal distribution, comparing these two studies is problematic. Future research should aim to include a more balanced sample, especially in the larger household category, and establish consistent definitions for household size groups. Laitala et al. (2021) found that families with smaller children were less likely to repair, probably due to time constraints. However, since this research categorised household size by the number of individuals rather than children, these findings could neither be confirmed nor disproven.

Age

The median IBG was highest among younger consumers in the 0-20, 21-30, and 31-40 age groups (20, 18, resp. 16), but statistical tests found no significant differences across age groups nor when excluding groups with smaller sample sizes. However, as p-values were close to the 0.05 threshold, this suggests there might be subtle trends. The distribution of participants was also unequal (31-40 and 41-50 covered 27.7% resp. 36.0%), which might have affected the statistical significance of trends. Consequently, it remains unclear whether the IBG is more prominent among younger consumers, indicating a need for further studies with larger and more evenly distributed samples to determine if age plays a significant role.

These age-related findings align with Rogers et al. (2021), who found no significant age differences in repair practices. Although the observed trends in this study were not statistically significant, they might indicate that younger individuals have a larger IBG, suggesting a higher interest in repair than actual behaviour. This potential trend aligns with Svensson-Hoglund et al. (2023), who noted that younger consumers tend to show more interest in repair. However, it contradicts Laitala et al. (2021), which found that older consumers are more inclined to repair. It could also be that older consumers engage in repair practices more frequently, leading to a smaller IBG in this study. The potentially larger IBG among younger consumers could be due to younger consumers often lacking the skills needed for repair, as observed by Svensson-Hoglund et al. (2023). However, since these results were not statistically significant, all interpretations are speculative, indicating a need for further research to confirm whether these trends hold.

Gender

The statistical analyses for gender showed no significant differences in median IBG scores across all groups. However, after excluding categories with small sample sizes, the Kruskal-Wallis test indicated a statistically significant difference in IBG between women and men ($p=0.04875$), with women having the highest median IBG (20). Although statistically significant, the effect size was small, suggesting that the actual difference between these groups might be minimal in practice. This result should be approached cautiously, given the uneven distribution among gender categories, with men representing the majority of the total sample (87.3%). Further research with more balanced samples is needed to confirm whether this observed difference has practical significance.

5.1.2 Qualitative Insights

Section 5.1.2 discusses the results from the qualitative phase to answer RQ2, which explored consumer preferences regarding email communication to bridge the IBG in repair practices.

RQ2: What email communication and marketing strategies are potentially most effective in closing the IBG related to repair practices?

Barriers to Repair

Cultivating a circular consumption culture requires addressing the barriers to repair (Terzioğlu, 2021). While extensive research exists on what hinders clothing repair, identifying the specific barriers in this context is essential, as these directly impact the IBG. The most common barrier identified in this study was limited access to repair materials, tools, and professional repair services due to the inconvenience of distant service locations. A lack of skills, knowledge, or confidence for self-repairing followed this. The third most prevalent barrier was time constraints.

Lack of skills and time constraints align with existing research on common barriers to clothing repair (Diddi & Yan, 2019; Laitala et al., 2021; McLaren & McLauchlan, 2015; Rogers et al., 2021; Terzioğlu, 2021). Since environmental and personal factors negatively impact individuals' perception of effort and confidence in their ability to perform the behaviour, this may also suggest a low perceived behavioural control (Coffie et al., 2023; Fishbein & Ajzen, 2009).

Although other studies highlight financial costs as a major barrier, only a few participants in this research mentioned financial concerns, primarily related to indirect costs such as travel expenses when repair services are located far from residences. The absence of direct financial barriers is likely because Nudie Jeans offers free repair services. This observation suggests that even when the financial cost is removed, other factors—such as limited skills, time constraints, and restricted access to professional repair services—continue contributing to the IBG in clothing repair. Given that these barriers persist despite free repairs, focusing on non-cost barriers might be more effective in encouraging repair behaviour, even in contexts where repair services are provided at a cost.

As previous research found, the perception that new is better than repairing (Laitala et al., 2021; Rogers et al., 2021) and emotional detachment from clothing (Diddi & Yan, 2019; Terzioğlu, 2021) were also observed among a few participants in this study. Mistrust in repair quality was mentioned by a few participants, suggesting that some consumers are reluctant to choose repair because they question its reliability and durability. However, it could not be confirmed as a significant barrier, which aligns with Rogers et al.'s (2021) findings. The lower prevalence of these barriers might be attributed to Nudie Jeans' focus on sustainability and circularity, which likely attracts more environmentally conscious consumers. Many participants considered themselves environmentally aware, which might explain why these barriers were less pronounced in this research.

Additionally, this study identified a barrier not commonly mentioned in other research on clothing repair—indolence. Indolence suggests that some consumers avoid repairing their clothing because it requires effort or disrupts their routines. Addressing this might require creative strategies to make the repair more convenient or appealing, which could help bridge the IBG in clothing repair.

Email Communication Preferences

Addressing barriers to repair is essential both for fostering a circular consumption culture (Terzioğlu, 2021) and for developing effective communication and marketing strategies. Successful approaches should consider target behaviour and audience benefits, as well as the barriers and factors driving behaviour change (Coffie et al., 2023). The approach suggested by Romero-Luis et al. (2022), which combines traditional marketing with education and persuasive communication, aligns with this strategy. This study supports this approach, as most participants appreciated a mix of educational content and promotional material or did not mind advertising. This preference could be due to a need for communication that informs

and persuades without overwhelming the recipient, which might explain why email marketing is often favoured (Bowden & Mirzaei, 2021). By combining traditional marketing techniques with educational elements, communication strategies can better address the factors influencing repair behaviour and potentially reduce the IBG.

However, one participant noted they would delete emails with promotional content, emphasising the need for a carefully crafted subject line to ensure emails are opened and not discarded. Although research suggests that email communications can lead to higher open rates (Bowden & Mirzaei, 2021), many respondents in this study deleted most emails without reading them, or they ended up in spam folders. This aligns with findings that only 18% of retail category consumers open brand-related emails, with low engagement often due to emails being perceived as irrelevant or intrusive (Bowden & Mirzaei, 2021). This underscores the importance of creating a compelling subject line to increase the chances that emails are opened and read.

Despite many participants indicating they deleted numerous emails, half of the respondents still preferred email communication—either exclusively because they did not use social media or in combination with it. Participants noted that the era of 'beautiful social media influencers' is ending, with a growing preference for genuine connections over the polished and often unattainable content typically associated with traditional social media. They emphasised interactions with authentic people, indicating a shift toward more down-to-earth and relatable communication. Personalisation is critical to achieving this, and participants found personalised implementation support to be easier with email communication than social media. This supports research suggesting that email is valued because it can be more direct and personalised, appealing to what people truly care about instead of relying only on external incentives (Bowden & Mirzaei, 2021). Overall, these findings align with research suggesting that email marketing will remain a key communication channel even as social media grows (Bowden & Mirzaei, 2021).

Preferred Communication Strategies

There were interesting results regarding the stated and revealed preferences of the most effective email communication strategies. The strategies with the highest variability and SD in stated preferences—action planning, email reminders, emotional persuasion, and social influences—also underwent significant shifts in the revealed preferences. Action planning and email reminders moved up in revealed preferences despite ranking lower in stated preferences. This shift implies that although some participants had reservations about these strategies, they acknowledged their broader utility for others. In contrast, emotional persuasion and social influences moved down in revealed preferences, potentially because some participants found them effective personally but considered them less broadly applicable compared to strategies like education, rational persuasion, and email reminders with action planning. Despite variations in ranking positions, education, action planning and email reminders, and rational persuasion received strong support across both revealed and stated preferences, affirming their potential effectiveness in email communication.

Education

Education was highly valued and ranked first in both forms of preferences while exhibiting minimal variation, mainly when delivered concisely and directly in engaging emails. This preference likely stems from education's non-intrusive yet persuasive nature, which resonates with the logic, facts, and argumentation used in rational persuasion that many participants preferred. Notably, environmental and sustainability arguments were favoured, reflecting participants' environmental consciousness.

Educational repair tutorials were especially preferred in email communications, addressing the barrier of limited ability and confidence in self-repair while also underscoring the importance of visual communication. Although some studies suggest that mending clothes requires minimal skills, equipment, and time (Laitala et al., 2021; McLaren & McLauchlan, 2015), this study diverges from these findings, as the expressed demand for repair tutorials acknowledges the prevailing perception of repair as challenging. Furthermore, research suggests that even skilled crafters of quilting or embroidery may not consider their skills directly relevant to clothing repair (Diddi & Yan, 2019), underscoring the nuanced, challenging nature of repairs. Consequently, offering repair tutorials in email communication becomes essential to bridge the IBG.

Personalised Implementation Support

Action planning initially involves cognitive processing but gradually facilitates the transition to automatic processes demanding minimal cognitive deliberation. By aligning intentions with guidance for specific environmental cues, such as recognising repair needs, action planning fosters automatic and habitual behaviours, effectively addressing the IBG and promoting sustained behaviour change (Ajzen et al., 2009). This study's findings align with this existing research, as participants expressed preferences for email reminders and measures similar to action planning due to its effectiveness. Thus, email reminders coupled with action planning, offer a practical solution to address time constraints by providing structured support for intended behaviours.

However, individual differences exist in the extent to which behaviours become habitual, emphasising the necessity for personalised approaches in behaviour change interventions. Personalisation in emails can ensure appropriate distribution frequency and a friendly tone without nagging. Participants' preference for specificity might indicate readiness to embrace purchase tracking and customer profiles. Integrating interactive features, like clickable links or jeans condition updates, into emails and customer profiles enhances personalised engagement. It aids effective action planning by providing consumers with practical tools to manage and monitor their repair activities. This interactive approach may also foster emotional attachment to garments, further motivating repair efforts.

Rational and Emotional Persuasion

Rational persuasion emerged as a favoured strategy among participants, reflecting their inclination towards logic and transparent presentation of factual arguments. The preference is likely attributed to the participants' heightened environmental awareness. Consequently, they gravitate towards evidence and arguments rooted in environmental considerations alongside practical factors like cost savings. This preference for rational persuasion may stem from participants' self-perception as rational decision-makers. Alternatively, the impact of emotional persuasion may be undervalued, as it often operates at a subconscious level. Thus, emotional appeals might be less recognised for their effectiveness compared to more consciously perceived rational persuasion.

Suppose emotional persuasion is ranked lower due to participants' self-perception as rational decision-makers rather than stemming from a lack of awareness of its efficacy. This might suggest potential limitations in targeting System 1, which operates without extensive conscious deliberation. In this case, that would contrast research indicating that nudging targeting System 1 is the most influential (Holligan, 2017; Southerton & Evans, 2017). However, the integration of both System 1 and System 2 nudging, as demonstrated by implementation intentions, suggests that not all forms of nudging are inherently less effective. This indicates that nudging remains effective in addressing the IBG, consistent with recent research findings (Rainatto et

al., 2024). Nudging to address the IBG in repair practices may prioritise strategies like simplifying and framing information, setting goals, and modifying the physical environment—like embedded repair-related peripheral cues in emails. Focusing on these conceptual framework elements addresses the most prevalent barriers identified in this research.

However, many participants still considered emotional persuasion more effective than other strategies. This belief contradicts the findings of Ajzen and Fishbein (2009) and Kamal et al. (2022), who argue that peripheral processing in ELM leads to short-lived attitudes and minimal behavioural impact. These findings, therefore, suggest a closer alignment with System 1 as the primary influential pathway. The inclination towards visual communication among participants highlights the potential of imagery to evoke emotional responses, even among those initially inclined towards rational persuasion, suggesting that its lower ranking may stem from participants' lack of conscious awareness regarding its effectiveness. Artistic repairs, particularly, were found to evoke emotional engagement, indicating that visual elements play a significant role in influencing repair-related behaviour change. This underscores the importance of leveraging visuals to generate emotional responses, overcoming general barriers such as the perception of products as 'complete,' and thus increasing motivation for customisation.

Additionally, the preference for before-and-after pictures as social proofs underscores the significance of visual evidence in rational persuasion. These images effectively demonstrate repair quality and address trust-related barriers. By strategically incorporating visuals to complement rational and emotional appeals, interventions aimed at behaviour change in clothing repair practices can be significantly improved by addressing several barriers.

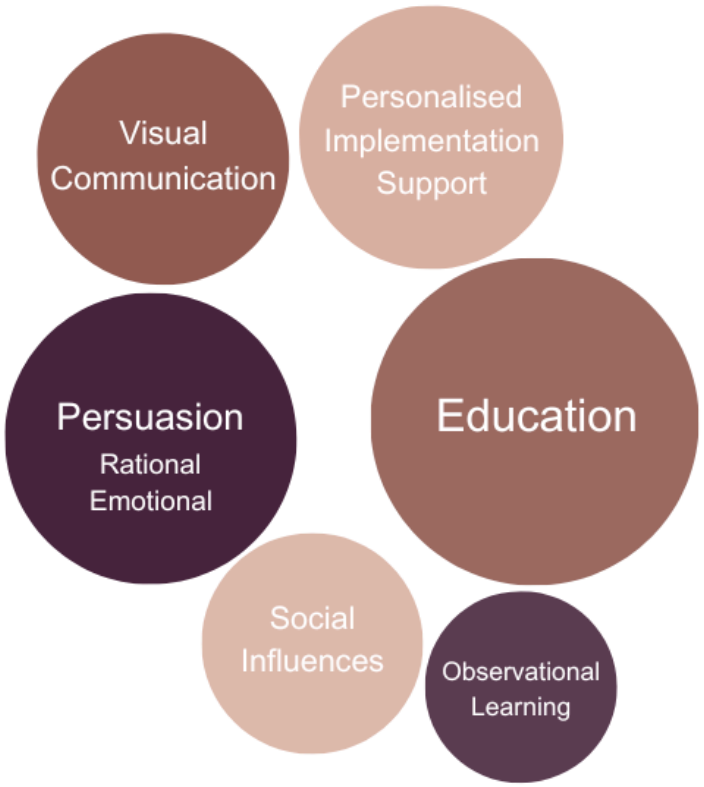


Figure 5-1. Preferences for email communication strategies. The most preferred strategies are represented by larger circles at the top, with 'Education' being the most preferred. Less preferred strategies, such as 'Social Influences' and 'Observational Learning,' are shown as smaller circles at the bottom.

Observational Learning and Social Influences

Many participants considered observational learning promising for others. However, it was not perceived as highly effective as the other strategies, likely because of the high level of personal autonomy. Some participants suggested subconscious cultural influence. Connolly (2017) states that observational learning involves deliberate consideration of whether to imitate the behaviour, which was not widely observed among participants. Since observational learning is associated with PWM's less deliberate social reactive pathway, this finding further supports theories suggesting lower effectiveness for less deliberate pathways (Ajzen & Fishbein, 2009; Kamal et al., 2022).

Social norms and proofs—associated with less deliberate pathways—were found to have a limited impact in this study. Despite preferences for visually presented customer testimonials, most participants expressed indifference towards social norms, showing little concern for other's opinions of them or their actions. As participants were mainly above the age range of 21-30, it might suggest they are less susceptible to social influences than younger demographics. Moreover, participants' environmental awareness may have influenced their indifference to social norms, as some perceived themselves as role models within their social circles.

Gender Differences in Repair Practices

Although there was a statistical difference between genders, the magnitude of this difference was minimal as the effect size was 0.101, marginally exceeding the practical significance threshold of 0.10. Nevertheless, exploring gender remains crucial as it could enhance understanding of gender differences in repair practices.

In line with existing research on women's tendency towards clothing self-repair (Rogers et al., 2021), this study suggests that women may prefer self-repair over professional repair services. For instance, women exhibited a strong interest in Japanese embroidery, finding it both aesthetically pleasing and calming, which motivated them to engage in self-repair activities. While Rogers et al. (2021) could not confirm which gender was more likely to hire professional services for clothing repair, the findings of this study indicate that most men prefer hiring professionals, particularly for repairing items like jeans. In contrast, women tend to lean towards self-repair, although they are still open to professional repair services. These findings may also suggest the influence of traditional gender roles on repair tendencies, aligning with the observations of Rogers et al. (2021).

However, men's general reluctance to self-repair does not necessarily imply they view repair activities as exclusively 'women's work' or domestic chores. This interpretation contrasts with prior research emphasising gender stereotypes as social barriers to repair practices (Diddi & Yan, 2019; McLaren & McLauchlan, 2015; Rogers et al., 2021). Furthermore, not all men exhibit reluctance; some express a willingness to attempt self-repair. However, this inclination predominantly pertains to minor repairs rather than more complex tasks like mending jeans, attributed to a perceived lack of ability and confidence in achieving satisfactory results. This tendency may be linked to traditional gender norms within educational systems, where women often might acquire sewing skills while men are more likely to develop mechanical repair abilities (Rogers et al., 2021).

Despite not explicitly mentioning a lack of repair skills, women desired repair tutorials. This desire may arise from either a need to acquire skills or simply the enjoyment of watching these

videos. For example, the unanimous interest in Japanese embroidery among female participants demonstrates how this desire can stem from the aspiration to acquire more advanced repair skills and the pleasure and calm of observing such beautiful creations.

5.1.3 Contribution to Existing Research Gaps

This study addresses several research gaps identified in the literature. Firstly, it contributes to the need for more research on the IBG by addressing RQ1, which aims to quantify the IBG magnitude. Specifically, it focuses on post-purchase IBG concerning pro-circular behaviours like repair, a research area highlighted for further investigation (Muranko et al., 2018). Notably, this study is the first to quantify the IBG in repair practices using scale compatibility, contributing insight to this novel field.

Moreover, this research identifies the potentially most effective communication strategies to motivate and encourage repair behaviours by addressing RQ2, which aims to explore this from a consumer perspective and addresses the need for further inquiry in this area (Muranko et al., 2018, 2019; Rainatto et al., 2024; Romero-Luis et al., 2022; Terzioğlu, 2021). It responds to the call for more investigation into nudging strategies (Rainatto et al., 2024) and persuasive communication approaches (Muranko et al., 2018, 2019), highlighting their effectiveness in fostering sustainable behaviours.

This study also contributes to the need for more research on addressing barriers to repair, providing valuable insights into promoting pro-circular practices (Rainatto et al., 2024). Furthermore, addressing SQ and exploring demographic differences in IBG enhances repair research in line with recommendations from Rogers et al. (2021). Overall, this research substantially contributes to advancing knowledge in the field by addressing key research gaps identified in the literature.

5.2 Reflections and Implications

Methodological and Analytical Considerations

While traditional survey design based on the TPB often favours 7-point Likert Scale response formats (Ajzen, 1991; Fishbein & Ajzen, 2009; Francis et al., 2004), this study employed a slider format with labels ranging from 'Not very likely at all' to 'Extremely likely', consistent with Likert scale endpoints (Vagias, 2006). Studies suggest that respondents generally prefer the slider format (Liu, n.d.), which adds variety and engagement to the survey experience. Additionally, using the slider facilitated the application of statistical tests designed for continuous data, aligning with the researcher's expertise and streamlining the analysis process. Although this methodological choice diverges from traditional approaches, it is not anticipated to impact the study's outcomes.

Theoretical Considerations

The TPB has been criticised for neglecting non-conscious processes, and the Theory of Interpersonal Behaviour acknowledges the importance of social and emotional factors, reflected in the less deliberate pathways from the conceptual framework used in this study (Dang Vu & Nielsen, 2022; Kupfer et al., 2019). Theory of Interpersonal Behaviour extends TPB by incorporating additional factors such as social influences, affect, habit, and situational constraints or opportunities to perform a specific action (Dang Vu & Nielsen, 2022; Kupfer et al., 2019). These factors are grouped into three overarching constructs forming behaviour—intention, habitual strength, and facilitating conditions—each with varying impacts depending on the behaviour, situation, or individual involved. For instance, intention mainly determines behaviour in situations when the behaviour is new or unlearned, while

through repeated exposure and positive or negative reinforcement, behaviour transitions into an automatic process determined by habit (López Dávila et al., 2021).

According to the Theory of Interpersonal Behaviour, the IBG of inclined abstainers could be considered to involve situations with new behaviour—as there is no behaviour—and habits are thus expected to exert less influence. Additionally, due to the overlap between the Theory of Interpersonal Behaviour constructs and those of other theories in the conceptual framework, the Theory of Interpersonal Behaviour was deliberately omitted to streamline the research focus. It is important to acknowledge that habits are essential in maintaining behaviour. This could imply that habits are essential in maintaining the IBG as nonexistent; however, this falls outside the scope since this study focused on bridging the IBG rather than maintaining it as nonexistent.

Legitimacy

This research leveraged several well-established theories like TPB, SCT, PWM, ELM, implementation intentions, and nudging to thoroughly explore various aspects of the research topic. Employing an explanatory sequential mixed method design takes advantage of quantitative and qualitative strengths, providing a detailed and comprehensive analysis while mitigating their inherent limitations and enabling data triangulation. It also addressed several unanswered research gaps in marketing and communication, consumer behaviour, repair practices, and circular economy. This study is also the first to quantify the IBG in repair practices using scale compatibility, an under-studied research area that requires more attention. Therefore, this research significantly contributes to advancing knowledge across various domains and addresses all research questions outlined in this study.

However, this study has a limitation, as the decision to distribute a survey to Nudie Jeans' consumers may have contributed to self-selection bias. Given the voluntary nature of the survey, respondents with a stronger affinity for the brand or a high interest in sustainability may have been more inclined to participate, potentially leading to an over-representation of environmentally conscious consumers. This bias may be reflected in the data, with 93% of survey respondents reporting an intention to repair and 86% stating actual repair behaviour, potentially suggesting a predisposition toward environmentally conscious behaviours. Additionally, all interview participants expressed environmental awareness, indicating prevalent pro-environmental values. Recognising the potential influence of this self-selection bias on the study's outcomes is crucial, as it may have skewed the results towards a more environmentally conscious perspective.

Generalisability

The findings on consumer preferences for communication and marketing strategies, addressed in RQ2, might thus not be fully generalisable to the broader population, which might be less environmentally aware. In addition, consumer preferences are very subjective, so it does not necessarily mean that the preferred communication strategies identified in this research are the same among all environmentally aware consumers. The self-selection bias may also have influenced the IBG's magnitude, which could be even higher among less environmentally conscious consumers. This indicates that investigating the IBG among the broader populations could add value to what has been found in this study**.** However, it could also be argued that people with a high intention to repair are environmentally conscious; thus, investing the IBG in this group is most relevant.

Lastly, although gender differences were observed—with a statistically more pronounced IBG among women compared to men—the practical significance was limited due to the unequal

gender distribution among Nudie Jeans consumers. Exploring this phenomenon in a gender-balanced population could provide valuable insights into whether the IBG concerning repair practices is indeed more pronounced among women. Additionally, achieving equal distribution extends to other demographics, such as continent, age, and household size, which also would benefit from larger sample sizes.

6 Conclusion

The urgency to shift from a linear to a CE arises from growing environmental degradation due to unsustainable consumption, notably within the textile and clothing sector. Despite repair being integral to CE strategies, consumers frequently intend to repair products without following through, highlighting a significant IBG critical to address for CE adoption (Shevchenko et al., 2023). Given the consumer's key role in this transition, effective communication and marketing are essential in providing consumers with relevant information and education to facilitate behaviour change (Mostaghel et al., 2023; Vidal-Ayuso et al., 2023). Further, marketers stress the need for qualitative insights into consumer preferences regarding email communication. This study utilised an explanatory sequential mixed methods approach to address these issues. Firstly, an online survey quantified the repair IBG among Nudie Jeans consumers while testing variations in median IBG across demographic factors such as age, gender, household size, and continent. Secondly, semi-structured interviews explored consumer preferences on the most effective communication strategies to bridge the IBG.

RQ1: What is the magnitude of the IBG regarding jeans repair practices among Nudie Jeans consumers? This study revealed a statistically significant IBG for inclined abstainers, ranging from 8.9% to 24.1%, with a medium to large effect size, underscoring its practical relevance. Although the lower end of this range (8.9%) might appear modest, the upper end of 24.1% represents a substantial portion, approaching one-fourth of the sample. The median IBG was 11 on a 100-point scale. While this value might seem relatively small, the clustering of most individual IBG values towards the higher end indicates that a notable proportion of participants exhibit a more pronounced gap. This presents a significant opportunity for targeted communication strategies to address and bridge this gap effectively.

SQ: Which demographic groups, such as age, gender, household size, and continent of residence, exhibit the largest IBG related to jeans repair practices among Nudie Jeans' consumers? No notable variations were observed across demographic factors such as age, household size, and continent. However, a noteworthy finding was the statistically significant difference in median IBG between genders ($p<0.05$). Specifically, women exhibited a higher median IBG than men, although this distinction was of marginal practical significance.

RQ2: What email communication and marketing strategies are potentially most effective in closing the IBG related to repair practices? Email communication should be short, straightforward, and captivating, reducing the likelihood of email deletion. A practical approach entails emphasising education, personalised implementation support, and employing rational and emotional persuasion techniques. These strategies received individual and collective preference while also addressing prevalent barriers, including limited access to professional repair services, time constraints, and insufficient skills and confidence. Consumers strongly prefer educational content, particularly regarding repair tutorials, given the perceived difficulty in repairing jeans due to a lack of skills and confidence. Furthermore, environmental and social sustainability education emerges as a significant preference, potentially due to the heightened environmental consciousness in the group.

This preference corresponds to rational persuasion, emphasising logical arguments, transparent presentation of environmental facts, and potential cost savings from repairs. While rational persuasion held precedence, many respondents still acknowledged the effectiveness of emotional persuasion. Assessing the degree of preference for emotional persuasion was challenging due to its more subconscious nature. The significance of visuals in persuasion was highlighted, particularly in emotional persuasion through visually appealing repair customisations and rational persuasion via before-and-after images showcasing repair quality. This links to social proofs, which, although ranked lower, were still deemed effective by many. Personalised implementation support emerged as highly preferred and notably effective,

mainly through email reminders that aid consumers in crafting specific action plans. However, the effectiveness of this strategy hinges on individualised tailoring to cater to diverse consumer needs, underscoring the importance of personalisation. This personalisation ensures relevance, enhances effectiveness and minimises perceived intrusion.

The least preferred strategies were social influences and observational learning. Although consumers valued visual customer testimonials, social norms had minimal impact as participants remained indifferent to others' opinions, suggesting social pressure might be more influential among consumers aged 0-30. Observational learning was not perceived as personally effective due to the high levels of personal autonomy; however, it was suggested that it might hold more efficacy for younger consumers. Additionally, there was a recognition that the era of unattainable social media influencers might wane, as participants preferred email content featuring down-to-earth, relatable individuals who embody real-life personas.

6.1 Practical Implications and Recommendations for Non-academic Audiences

6.1.1 Recommendations for Businesses

These research findings extend beyond academia, offering valuable insights for practitioners in the fashion industry. Marketers can use the explored consumer preferences to refine communication and marketing strategies for email channels, enhancing consumer engagement and driving sustainable behaviours. Additionally, these insights are relevant to various fashion stakeholders, such as brands and retailers, enabling them to strengthen their market position within the industry by integrating these findings into their practices.

Businesses should prioritise consumer education on self-repair by offering step-by-step tutorial videos. These tutorials should be clear and straightforward, ensuring comprehension across different familiarity or expertise levels. Providing thorough instructions prevents frustration and fosters a sense of accomplishment. Simplified tasks increase the likelihood of completion and empower consumers with confidence for future repairs. Enhancing linguistic and sensory accessibility through subtitles, translations, alternative language options, and audio descriptions can also significantly improve the experience for non-native English speakers and those with hearing and visual impairments. Additionally, the focus of these videos should emphasise repair techniques and education rather than the individuals performing the repairs. Preference for demonstrators includes repair professionals, sustainability advocates from the company, and fellow consumers, rather than relying on stylish, 'unattainable' influencers. Furthermore, these videos can incorporate visually appealing elements to showcase the beauty of repair, evoking an emotional response through emotional persuasion.

The other aspect of education involves providing consumers with factual arguments for rational persuasion. Transparency is crucial in presenting these arguments, allowing consumers to fact-check if desired. Highlighting financial arguments such as potential cost savings by opting for repair over purchasing anew can be compelling. However, the most persuasive argument lies in environmental aspects. These arguments involve explaining the importance of repair for the planet and individual consumers or providing numerical examples illustrating the significant environmental impacts of manufacturing. Lastly, crafting messages that instil meaning and benefit in consumers' actions can be highly persuasive.

In addition to educating consumers through persuasion, companies should actively support their customers. Consumer interest in features like purchase tracking and customer profiles underscores their readiness for personalisation. An opportunity exists to create customer profiles on the company's website, integrating interactive features allowing consumers to log product details and track their condition. For instance, they could update on whether their

jeans are nearing the point of breaking, require repairs, or remain in good condition. This approach engages consumers, fosters product appreciation, and serves as a tool for personalised email reminders with actionable support. For instance, upcoming local repair opportunities could be shared based on the consumer's indicated city of residence in their profile. Updates on repair waiting times—such as shorter-than-normal wait times—could further incentivise repairs. However, interactive features are crucial enough not to be limited to personalised behaviour support. They should be integrated into every aspect of a company's communication strategy, combined with various visual elements, to assist consumers in bridging the IBG in repair practices.

6.1.2 Recommendation for Policymakers

Alongside businesses, policymakers play a crucial role in encouraging the widespread adoption of repair practices. They can foster a repair-friendly environment through educational campaigns advocating for sustainable consumption and repairs. These initiatives aim to raise public awareness and encourage behavioural change. By incorporating factual arguments about repair's environmental and economic benefits, policymakers can effectively persuade consumers to view repair as a viable option. Moreover, integrating visual elements and interactive features can enhance consumer engagement with these campaigns.

6.2 Recommendations for Future Research

This study makes three methodological advancements in IBG research: ensuring scale compatibility, using an engaging slider response format, and developing a new conceptual framework for communication strategies to bridge the IBG. Insights into consumer preferences on email communication for repair illuminates theories in the conceptual framework. Social influence and observational learning had limited effectiveness in driving behavioural change, consistent with prior research on the inadequacies of less deliberate and social pathways. However, it was suggested that these concepts may carry more weight among younger consumers. The established conceptual framework provides a basis for exploring the relevance of theories such as SCT and PWM among younger generations. Future research should investigate whether consumers below 30 exhibit higher susceptibility to social influences and role models in communications and inform whether concepts derived from these theories merit inclusion or exclusion from the conceptual framework. Integrating habits from the Theory of Interpersonal Behaviour could enhance the framework, addressing the maintenance of IBG through repair habits.

Questions have emerged about the validity of research inquiries among the general population with less environmental awareness, and future research should address the IBG and consumer preferences regarding email communication in this group. When exploring differences in the repair IBG, future studies should ensure more balanced sample distributions across all demographic factors. Achieving gender balance is particularly important to determine whether the IBG is indeed more pronounced among women, as this may impact communication strategies. This study suggests that women may be more inclined towards clothing self-repair, whereas men tend to favour professional repair services—insights that could be used to personalise email communications. For instance, if women demonstrate a stronger IBG, they might respond better to communications focused on self-repair than information about professional repair services, particularly in the context of clothing repair.

Thus, this study addresses the aim and RQs, makes significant methodological advancements and fills various research gaps in communication and marketing, consumer behaviour change, repair IBG, and barriers to repair to deepen knowledge in the field further. Consequently, this research contributes academically and practically to the transition to a CE.

Bibliography

Adam, A.-F., & Fayolle, A. (2016). Can implementation intention help to bridge the intention-behaviour gap in the entrepreneurial process? An experimental approach. *International Journal of Entrepreneurship and Innovation*, *17*(2), 80–88. https://doi.org/10.1177/1465750316648569

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

Ajzen, I., Czasch, C., & Flood, M. G. (2009). From Intentions to Behavior: Implementation Intention, Commitment, and Conscientiousness. *Journal of Applied Social Psychology*, *39*(6), 1356–1372. https://doi.org/10.1111/j.1559-1816.2009.00485.x

Almanasreh, E., Moles, R., & Chen, T. F. (2019). Evaluation of methods used for estimating content validity. *Research in Social and Administrative Pharmacy*, *15*(2), 214–221. https://doi.org/10.1016/j.sapharm.2018.03.066

Altman, D. G. (1990). *Practical Statistics for Medical Research*. London, England: Chapman and Hall/CRC. https://doi.org/10.1201/9780429258589

Alves, L., Ferreira Cruz, E., Lopes, S. I., Faria, P. M., & Rosado da Cruz, A. M. (2022). Towards circular economy in the textiles and clothing value chain through blockchain technology and IoT: A review. *Waste Management & Research*, *40*(1), 3–23. https://doi.org/10.1177/0734242X211052858

Arman, S. Md., & Mark-Herbert, C. (2021). Re-Commerce to Ensure Circular Economy from Consumer Perspective. *Sustainability*, *13*(18), 10242. https://doi.org/10.3390/su131810242

Arnold, M., Goldschmitt, M., & Rigotti, T. (2023). Dealing with information overload: A comprehensive review. *Frontiers in Psychology*, *14*, 1122200. https://doi.org/10.3389/fpsyg.2023.1122200

Auwalin, I., Rahma Sari, F., & Maulida, S. R. (2022). Applying the Pro-Circular change model to restaurant and retail businesses' preferences for circular economy: Evidence from Indonesia. *Sustainability: Science, Practice, and Policy*, *18*(1), 97–113. https://doi.org/10.1080/15487733.2022.2027121

Bhandari, P. (2023). *What is Effect Size and Why Does It Matter? (Examples)*. Scribbr. URL: https://www.scribbr.com/statistics/effect-size/ Accessed 2024-03-07

Bowden, J., & Mirzaei, A. (2021). Consumer engagement within retail communication channels: An examination of online brand communities and digital content marketing initiatives. *European Journal of Marketing*, *55*(5), 1411–1439. https://doi.org/10.1108/EJM-01-2018-0007

Brenner, H., & Kliebsch, U. (1996). Dependence of weighted kappa coefficients on the number of categories. *Epidemiology (Cambridge, Mass.)*, *7*(2), 199–202. https://doi.org/10.1097/00001648-199603000-00016

Clarke, V., & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology*, *12*(3), 297–298.

https://doi.org/10.1080/17439760.2016.1262613

Coffie, I. S., Tweneboah-Koduah, E. Y., Ocloo, E. C., Nkukpornu, A., & Kastner, A. N. A. (2023). Improving local rice consumption in Sub-Saharan Africa through social marketing: Evidence from Ghana. *International Review on Public and Nonprofit Marketing*. https://doi.org/10.1007/s12208-023-00370-w

Connolly, G. J. (2017). Applying Social Cognitive Theory in Coaching Athletes: The Power of Positive Role Models. *Strategies*, *30*(3), 23–29. https://doi.org/10.1080/08924562.2017.1297750

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (Fifth edition). *Los Angeles, SAGE*.

Cruz, E. F., & da Cruz, A. M. R. (2023). Digital solutions for engaging end-consumers in the circular economy of the textile and clothing value chain- A systematic review. *Cleaner and Responsible Consumption*, *11*, 100138. https://doi.org/10.1016/j.clrc.2023.100138

Dang Vu, H. N., & Nielsen, M. (2022). Understanding determinants of the intention to buy rhino horn in Vietnam through the Theory of Planned Behaviour and the Theory of Interpersonal Behaviour. *Ecological Economics*, *195*, 107361. https://doi.org/10.1016/j.ecolecon.2022.107361

Daniel, J. (2012). Sampling Essentials: Practical Guidelines for Making Sampling Choices. *SAGE Publications, Inc.* https://doi.org/10.4135/9781452272047

DATAtab Team. (2024). *DATAtab: Online Statistics Calculator*. URL: https://datatab.net/tutorial/wilcoxon-test Accessed 2024-02-17

Diddi, S., & Yan, R.-N. (2019). Consumer Perceptions Related to Clothing Repair and Community Mending Events: A Circular Economy Perspective. *Sustainability*, *11*(19), Article 19. https://doi.org/10.3390/su11195306

Echegaray, F., & Hansstein, F. V. (2017). Assessing the intention-behavior gap in electronic waste recycling: The case of Brazil. *Journal of Cleaner Production*, *142*, 180–190. https://doi.org/10.1016/j.jclepro.2016.05.064

EEA. (2022). Textiles and the environment: The role of design in Europe's circular economy. *European Environment Agency (EEA)*. URL: https://www.eea.europa.eu/publications/textiles-and-the-environment-the/textiles-and-the-environment-the Accessed 2024-02-17

Ellen MacArthur Foundation. (n.d.). The circular economy in detail. *Ellen MacArthur Foundation*. URL: https://www.ellenmacarthurfoundation.org/the-circular-economy-in-detail-deep-dive Accessed 2023-12-11

Ellen MacArthur Foundation. (2017). *A New Textiles Economy: Redesigning fashion's future*. URL:

https://www.ellenmacarthurfoundation.org/a-new-textiles-economy Accessed 2023-12-11

European Commission. (n.d.). EU strategy for sustainable and circular textiles. *European Commission*. URL: https://environment.ec.europa.eu/strategy/textiles-strategy_en

European Commission. (2018). Behavioural Study on Consumers' Engagement in the Circular Economy: Final report. *European Commission*. Accessed 2023-12-17

European Parliament. (2023a). How the EU wants to achieve a circular economy by 2050. *European Parliament*. URL: https://www.europarl.europa.eu/topics/en/article/20210128STO96607/how-the-eu-wants-to-achieve-a-circular-economy-by-2050 Accessed 2023-12-17

European Parliament. (2023b). The impact of textile production and waste on the environment (infographics). *European Parliament*. URL: https://www.europarl.europa.eu/pdfs/news/expert/2020/12/story/20201208STO93327/20201208STO93327_en.pdf Accessed 2023-12-17

Fachbach, I. (2020). *Exploration of the foundation of repair-decisions of Styrian citizens with an emphasis on the repair network 'Graz repariert' / Ines Fachbach, MSc*. URL: http://unipub.uni-graz.at/obvugrhs/5399528 Accessed 2024-03-27

Fireflies.ai. (n.d.). *Fireflies.ai | AI notetaker to transcribe, summarize, analyze meetings*. Fireflies. URL: https://fireflies.ai Accessed 2024-04-10

Fishbein, M., & Ajzen, I. (2009). *Predicting and Changing Behavior: The Reasoned Action Approach* (1st ed.). Psychology Press. https://doi.org/10.4324/9780203838020

Fleiss, J. L. (1981). *Statistical methods for rates and proportions* (2d ed.). New York, NY: John Wiley & Sons Inc.

Fraj-Andrés, E., Herrando, C., Lucia-Palacios, L., & Pérez-López, R. (2022). Intention versus behaviour: Integration of theories to help curb food waste among young Spanish consumers. *British Food Journal*, *125*(2), 570–586. https://doi.org/10.1108/BFJ-09-2021-1042

Francis, J., Johnston, M., Eccles, M., Walker, A., Grimshaw, J. M., Foy, R., Kaner, E. F. S., Smith, L., & Bonetti, D. (2004). Constructing questionnaires based on the theory of planned behaviour: A manual for Health Services Researchers. *Newcastle upon Tyne, UK: Centre for Health Services Research, University of Newcastle upon Tyne.*

Frid, E. (2024). *VIVACE | The International Institute for Industrial Environmental Economics*. URL: https://www.iiiee.lu.se/research/iiiee-current-research-projects/vivace Accessed 2024-05-14

Ghisellini, P., Cialani, C., & Ulgiati, S. (2016). A review on circular economy: The expected transition to a balanced interplay of environmental and economic systems. *Journal of Cleaner Production*, *114*, 11–32.

https://doi.org/10.1016/j.jclepro.2015.09.007

Gomes, K. C., Nora, G. A. M., Andrade, C. R. D., Alberton, A., & Lyra, F. R. (2022). Environmental Label Features and their Theoretical Implications for Sustainability Market Practices towards a Circular Economy. *Revista Interdisciplinar de Ciencia Aplicada*, *6*(11), 60–72. https://doi.org/10.18226/25253824.v6.n11.08

Hagger, & Hamilton, K. (2020). Changing Behavior Using Integrated Theories. In M. S. Hagger, L. D. Cameron, K. Hamilton, N. Hankonen, & T. Lintunen (Eds.), *The Handbook of Behavior Change* (1st ed., pp. 208–224). Cambridge University Press. https://doi.org/10.1017/9781108677318.015

Hagger, M., & Chatzisarantis, N. (2014). An Integrated Behavior Change Model for Physical Activity. *Exercise and Sport Sciences Reviews*, *42*. https://doi.org/10.1249/JES.0000000000000008

Hassan, L. M., Shiu, E., & Shaw, D. (2016). Who Says There is an Intention–Behaviour Gap? Assessing the Empirical Evidence of an Intention–Behaviour Gap in Ethical Consumption. *Journal of Business Ethics*, *136*(2), 219–236. https://doi.org/10.1007/s10551-014-2440-0

Herédia-Colaço, V. (2023). Pro-environmental messages have more effect when they come from less familiar brands. *Journal of Product and Brand Management*, *32*(3), 436–453. https://doi.org/10.1108/JPBM-12-2021-3782

Holligan, S. D. (2017). Design of Nudge-Based Interventions for Increasing Vegetable Intake in Emerging Adults within On-Campus Dining Sites. *University of Guelph*.

Jan, M. T. (2022). Factors influencing the purchase of circular economy products: a comparative analysis of Malaysia and Turkey. *International Journal of Business and Society*, *23*(2), 802–819. https://doi.org/10.33736/IJBS.4839.2022

Jan, M. T. (2023). Circular Economy from a Consumer Perspective: Malaysia Versus Pakistan. *Millennial Asia*. https://doi.org/10.1177/09763996231211491

Kamal, M. M., Mamat, R., Mangla, S. K., Kumar, P., Despoudi, S., Dora, M., & Tjahjono, B. (2022). Immediate return in circular economy: Business to consumer product return information sharing framework to support sustainable manufacturing in small and medium enterprises. *Journal of Business Research*, *151*, 379–396. https://doi.org/10.1016/j.jbusres.2022.06.021

Kaur, J., & Bhardwaj, N. (2021). Their control will make or break the sustainable clothing deal-a study of the moderating impact of actual behavioural control on the purchase intention-behaviour gap for sustainable clothing in india. *Australasian Accounting, Business and Finance Journal*, *15*(5 Special Issue), 59–81. https://doi.org/10.14453/aabfj.v15i5.6

Kemper, J. A., & Ballantine, P. W. (2023). Where to Next? How Marketing Needs to Take a Lead in the Circular Economy. *Journal of Sustainable Marketing*, 1–7. https://doi.org/10.51300/JSM-2023-112

Kesternich, M., Osberghaus, D., & Botzen, W. J. W. (2022). The Intention-Behavior Gap in Climate Change Adaptation. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4288341

King, A. P., & Eckersley, R. J. (2019). Chapter 6 - Inferential Statistics III: Nonparametric Hypothesis Testing. In A. P. King & R. J. Eckersley (Eds.), *Statistics for Biomedical Engineers and Scientists* (pp. 119–145). Academic Press. https://doi.org/10.1016/B978-0-08-102939-8.00015-3

Koo, T. K., & Li, M. Y. (2016). A Guideline of Selecting and Reporting Intraclass Correlation Coefficients for Reliability Research. *Journal of Chiropractic Medicine*, *15*(2), 155–163. https://doi.org/10.1016/j.jcm.2016.02.012

Korsunova, A., Heiskanen, E., & Vainio, A. (2023). Consumer decision-making on repair in a circular economy: A process model based on experiences among young adults and stakeholders in Finland. *Journal of Cleaner Production*, *405*. https://doi.org/10.1016/j.jclepro.2023.137052

Koszewska, M. (2018). Circular Economy—Challenges for the Textile and Clothing Industry. *Autex Research Journal*, *18*(4), 337–347. https://doi.org/10.1515/aut-2018-0023

Kupfer, T. R., Wyles, K. J., Watson, F., La Ragione, R. M., Chambers, M. A., & Macdonald, A. S. (2019). Determinants of hand hygiene behaviour based on the Theory of Interpersonal Behaviour. *Journal of Infection Prevention*, *20*(5), 232–237. https://doi.org/10.1177/1757177419846286

Lærd Dissertation. (n.d.). *Constructs in quantitative research | Lærd Dissertation*. URL: https://dissertation.laerd.com/constructs-in-quantitative-research.php Accessed 2024-05-16

Laitala, K., Klepp, I. G., Haugrønning, V., Throne-Holst, H., & Strandbakken, P. (2021). Increasing repair of household appliances, mobile phones and clothing: Experiences from consumers and the repair industry. *Journal of Cleaner Production*, *282*. https://doi.org/10.1016/j.jclepro.2020.125349

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, *33*(1), 159–174.

Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel Psychology*, *28*, 563–575.

Lee, D. K. (2016). Alternatives to P value: Confidence interval and effect size. *Korean Journal of Anesthesiology*, *69*(6), 555–562. https://doi.org/10.4097/kjae.2016.69.6.555

Lehner, M., Mont, O., & Heiskanen, E. (2016). Nudging – A promising tool for sustainable consumption behaviour? *Journal of Cleaner Production*, *134*, 166–177. https://doi.org/10.1016/j.jclepro.2015.11.086

Leon, A. C. (1998). 3.12—Descriptive and Inferential Statistics. In A. S. Bellack & M. Hersen (Eds.), *Comprehensive Clinical Psychology* (pp. 243–285). Pergamon. https://doi.org/10.1016/B0080-4270(73)00264-9

Liu, M. (n.d.). *Tips for using slider questions in your next survey | SurveyMonkey*. URL: https://www.surveymonkey.com/curiosity/slider-blog/ Accessed 2024-02-12

López Dávila, M., Milios, L., Richter, J. L., & Dalhammar, C. (2021). Behavioural Insights into Personal Electronics Repair in Sweden: 20th European Roundtable on Sustainable Consumption and Production. *Proceedings of the 20th European Roundtable on Sustainable Consumption and Production*, 321–343. https://doi.org/10.3217/978-3-85125-842-4-14

Luo, H., Meng, X., Zhao, Y., & Cai, M. (2023). Exploring the impact of sentiment on multi-dimensional information dissemination using COVID-19 data in China. *Computers in Human Behavior*, *144*, 107733. https://doi.org/10.1016/j.chb.2023.107733

Mangiafico, S. (2023). *Summary and Analysis of Extension Program Evaluation in R* (Version1.20.04).

Marteau, T. M., Fletcher, P. C., Hollands, G. J., & Munafò, M. R. (2020). Changing Behavior by Changing Environments. In K. Hamilton, L. D. Cameron, M. S. Hagger, N. Hankonen, & T. Lintunen (Eds.), *The Handbook of Behavior Change* (pp. 193–207). Cambridge University Press. https://doi.org/10.1017/9781108677318.014

McLaren, A., & McLauchlan, S. (2015). *Crafting Sustainable Repairs: Practice based approaches to extending the life of clothes*. URL: https://www.academia.edu/15173002/Crafting_Sustainable_Repairs_Practice_based_approaches_to_extending_the_life_of_clothes Accessed 2024-05-04

McNemar, Q. (1947). Note on the sampling error of the difference between correlated proportions or percentages. *Psychometrika*, *12*(2), 153–157. https://doi.org/10.1007/BF02295996

Michael, K. D. (1997). An Investigation of the Temporal Stability of Self-Reported Internalizing Symptoms in Elementary-Age Children. *Utah State University*.

Mostaghel, R., Oghazi, P., & Lisboa, A. (2023). The transformative impact of the circular economy on marketing theory. *Technological Forecasting and Social Change*, *195*, 122780. https://doi.org/10.1016/j.techfore.2023.122780

Muranko, Z., Andrews, D., Chaer, I., & Newton, E. J. (2019). Circular economy and behaviour change: Using persuasive communication to encourage pro-circular behaviours towards the purchase of remanufactured refrigeration equipment. *Journal of Cleaner Production*, *222*, 499–510. https://doi.org/10.1016/j.jclepro.2019.02.219

Muranko, Z., Andrews, D., Newton, E. J., Chaer, I., & Proudman, P. (2018). The Pro-Circular Change Model (P-CCM): Proposing a framework facilitating behavioural change towards a Circular Economy. *Resources,*

Conservation and Recycling, *135*, 132–140. https://doi.org/10.1016/j.resconrec.2017.12.017

Niinimäki, K., Peters, G., Dahlbo, H., Perry, P., Rissanen, T., & Gwilt, A. (2020). The environmental price of fast fashion. *Nature Reviews Earth & Environment*, *1*(4), 189–200. https://doi.org/10.1038/s43017-020-0039-9

Nudie Jeans. (2019). *Meet the Nudie Jeans Repair Partners.* URL: https://www.nudiejeans.com/blog/meet-the-nudie-jeans-repair-partners Accessed 2024-03-21

OECD. (2017). *Tackling Environmental Problems with the Help of Behavioural Insights*. Paris: OECD Publishing. URL: https://doi.org/10.1787/9789264273887-en Accessed 2024-04-05

O'Keefe, D. J., & Jackson, S. (1995). Argument quality and persuasive effects: A review of current approaches. *Argumentation and Values: Proceedings of the Ninth Alta Conference on Argumentation*, 88–92. UR: http://www.dokeefe.net/pub/okeefejackson95alta.pdf Accessed 2024-05-16

Park, H. J., & Lin, L. M. (2020). Exploring attitude–behavior gap in sustainable consumption: Comparison of recycled and upcycled fashion products. *Journal of Business Research*, *117*, 623–628. https://doi.org/10.1016/j.jbusres.2018.08.025

Parsatemijani, M. (2020). Intention Behavior Gap in Purchasing used Products:: A Quantitative Analysis of Factors Determining Purchase of Secondhand Household Durables in Sweden. *Umeå University.*

Potting, J., Hekkert, M. P., Worrell, E., & Hanemaaijer, A. (2017). Circular Economy: Measuring innovation in the product chain. *PBL Netherlands Environmental Assessment Agency.*

Rad, R., Hosseini, Z., Mohseni, S., Mohammadi, M., Nikparvar, M., & Aghamolaei, T. (2023). Design, implementation and evaluation of an intervention based on a social cognitive theory of physical activity and nutritional behaviors in middle-aged people at the risk of coronary artery disease in Bandar Abbas: A study protocol. *Journal of Education and Health Promotion*, *12*. https://doi.org/10.4103/jehp.jehp_1364_22

Rainatto, G. M., Lopes de Sousa Jabbour, A. B., Cardoso Machado, M., Chiappetta Jabbour, C. J., & Tiwari, S. (2024). How can companies better engage consumers in the transition towards circularity? Case studies on the role of the marketing mix and nudges. *Journal of Cleaner Production*, *434*. https://doi.org/10.1016/j.jclepro.2023.139779

Rausch, T. M., & Kopplin, C. S. (2021). Bridge the gap: Consumers' purchase intention and behavior regarding sustainable clothing. *Journal of Cleaner Production*, *278*. https://doi.org/10.1016/j.jclepro.2020.123882

Ray, S., & Nayak, L. (2023). Marketing Sustainable Fashion: Trends and Future Directions. *Sustainability (Switzerland)*, *15*(7). https://doi.org/10.3390/su15076202

Reynolds, C. R., Altmann, R. A., & Allen, D. N. (2021). Reliability. In C. R. Reynolds, R. A. Altmann, & D. N.

Allen (Eds.), *Mastering Modern Psychological Testing: Theory and Methods* (pp. 133–184). Springer International Publishing. https://doi.org/10.1007/978-3-030-59455-8_4

Riina, M. D., Stambaugh, C., Stambaugh, N., & Huber, K. E. (2023). Chapter 28 - Continuous variable analyses: T-test, Mann–Whitney, Wilcoxin rank. In A. E. M. Eltorai, J. A. Bakal, D. W. Kim, & D. E. Wazer (Eds.), *Translational Radiation Oncology* (pp. 153–163). Academic Press. https://doi.org/10.1016/B978-0-323-88423-5.00070-4

Rivera-Garrido, N., Ramos-Sosa, M. P., Accerenzi, M., & Brañas-Garza, P. (2022). Continuous and binary sets of responses differ in the field. *Scientific Reports*, *12*(1), Article 1. https://doi.org/10.1038/s41598-022-17907-4

Roberts, H., Milios, L., Mont, O., & Dalhammar, C. (2023). Product destruction: Exploring unsustainable production-consumption systems and appropriate policy responses. *Sustainable Production and Consumption*, *35*, 300–312. https://doi.org/10.1016/j.spc.2022.11.009

Rogers, H. A., Deutz, P., & Ramos, T. B. (2021). Repairing the circular economy: Public perception and participant profile of the repair economy in Hull, UK. *Resources, Conservation and Recycling*, *168*. https://doi.org/10.1016/j.resconrec.2021.105447

Romero-Luis, J., Carbonell-Alcocer, A., Gertrudix, M., Gertrudis Casado, M. D. C., Giardullo, P., & Wuebben, D. (2022). Recommendations to improve communication effectiveness in social marketing campaigns: Boosting behavior change to foster a circular economy. *Cogent Social Sciences*, *8*(1). https://doi.org/10.1080/23311886.2022.2147265

Shanbhag, P. R., Pai, Y. P., Kidiyoor, G., & Prabhu, N. (2023). Development and initial validation of a theory of planned behavior questionnaire: Assessment of purchase intentions towards products associated with CRM campaigns. *Cogent Business & Management*, *10*(2), 2229528. https://doi.org/10.1080/23311975.2023.2229528

Sheeran, P. (2005). Intention–Behavior Relations: A Conceptual and Empirical Review. In *European Review of Social Psychology* (Vol. 12, pp. 1–36). https://doi.org/10.1002/0470013478.ch1

Shehu, E., Sejfijaj, O., & Memaj, F. (2023). Digital Marketing: Best way to support Circular Economy. *International Conference Circular Economy: Challenges and Opportunities*.

Shevchenko, T., Saidani, M., Ranjbari, M., Kronenberg, J., Danko, Y., & Laitala, K. (2023). Consumer behavior in the circular economy: Developing a product-centric framework. *Journal of Cleaner Production*, *384*. https://doi.org/10.1016/j.jclepro.2022.135568

Sim, J., & Wright, C. C. (2005). The Kappa Statistic in Reliability Studies: Use, Interpretation, and Sample Size

Requirements. *Physical Therapy*, *85*(3), 257–268. https://doi.org/10.1093/ptj/85.3.257

Southerton, D., & Evans, D. (2017). Consumption policies within different theoretical frameworks. In *Routledge Handbook on Consumption*. Routledge.

Svensson-Hoglund, S., Russell, J. D., & Richter, J. L. (2023). A Process Approach to Product Repair from the Perspective of the Individual. *Circular Economy and Sustainability*, *3*(3), 1327–1359. https://doi.org/10.1007/s43615-022-00226-1

Terzioğlu, N. (2021). Repair motivation and barriers model: Investigating user perspectives related to product repair towards a circular economy. *Journal of Cleaner Production*, *289*. https://doi.org/10.1016/j.jclepro.2020.125644

Urmínová, M., & Kusá, A. (2020). Innovative approaches in marketing communication in sustainable fashion business. In De Nisco A. (Ed.), *Proc. Eur. Conf. Innov. Entrepren., ECIE* (Vols 2020-September, pp. 834–841). Academic Conferences and Publishing International Limited. https://doi.org/10.34190/EIE.20.183

Uttley, J. (2019). Power Analysis, Sample Size, and Assessment of Statistical Assumptions—Improving the Evidential Value of Lighting Research. *LEUKOS*, *15*(2–3), 143–162. https://doi.org/10.1080/15502724.2018.1533851

Vagias, W. M. (2006). Likert-type scale response anchors. *Clemson International Institute for Tourism & Research Development, Department of Parks, Recreation and Tourism Management. Clemson University, 2006.*, 4–5.

Vanbelle, S. (2016). A New Interpretation of the Weighted Kappa Coefficients. *Psychometrika*, *81*(2), 399–410. https://doi.org/10.1007/s11336-014-9439-4

Vidal-Ayuso, F., Akhmedova, A., & Jaca, C. (2023). The circular economy and consumer behaviour: Literature review and research directions. *Journal of Cleaner Production*, *418*, 137824. https://doi.org/10.1016/j.jclepro.2023.137824

Vilagut, G. (2014). Test-Retest Reliability. In A. C. Michalos (Ed.), *Encyclopedia of Quality of Life and Well-Being Research* (pp. 6622–6625). Springer Netherlands. https://doi.org/10.1007/978-94-007-0753-5_3001

Wang, B., Yang, Z., Le Hoa Pham, T., Deng, N., & Du, H. (2023). Can social impacts promote residents' pro-environmental intentions and behaviour: Evidence from large-scale demand response experiment in China. *Applied Energy*, *340*, 121031. https://doi.org/10.1016/j.apenergy.2023.121031

Wiegand, T., & Wynn, M. (2023). Sustainability, the Circular Economy and Digitalisation in the German Textile and Clothing Industry. *Sustainability*, *15*(11), Article 11. https://doi.org/10.3390/su15119111

Yu, C. H. (2005). Test–Retest Reliability. In K. Kempf-Leonard (Ed.), *Encyclopedia of Social Measurement* (pp. 777–784). https://doi.org/10.1016/B0-12-369398-5/00094-3

Zhang, S., Xia, Z., Zhang, C., Tian, X., & Xie, J. (2023). Green illusions in self-reporting? Reassessing the intention-behavior gap in waste recycling behaviors. *Waste Management*, *166*, 171–180. https://doi.org/10.1016/j.wasman.2023.04.0

Appendix I

Sample Size Determination

The sample size was determined through power analysis conducted with G*Power software. A medium effect size was set as the minimum effect the study aimed to detect based on GPower's classification and general guidelines (Mangiafico, 2023). The alpha and beta levels represent the probability of making type I and II errors. The two-tailed alpha level was set at α=0.05 in line with standard practice, and the beta level at β=0.80, indicating the minimum required power (Uttley, 2019). All values were consistent across all statistical tests and purposely chosen to maintain manageable sample sizes, as any reduction in effect size or increase in required power would lead to impractical sample sizes (Mangiafico, 2023).

The anticipated proportion of discordant pairs for the McNemar test was unknown, so it was set conservatively at 0.05 to ensure the largest possible sample size. This value was determined through sensitivity analysis in G*Power, with 0.05 representing the most precautionary approach while still allowing for a practical sample size. The McNemar test required the greatest sample size, setting the minimum number of participants needed for all tests, resulting in a requirement of at least 1380 participants for this research (Creswell & Creswell, 2018).

Instrument Validity

A panel of 12 experts in quantitative research, statistics, survey methodology and development, theory of planned behaviour, marketing, and customer experience was convened to ensure the instrument's content validity. This panel systematically assessed each item in the questionnaire based on predefined rating criteria, categorising them as "essential," "useful but not essential," or "not necessary", thereby ensuring that each item effectively captures demographic content or the intended constructs of repair intention and behaviour (Almanasreh et al., 2019; Creswell & Creswell, 2018). The Content Validity Ratio (CVR) was calculated for each question using this equation:

$$\text{CVR} = \frac{n_e - (N/2)}{N/2}, \qquad \textbf{Equation 1}$$

where CVR is the content validity ratio, n_e is the number of experts attributing “essential” to an item, and N is the total number of panel members (Almanasreh et al., 2019). This equation yields values ranging from -1 to +1. Values above 0 indicate that more than half of the panel members agree that an item is considered “essential”, and higher values signify a more substantial degree of content validity (Almanasreh et al., 2019; Lawshe, 1975).

However, to eliminate the possibility that the agreement is coincidental, the calculated CVR for each item must be compared against a critical CVR value. These critical CVR values determine the required consensus among panel members for each item; therefore, they decide whether the question should be included, adapted, or excluded from the instrument. The critical CVR value is 0.56 for a panel of 12 experts (Lawshe, 1975). All final items ranged between 0.67 and 1.00, thus exhibiting a CVR exceeding 0.56 and meeting the inclusion criteria.

The entire instrument's content validity was evaluated using the Content Validity Index (CVI), calculated as the mean of the CVR values for all questionnaire items (Lawshe, 1975).

The resulting CVI for this instrument was found to be 0.85. As this exceeds the critical CVR, it confirms that the instrument accurately measures its intended constructs, providing robust evidence of its content validity.

Table I-I. Content Validity Assessment

Instrument item	**CVR**
Continuous - Intention	0.833
Continuous - Behaviour	0.666
Dichotomous - Intention	0.666
Dichotomous - Behaviour	1.00
Demographic - Age	0.833
Demographic - Gender	1.00
Demographic - Household size	0.833
Demographic - Continent	1.00
CVI	**0.854**
Critical CVR value	**0.560**

Instrument Reliability

The instrument's reliability was evaluated using the test-retest method, which measures the degree to which the participant's test scores remain consistent over two separate occasions (Vilagut, 2014; Yu, 2005). The instrument was administered to 10 participants, selected as a representative sample of the target population, and then re-administered after a one-week interval, generating paired test scores. In both sessions, participants responded to the questions and had the opportunity to provide feedback in case of any uncertainties.

Test-retest reliability is commonly used for stable constructs, such as demographics and the intention construct in this study (Vilagut, 2014). By recognising the dynamic nature of the behaviour construct, a deliberate decision was made to use a short one-week timeframe, as shorter intervals are generally more suitable for unstable constructs (Reynolds et al., 2021). It is important to note that this choice has a limitation: reliability coefficients for behaviour may naturally be lower than those for more stable constructs (Michael, 1997).

Given that all items in the instrument measured continuous, categorical nominal or categorical ordinal variables, test-retest reliability was evaluated using three distinct methods. Continuous items were assessed using the intraclass correlation coefficient (ICC), especially the 2-way mixed-effects, absolute-agreement, single-measurement model calculated using the ICC(2,1) due to its suitability for test-retest reliability (Koo & Li, 2016; Vilagut, 2014). Nominal items were evaluated using Cohen's kappa (κ), and ordinal items using the weighted kappa (κw). These statistical methods indicate the level of agreement between two sets of test scores while correcting for the amount of agreement by chance alone (Vilagut, 2014; Yu, 2005) and were calculated using R software (version 4.3.2) and RStudio (version 2023.12.1+402).

Cohen's kappa assumes that all disagreements carry equal weight. However, the magnitude of discrepancy becomes crucial for ordinal data, where categories have an inherent order. Weighted kappa addresses this by assigning varied weights based on the magnitude of discrepancies within the ordinal structure. Greater weight is allocated to more considerable

disagreements, recognising that incorrect selection of categories with significant differences, such as "0-18 years old" as "above 90 years old", holds more consequence than adjacent category misallocation like "19-30 years old" as "31-45 years old" (Vanbelle, 2016). Linear weighted kappa was selected for its ability to demonstrate reduced sensitivity to a higher number of categories in the measurement scale, making it the most appropriate choice for this context (Brenner & Kliebsch, 1996).

The ICC reliability value ranges between 0 and 1, with higher values representing more robust reliability (Koo & Li, 2016). An ICC of less than 0.50 indicates poor reliability, 0.50-0.75 moderate, 0.75-0.90 good, and values greater than 0.90 indicate excellent reliability. Cohen's kappa and the weighted kappa range from -1.0 to +1.0, where -1.0 represents disagreement beyond chance, 0 indicates agreement expected by chance alone, and +1.0 signifies perfect agreement (Brenner & Kliebsch, 1996). Various standards for the kappa coefficient have been suggested, but generally, the recommended minimum values range between 0.75 and 0.80 (Altman, 1990; Fleiss, 1981; Landis & Koch, 1977). The magnitude of kappa is further influenced by the chosen weighting, with linear kappa demonstrating a potential increase or decrease with the number of categories, which should be considered when interpreting results (Sim & Wright, 2005).

The ICC(2,1) value for the continuous behaviour item was 0.975, with a 95% confidence interval (CI) of 0.908-0.994. This might be due to the unstable behaviour construct having a naturally lower reliability coefficient (Michael, 1997). The ICC(2,1) value for the continuous intention item, Cohen's kappa for the dichotomous and ordinal items, and the weighted kappa for the household size item all indicated perfect agreement (1.00). The weighted kappa for age was 0.737 (95% CI of 0.260-1.00). All ICC(2,1) values demonstrated excellent reliability, together with the kappa values and the weighted kappa for household size. The only deviation observed was in the weighted kappa for age (0.737), which closely approaches but does not quite meet the critical threshold of 0.75. This discrepancy arises from a subset of participants celebrating birthdays between the two tests. Additionally, the age variable encompassed the most significant number of categories (7), potentially impacting the magnitude of the kappa value (Sim & Wright, 2005). Due to this and the slight deviation from the threshold, the item was nonetheless included.

Table I-II. Test-retest reliability using ICC(2,1), Cohen's kappa (κ) and weighted kappa (κ_w) results

Instrument item	**ICC(2,1)**	**Cohen's kappa (κ)**	**Weighted kappa (κ_w)**	**95% Confidence Interval (CI)**
Continuous - Intention	1.00	-	-	N/A (Perfect Agreement)
Continuous - Behaviour	0.975	-	-	0.908 - 0.994
Dichotomous - Intention	-	1.00	-	N/A (Perfect Agreement)
Dichotomous - Behaviour	-	1.00	-	N/A (Perfect Agreement)
Demographic - Gender	-	1.00	-	N/A (Perfect Agreement)
Demographic - Continent	-	1.00	-	N/A (Perfect Agreement)
Demographic - Age	-	-	0.737	0.260 - 1.00
Demographic - Household size	-	-	1.00	N/A (Perfect Agreement)

Survey Instrument

Nudie Jeans Customer Survey

* 1. Please indicate your age group by marking the corresponding box:

- ◯ 0-20 years old
- ◯ 21-30 years old
- ◯ 31-40 years old
- ◯ 41-50 years old
- ◯ 51-60 years old
- ◯ 61-70 years old
- ◯ Above 70 years old

* 2. Please indicate your gender by marking the corresponding box:

- ◯ Female
- ◯ Male
- ◯ Other / Non-binary
- ◯ Prefer not to answer

* 3. Please indicate your household size:

- ◯ Single Household (1 member)
- ◯ Small Household (2-3 members)
- ◯ Medium Household (4-5 members)
- ◯ Large Household (6 or more members)

* 4. Please select your current country of residence from the list below:

* 5. What city or town do you currently live in?

* 6. What type of domestic electricity contract do you have?

- ◯ Fossil based
- ◯ Renewable
- ◯ General grid mix
- ◯ I don't know

* 7. How many pairs of Nudie jeans do you have?

- ◯ 1 pair
- ◯ 2 pairs
- ◯ 3 pairs
- ◯ 4 pairs
- ◯ 5 pairs
- ◯ More than 5 pairs
- ◯ I don't have a pair of Nudie jeans

* 8. Do you use any of the following Nudie Jeans styles?

Multiple answers allowed.

- ☐ Gritty Jackson Dry Selvage
- ☐ Lean Dean Lost Orange
- ☐ Skinny Lin Black Black
- ☐ Breezy Britt 90s Stone
- ☐ I use other Nudie Jeans styles
- ☐ I don't know what style I use

In the upcoming questions, when we refer to the **'breakage'** of your Nudie jeans, we mean **any type of damage, such as ripping, tearing, or other similar issues**.

* 9. Have your Nudie jeans ever broken, for example, by ripping, tearing, or other forms of damage?

- ◯ Yes
- ◯ No

* 10. Do you intend to repair your Nudie jeans if they break?

NOTE: This question asks about your **REPAIR INTENTION**

- ◯ Yes
- ◯ No

* 11. If your Nudie jeans were to break, how likely are you to intend to repair them?

NOTE: This question asks about your **REPAIR INTENTION**

0 - Not at all likely | 50 - Neutral | 100 - Extremely likely

* 12. When your Nudie jeans break, how likely are you to repair them?

NOTE: This question asks about your actual **REPAIR BEHAVIOUR**

0 - Not at all likely 50 - Neutral 100 - Extremely likely

* 13. Do you repair your Nudie jeans when they break?

NOTE: This question asks about your actual **REPAIR BEHAVIOUR**

- ◯ Yes
- ◯ No

* 14. How many times do you repair your Nudie jeans on average before you retire them?

- ◯ 1 time
- ◯ 2 times
- ◯ 3 times
- ◯ 4 times
- ◯ 5 times
- ◯ 6-9 times
- ◯ 10 times or more

* 15. How do you repair your Nudie jeans?

Multiple answers allowed.

- ☐ Through Nudie's free repair services
- ☐ At the tailors
- ☐ By myself after ordering a free Nudie Jeans repair kit from nudiejeans.com
- ☐ By myself without ordering a free Nudie Jeans repair kit from nudiejeans.com

* 16. How do you travel to and from the Nudie Jeans Repair Spot?

Multiple answers allowed.

- ☐ Walking / Biking
- ☐ Electric bike / Electric kick-bike
- ☐ Public transport
- ☐ Car or motorbike (electric)
- ☐ Car or motorbike (fossil fuel)

* 17. When dropping off your jeans at the Nudie Jeans Repair Spot, what is the longest time you would consider waiting to get your Nudie jeans repaired for free?

- ◯ More than 8 weeks
- ◯ 6-8 weeks
- ◯ 4-6 weeks
- ◯ 2-4 weeks
- ◯ Less than 2 weeks
- ◯ Less than 1 week
- ◯ I don't know

* 18. How long does it usually take for you to either start repairing your Nudie jeans yourself or have them professionally repaired after you notice they break?

Multiple answers allowed.

- ☐ Within 1 week
- ☐ Within 2 weeks
- ☐ Within 1 month
- ☐ Within 3 months
- ☐ Within 6 months
- ☐ Within 1 year
- ☐ Within 3 years
- ☐ Over 3 years

* 19. If you could drop off your Nudie jeans at your local Nudie Jeans Repair Spot for express repair and get them back within 24 hours, would you be willing to pay for it?

- ◯ Yes
- ◯ No
- ◯ I don't know

* 20. What is the reason why you don't repair your Nudie jeans?

Multiple answers allowed.

- ☐ I didn't know about Nudie's free repair service
- ☐ I didn't know about the free repair kit to order from nudiejeans.com
- ☐ I know that I can repair my jeans, and I want to, but I live too far away from a Nudie Jeans repair spot
- ☐ I know that I can repair my jeans, and I want to, but everyday life is too hectic
- ☐ I know that I can repair my jeans, but I do not like the look or feel of repaired jeans
- ☐ I don't care about repairing my Nudie jeans and don't want to
- ☐ Other reason (please specify)

* 21. How many days per week/month do you normally wear the Nudie jeans you wear the most often?

- ◯ Less than 1 day a month
- ◯ 2-3 days a month
- ◯ 1 day a week
- ◯ 2-3 days a week
- ◯ 3-4 days a week
- ◯ 5-6 days a week
- ◯ 7 days a week

* 22. Can you estimate how long it takes before the Nudie jeans you wear the most often need to be repaired for the first time?

Multiple answers allowed.

- ☐ Less than 3 months
- ☐ 3-6 months
- ☐ 6-9 months
- ☐ 9-12 months
- ☐ 1-2 years
- ☐ 2-3 years
- ☐ More than 3 years
- ☐ My Nudie jeans have not yet needed repair

* 23. Does free repair affect your purchasing decision?

- ◯ Yes
- ◯ No
- ◯ I don't now

* 24. Looking at the Nudie jeans you wear the most often, did you buy them as a new pair of jeans or as second-hand (Re-use jeans)?

Multiple answers allowed.

- ☐ A new pair from a Nudie Jeans Repair Shop (Nudie Jeans store)
- ☐ A new pair from Nudie Jeans' online shop
- ☐ A new pair from another retailer
- ☐ A Re-use pair from a Nudie Jeans Repair Shop (Nudie Jeans store)
- ☐ A Re-use pair from another retailer
- ☐ A Re-use pair from another online marketplace
- ☐ Other option (please specify)

* 25. How often do you wash the Nudie jeans you wear the most often?

Multiple answers allowed.

- ☐ Once a week
- ☐ Twice a month
- ☐ Once a month
- ☐ Once every 3 months
- ☐ Once every 6 months
- ☐ Once a year
- ☐ Less than once a year
- ☐ I don't wash my Nudie Jeans

* 26. At what temperature do you normally wash the Nudie jeans you wear the most often?

Multiple answers allowed.

- ☐ Under 30° Celsius
- ☐ 30° Celsius
- ☐ 40° Celsius
- ☐ 60° Celsius
- ☐ Over 60° Celsius

* 27. What happens to your Nudie jeans when you no longer want them?

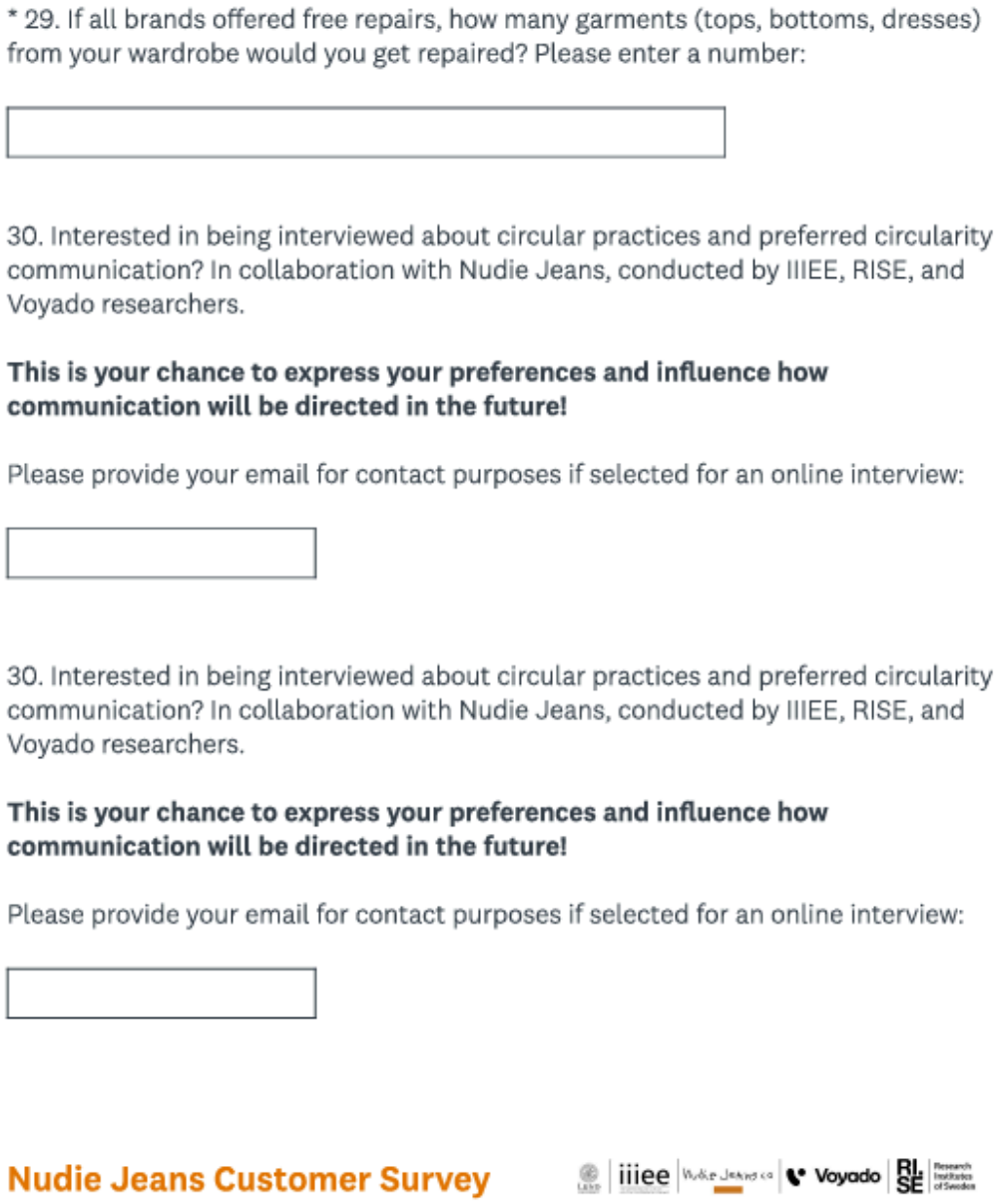
Multiple answers allowed.

- ☐ I trade them for a 20% discount voucher via Nudie Jeans Re-use program
- ☐ I sell them via an online marketplace
- ☐ I give them to friends or family
- ☐ Other option (please specify)
- ☐ I donate them to charity
- ☐ I throw them in the garbage

* 28. Has information or communication from Nudie Jeans contributed to you repairing or taking care of your jeans to make them last longer?

Multiple answers allowed for 'Yes' or 'No' responses.

- ☐ Yes
- ☐ No
- ☐ I don't know
- ☐ If you answered Yes, please explain in what way communication has contributed to you repairing your Nudie jeans.



Survey Consent Form

You're invited to participate in Nudie Jeans' survey with IIIEE Lund University, RISE, and Voyado. Your input will help us better understand our product's environmental impact and consumer repair behaviours. This will benefit you, as your influence will better shape communication to suit your needs.

The survey takes about 7 minutes and is voluntary. You can withdraw anytime, but your input is invaluable to us. Your confidential responses will be securely stored. For inquiries, contact survey@nudiejeans.com.

Thank you for your time and support. If you consent, please begin the survey by clicking the link to the survey below.

Appendix II

Interview Consent Form

You are invited to participate in a research interview on the intention-behaviour gap in repair practices. This research aims to understand consumer preferences and opinions regarding marketing and communication strategies related to repair practices. Specifically, we're interested in addressing the gap between intention and behaviour when it comes to repairing items. This gap occurs when people intend to repair something but don't follow through. Therefore, we aim to explore how email communication can help bridge this gap and encourage repair behaviours. Please read the following information carefully before signing this consent form.

In our conversation, we'll cover communication strategies, including your general preferences, email reminders prompting action, and detailed action plans indicating when, where, and how you will carry out the repair and outlining the steps you'd take to achieve that repair as guidance.

Additionally, we're keen to hear your thoughts on persuasive communication and what types of messaging resonate with you more. For example, one type of messaging is argument quality, which includes clear benefits of prolonging product life, environmental aspects, or cost savings of repairs. Secondary influences are types of messages that include, for example, emotional appeals, the satisfaction of reviving cherished items, the number of arguments instead of their quality, and communicator credibility.

We'll also explore social influences on behaviour, such as social proofs—success stories and customer testimonials—and social norms, which refer to the perceived importance of sustainable practices within your social circle or community. We'll also consider the impact of influential individuals, such as those you admire or look up to, on your decision-making process. Finally, we'll discuss the importance of education, knowledge, and skills.

The interview is estimated to last around one hour. It will be conducted online via Zoom with an AI application called Fireflies Notetaker, which transcribes the interview in real-time. This transcription process is automated and does not involve a human transcriber. Please note that this AI application will be present in the Zoom room during the interview to assist in transcribing the conversation.

Participation in this study is entirely voluntary. You can refuse to answer specific questions or discontinue participation at any point. Your privacy and confidentiality are also considered. All participants will be assigned codes to ensure anonymity before signing the consent form, and all data collected during the interview will be anonymised and stored on a password-protected hard drive.

If you have any questions or concerns about the study, please contact the researcher:

Nicole Berggren
International Institute for Industrial Environmental Economics (IIIEE),
Lund University, Sweden
survey@nudiejeans.com

I have read and understood the above information regarding my participation in this research study. I voluntarily agree to participate and consent to the terms outlined in this form.

Participant Name (Printed): _____

Participant Signature: _____

Date: _____

Interview Protocol

Basic Information

Today's date is [date], and the time is [time]. I, Nicole Berggren, am conducting an interview with [name of participant], which is expected to last approximately 1 hour.

Interview Introduction

Our study focuses on understanding consumer preferences and opinions regarding marketing and communication strategies related to repair practices. Specifically, we want to address the gap between intention and behaviour when repairing items. This gap occurs when people intend to repair something but don't follow through. We aim to explore how communication can help bridge this gap and encourage repair behaviours.

Here's an overview of our interview: We'll start with an opening question to learn more about you. Then, we'll delve into general communication preferences, reminders and action planning, persuasive communication, social influences, and education. Finally, we'll conclude with some general information on accessing the study results.

Opening Question

Could you please start by telling me a little bit about yourself? For example, what do you do for work or study, and what are some of your hobbies or interests outside of that?

Content Questions

General Communication Preferences

1. Regarding tasks like repairing clothing, such as jeans, how do you prefer to receive communication or information via email to help you take action?

2. What kind of content or style of communication do you find most effective or engaging in motivating you to repair your clothing?

3. Can you provide examples of any past experiences that illustrate your preferences?

Action Planning and Reminders

4. Imagine you intend to repair your jeans. How would you feel about receiving an email reminder prompting you to take action or an email that helps you create a specific action plan

indicating when, where, and how you will carry out the repair and outlining the steps you'd take to achieve that repair as guidance?

- 4a. Could you share your thoughts on the potential effectiveness or drawbacks of receiving such an email to help you follow through with the repair?

Persuasive Communication

5. When considering emails encouraging and persuading you to repair, what type of messaging resonates with you more:
- Argument quality, such as clear benefits of prolonging product life, environmental aspects, or cost savings of repairs?
- Secondary influences, such as emotional appeals, the satisfaction of reviving cherished items, the number of arguments instead of their quality, or communicator credibility?

- 5a. Can you give an example of an email you received that used one of these approaches and how it impacted your decision?

Social Influence

6. When considering emails promoting repair practices, to what extent do social norms (such as the perceived importance of sustainability within your social circle or common practices among people around you) and social proofs (such as customer testimonials and success stories) influence your decision-making process?

- 6a. Can you provide examples of emails where social norms and social proofs significantly shaped your decision?

7. To what extent does observing influential individuals engaging in repair behaviours influence your decision-making process and encourage you to act on your intention to repair? Do you mirror these people's behaviours?

- 7a. Can you share your thoughts on what types of individuals you believe would positively or negatively impact your decision to engage in repair behaviours?

Education

8. When considering emails promoting repair services, how important do you find receiving helpful education, information, or support, such as repair tutorials, directly within the email, or do you believe you already possess the necessary knowledge and skills?

- 8a. Can you recall a specific instance where an email provided helpful education, information or support that influenced your decision to repair something?

Ranking

Finally, I'll share my screen, and you'll see a list of the various communication strategies discussed today. Please rank them based on how effective you believe they would be in bridging the intention-behaviour gap in repair practices, with 1 being the most effective and 7 being the least effective. If you'd like to include any additional communication strategies or preferences in the ranking, please let me know, and we will add them.

- Email reminders prompting action
- Action planning - When, where, and how

- Persuasive messaging focusing on argument quality, such as benefits of prolonging product life, environmental aspects, cost savings
- Persuasive messaging utilising secondary influences, such as emotional appeals, the satisfaction of reviving cherished items, communicator credibility
- Social proofs, such as customer testimonials and success stories, and social norms, such as the perceived importance of sustainability within your social circle or community
- Mirroring the behaviour of influential individuals engaging in repair
- Educational content, such as repair tutorials or informational support

Probes

Probes to remind the researcher to ask for more information:

- Can you elaborate on that?
- Could you provide more detail about why you feel that way?
- Can you give an example to illustrate your opinion further?

Probes to remind the researcher to ask for an explanation:

- Could you provide a more detailed explanation of that?
- Can you explain this further?
- Can you walk me through the thought process behind this preference?

Closing Instructions

As we conclude, I want to express my gratitude for your invaluable insights into this study. Please rest assured that all information shared during this interview will be kept confidential and anonymised to protect your privacy. Once the analysis is complete, the results will be emailed to you. If there are any additional questions or further discussion is needed, would it be possible to contact you for additional information or a follow-up interview? Thank you once again for your participation!

Themes and Codes from Thematic Analysis

Table II-I. Table with themes and codes from thematic analysis

Theme	Code
Email Communication Preferences	General Preferences
Email Communication Preferences	Promotional
Email Communication Preferences	Subject Line
Email Communication Preferences	Social Media
Email Communication Preferences	Down-to-Earth
Informational Content and Education	Information
Informational Content and Education	Education
Informational Content and Education	Repair Tutorials
Informational Content and Education	Knowledge
Personalised Implementation Support	Email Reminder
Personalised Implementation Support	Action Planning

Personalised Implementation Support	Clicking
Personalised Implementation Support	Customer Profile
Rational and Emotional Persuasion	Argument Quality
Rational and Emotional Persuasion	Peripheral Cues
Rational and Emotional Persuasion	Emotional Cues
Rational and Emotional Persuasion	Persuasive Communication
Social Influences	Social Norms
Social Influences	Culture
Social Influences	Social Proofs
Social Influences	Observational Learning
Visual Communication	Visuals