

“An In-Depth Exploration of Public Perceptions of Microplastics and their Environmental Impact in South Africa: The Role of Social Media in Stimulating Awareness and Fostering Sustainable Consumer Behaviour”



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Abstract

This thesis investigates social media's (SM) influence on the South African public's perceptions of microplastics (MPs) and their link to pro-environmental behaviour (PEB). Utilising the Theory of Planned Behaviour (TPB) as a guide, the research focuses on how SM's informational, relational, and experiential functions can influence attitudes, subjective norms (SN) and perceived behavioural control (PBC), with respect to MP pollution. The ultimate goal was to determine the role of SM in fostering pro-environmental behaviour (PEB) with the intention of reducing MP pollution in the South African context.

To produce in-depth, novel insights into the phenomenon at hand, the study employed qualitative and exploratory methods. Semi-structured interviews were utilised as a primary data collection tool to garner information from members of the general public, environmental practitioners and representatives of environmental NGOs. A thematic analysis, at the interpretative level of analysis, was conducted on the obtained data.

The findings shed light on SM's efficiencies in terms of its captivating content, competencies in disseminating awareness to vast audiences expeditiously and its positive influence in shaping perceptions, and therefore, behavioural intent. Moreover, its informational and relational functions seem to exhibit the most potential. Although constraints to perceptual influence exist, in the form of pollution fatigue, algorithmic curation, and misinformation, these functions can still positively influence attitudes, subjective norms (SN) and perceived behavioural control (PBC). However, the findings are nuanced. Theoretically, its positive influence on perceptions and behavioural intentions should influence behaviour. However, psychological (learned helplessness) and economic constraints to PBC directly hinder actual behaviour. Psychological challenges can be tackled on SM, but economic barriers cannot. This results in the exclusion of large segments of the population from its impact and/or the prospect of engaging in sustainable purchasing behaviour. Therefore, restricting its impact on the broader population.

Additionally, novel theoretical contributions emerged. Aside from how the functions of SM influence the constructs of the TPB, in the South African context, the findings also depict that high engagement microplastic content can activate descriptive norms perceptions, which has been proven to influence intentions. Therefore, it was added as an antecedent of behavioural intent. Furthermore, groups on SM can produce psychological connections to that community. This influences the members' perceptions and allows for the mobilisation of communities of action.

Keywords: Microplastics, Social Media, Awareness, Perceptions, Behaviour, South Africa, TPB

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Abstract.....	1
Acknowledgements	2
List of Tables.....	6
List of Figures.....	7
Abbreviations.....	7
Chapter 1: Introduction	8
1.1. Background.....	8
1.2. Research Objective.....	12
1.3. Research Question	12
Chapter 2: Literature Review	13
2.1. Theoretical Framework	13
2.2. MPs in The South African Context.....	16
2.3. Public Perceptions & PEB.....	17
2.4. The Intersection Between Media, Public Perceptions & PEB.....	17
2.5. The Intersection Between SM, Public Perceptions & PEB	18
2.6. The Technologies for Pro-environmental Action Model	19
2.6.1. Reflecting on the TPAM	22
Chapter 3: Methodology	24
3.1. Research Design.....	27
3.2. Data Collection	27
3.3. Sampling Strategy	29
3.4. Data Analysis.....	32
3.4.1 Validation of The Data Analysis	32
Chapter 4: Results.....	35
4.1. SM as a Catalyst to Pro-Environmental Attitudes & Knowledge Generation	37
4.1.1. SM’s General Impact on Positive Environmental Attitudes and Awareness.....	38
4.1.2. SM’s Characteristics Stimulating Awareness & Positive Attitudes	41
4.1.3. Impactful Content Dynamics Influencing Attitudes & Awareness.....	43

4.2. Social Behavioural Influences Through SM	45
4.2.1. Normative Influence from High/Positive Engagement Content.....	46
4.2.2. Social Pressure & Group Conformity	47
4.3. Social Dynamics Influencing Behaviour in Groups on SM.....	49
4.4. Increased Agency to Act Stemming from SM.....	51
4.5. Effective Content Presentation Strategies on SM.....	54
4.6. Barriers/Challenges to SM-Driven Pro-Environmental Action	55
Chapter 5: Discussions.....	59
5.1. SM’s Capacity to Generate Awareness About MPs and Their Impacts.....	59
5.2. Effectiveness of Content Presentation Strategies in Stimulating Awareness & Influencing Perceptions	63
5.3. SM’s Influence on The Public’s Perceptions & Behaviours Towards MPs	65
5.3.1 Influence on Attitudes	65
5.3.2 Influence on Subjective Norms.....	69
5.3.3 Influence on Perceived Behavioural Control.....	71
5.3.3.1 Inhibitors of Perceived Behavioural Control.....	73
5.4. Theoretical contributions	76
5.4.1. Influence on Descriptive Norms	76
5.4.2. Communities of Action in SM Groups.....	77
Chapter 6: Conclusion and Take-Home Messages	81
SM’s Role in Stimulating Awareness about the Impacts of MPs (SRQ1).....	81
Effective Content Types on SM (SRQ2).....	82
SM’s Influence on Public Perceptions & Behaviours (SRQ3 & 4)	82
The Spread of Misinformation and Anti-environmental Behaviour	85
Summary of Contributions.....	85
Chapter 7: Limitations and Future Directions	86
Bibliography.....	88
Appendix A	98
Appendix B	99

Thesis Interview Guide (No Experience)	99
Thesis Interview Guide (Experience)	101
Appendix C.....	103
Elaboration on the TPAM.....	103
Informational Functions	103
Experiential Functions	106
Relational Functions.....	108

List of Tables

Table 1 Studies utilising the Theory of Planned Behaviour in similar contexts.....	15
Table 2 Connecting the functions of SM to the various pathways to pro-environmental action..	21
Table 3 Summary of sub-research questions, desired information, sources, accessing & analysis methods.....	24
Table 4 Background information of the participants.	30
Table 5 Data structure of SM’s role in influencing perceptions and behaviours.....	35
Table 6 Aggregate dimensions and their associated definitions.....	98
Table 7 SM platforms and their accompanying functional capacity.....	111

List of Figures

Figure 1. Plastic demand in Europe.	8
Figure 2. South African plastic packaging market.....	11
Figure 3. The Theory of Planned Behaviour.....	14
Figure 4. The Technologies for Pro-environmental Action Model (TPAM).....	20
Figure 5. Visualisation of the methodology.....	26
Figure 6. Geographical distribution of the respondents.	30
Figure 7. Analytical Framework.	34
Figure 8. Frequency of first-order codes.....	37
Figure 9. Influence of social media on pro-environmental perceptions and behaviours among South Africans: Integrating the TPAM and the TPB.....	80
Figure 10. Economic status classification of the South African public.	84

Abbreviations

MP/s	–	Microplastic/s
PEB/s	–	Pro-environmental Behaviour/s
PBC	–	Perceived Behavioural Control
SM	–	Social Media
SNSs	–	Social Networking Sites
ESG	–	Environmental Simulation Games
SN	–	Subjective Norms

Chapter 1: Introduction

1.1. Background

The issue of microplastics (MPs) has garnered significant attention from the global scientific community due to its pervasive nature and potential implications for the environment and human health (Deng et al., 2020). The prevalence of MPs across the globe is accredited to the increased use of plastics and ultimately the accumulation of plastic waste in society. This is primarily attributed to its attractive characteristics and cost-effectiveness, which has resulted in its prevalence in both industrial and domestic use over the years (Soares et al., 2021). Thus, indicating that the issue of plastic waste is driven by consumerism. In the year 2018, 360 million tonnes of plastic was produced globally, of which 51.2 million tonnes was produced in Europe with a significant amount of these being of single-use purposes (Soares et al., 2021). This open-loop plastic manufacturing produces an immense amount of plastic waste, most of which is expelled into the environment (79%) and is rarely recycled or incinerated (Wu et al., 2023). This results in the accumulation of plastic waste in society and leads to the exposure of MPs in the air, water, land and ultimately the food we consume (Soares et al., 2021).

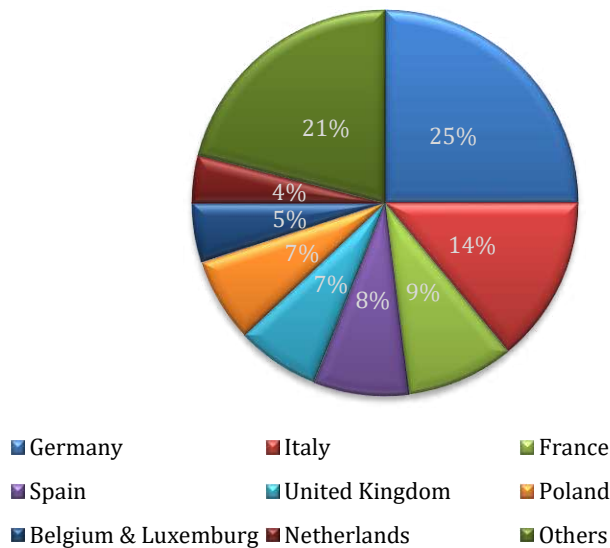


Figure 1. Plastic demand in Europe.

Note. Adapted from *Plastics Europe (2019)* as cited in *Quiroz (2020)* and graphed manually via Excel.

The investigation of MPs and their implications in society and the natural world has emerged as a recent phenomenon in the scientific world. This new wave of research has been spurred by increasing public concerns about their adverse effects (Deng et al., 2020). The term “microplastics” was first introduced by Ryan and Moloney (1990), however, Thompson et al. (2004) popularised the concept with their investigation into the increasing amounts of plastic pollution in the marine environment. “Microplastics” encompass all plastic particles that are less than 5mm in size (Soares et al., 2021; Garcia-Vazquez & Garcia-Ael, 2021; Deng et al., 2020; Henderson & Green, 2020). These MPs are present in two forms, either primary or secondary MPs (Soares et al., 2021; Garcia-Vazquez & Garcia-Ael, 2021; Deng et al., 2020; Henderson & Green, 2020). Primary MPs are those that are produced to be that size and are most commonly found in personal care products (whitening toothpaste, face and body washes) and industrial use (abrasive cleaners). Secondary MPs are associated with the plastic particles that arise from plastic waste that is in the process of breaking down from either sun radiation or wave energy (Garcia-Vazquez & Garcia-Ael, 2021). However, they also often stem from wastewater treatment facilities that are unable to completely filter out all the plastic particles, for instance, microfibrils released into wastewater from washing machines (Garcia-Vazquez & Garcia-Ael, 2021). These MPs enter the environment through different mediums such as land, water and air. However, they are predominantly found on land (80%), but their ultimate fate is in estuarine and marine environments (Soares et al., 2021; Garcia-Vazquez & Garcia-Ael, 2021; Henderson & Green, 2020). Furthermore, MPs can permeate even the most remote regions across the planet through airborne transportation, making it an issue with global repercussions (Faust & Schrödner, 2024). In addition to the MPs themselves and the chemicals they contain being environmentally degrading, they are also prone to absorb additional pollutants due to their small volume and large surface area, thus resulting in an increased threat to the environment, overall biodiversity and human health (Deng et al., 2020).

Their presence in marine environments results in aquatic organisms ingesting them, which may affect biota ranging from primary producers to top predators (Soares et al., 2021; Garcia-Vazquez & Garcia-Ael, 2021). The ingestion of these plastic particles may affect said organisms in various ways, including survival, reproduction, behaviour, regeneration ability, energy reserves and immune function (Soares et al., 2021). The ill effects of MPs are not limited to only marine organisms, considering that they can access other biota via the food chain, contaminated land and atmospheric pollution. For instance, a study conducted by Thompson (2024) investigated the effects of microplastic (MP) exposure on North American wood frogs. The author found that MPs

act as a stressor which may predispose this species to infection, as they have the potential to cause developmental stage-specific immunosuppression in developing wood frogs. When it comes to human health, studies have pointed towards prolonged MP ingestion leading to disruptions in the gut microbiome and enhanced inflammatory responses. Moreover, the inhalation of these MPs in the air and their accompanying pollutants can also lead to adverse neurological effects, in addition to exacerbating respiratory diseases such as lung cancer (Garcia-Vazquez & Garcia-Ael, 2021; Ianoși et al., 2023). Additional concerns arise when acknowledging their manifestation throughout the human body, in which they are present within human blood, breast milk, thrombi and the placenta among other areas (Wu et al., 2023). Ultimately, the issue of MPs in the environment should not be ignored. This is further emphasised when considering their presence in marine environments and the air, making it an issue with global significance. Thus, international cooperation is required to remediate the issue at hand. In addition to this, encouraging the public to engage in sustainable consumer behaviour and reduce their plastic use, may enable them to act as a barrier of defence against the detriments of plastic pollution. Social media (SM) may be perceived to be an effective tool in doing so, considering that most people are engaged on these platforms in current times (Rapada et al., 2021) and an increasing number of individuals use it as a primary source of news media consumption (Mavrodieva et al., 2019; Bouvier & Machin, 2018).

SM has a known capacity to influence public perceptions of various issues, including those of an environmental nature (Rapada et al., 2021). By doing so, these digital platforms may have the capacity to stimulate their users to converge towards more sustainable behaviours (Rapada et al., 2021). For the purpose of this thesis, “public perceptions” are understood and depicted through the constructs of the Theory of Planned Behaviour, which include attitudes, subjective norms (SN) and perceived behavioural control (PBC) (Ajzen, 1985; Yuriev et al., 2020). “PEBs”, on the other hand, can be understood as a combination of all the acts that are conducive towards maintaining a healthy natural environment or prevent harm to it (e.g., recycling, engaging in a litter pickup, online environmental activism or purchasing alternative products that do not contain MPs) (Wallace & Buil, 2022). Exposure to factual MP-related information has been proven to increase the likelihood of individuals engaging in more PEBs (Baechler, De Frond, Dropkin, & Weaver, 2024). SM can effectively disseminate factual information in a dynamic and interactive manner, unlike traditional media, supporting relational and experiential functions in addition to informational functions (Ballew et al., 2015). These functions will be described more in-depth in Chapter 2. Thus, leveraging SM channels and campaigns may be perceived as a useful tool for modulating the presence of MPs in the environment (Soares et al., 2021). The salience of this is attributed to the fact that there are currently no effective technical solutions to entirely expelling MPs from the environment, globally (Wu et al., 2023). Thus, the public’s perceptions toward MPs

may play a vital role in remediating the issue at hand by stimulating pro-environmental behaviour (PEB) (Deng et al., 2020), and therefore, there is a need to address this in the South African context.

When it comes to South Africa, the population and the environment are highly susceptible to MP pollution. This is due to the country’s developing economy, poor waste management techniques (Julius et al., 2023; Malematja et al., 2023) and a reliance on plastic among the populace, stemming from its accessibility, reusability and convenience (O'Brien and Thondhlana, 2019). This has led to the accumulation of plastic waste and therefore MPs across the country (Julius et al., 2023). These MPs are present in marine, estuarine and inland environments (Malematja et al., 2023; Saad et al., 2023; Ariefdien et al., 2024). According to a IUCN study on Regional Results on Plastic Pollution from Eastern and Southern Africa, South Africa is primarily responsible for 35% of plastic pollution leakage into marine environments and waterways across Southern and Eastern Africa. Furthermore, the country produces 28kg of plastic waste per year, significantly higher than the 16kg per year average of plastic waste generation across the continent of Africa (WWF-SA, 2023). In addition to this, the market for plastic packaging in South Africa is expected to increase from \$2.59 billion in the year 2024 to \$2.99 billion in 2029 (view Fig. 2) (ModorIntelligence, 2024).

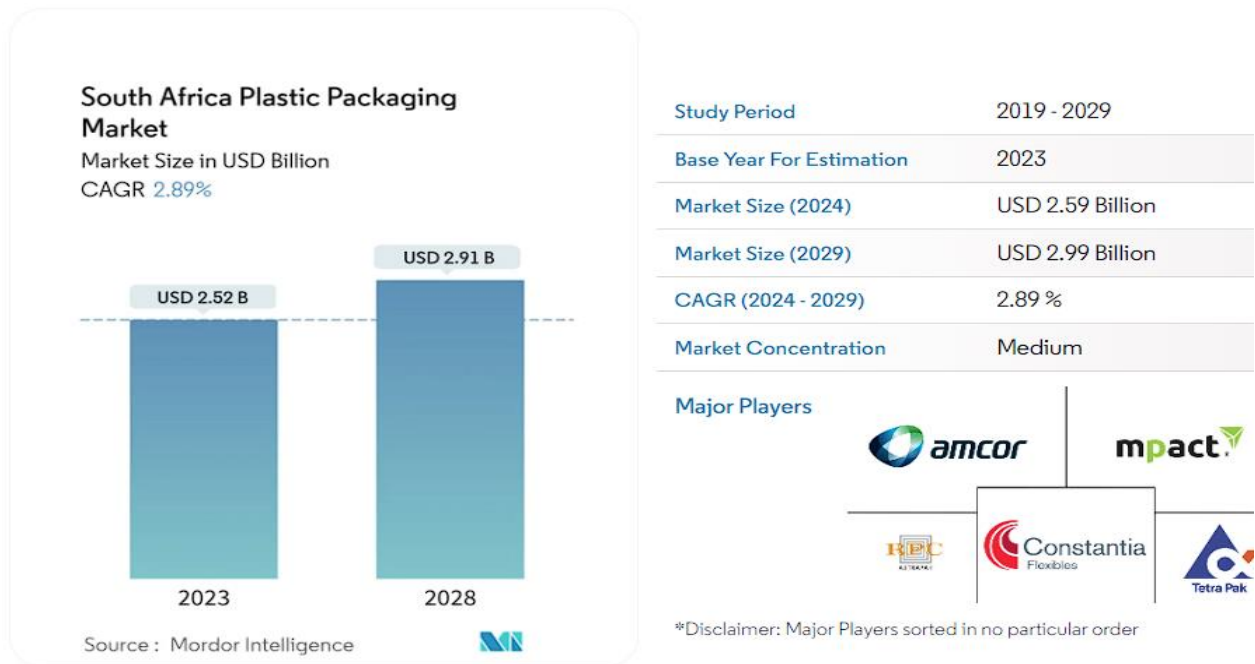


Figure 2. South African plastic packaging market.
Note. Adopted from ModorIntelligence (2024).

Although the aforementioned factors signify the overwhelming issue of MP pollution in the country, there are currently no studies that investigate intervention strategies concerned with how public perceptions, influenced by SM, can stimulate the uptake of PEBs, in relation to MPs in the South African context. Thus, this produces an interesting opportunity to research this topic which may yield valuable insights into communication and intervention strategies for stimulating PEBs regarding MPs in the country.

1.2. Research Objective

As mentioned previously, a considerable knowledge gap exists when it comes to public perceptions of MPs in South Africa. Some studies have investigated this phenomenon; however, they are primarily associated with the context of the global north and they are also predominantly quantitative in nature. Few qualitative studies have been associated with the public's understanding of MPs (Henderson & Green, 2020). Although literature pertaining to the role of SM in influencing PEB does exist, when it comes to MPs in the South African context, it is completely absent. Thus, this study aims to address these gaps by conducting in-depth, qualitative and exploratory research to investigate how SM and its functions influence public perceptions in South Africa, via the constructs of the Theory of Planned Behaviour, and ultimately its role in influencing the public to converge to more PEBs.

1.3. Research Question

How does SM influence public perceptions and what role could public perceptions play in shaping behaviours towards more pro-environmental consumer practices surrounding MPs in South Africa?

Sub-questions:

1. How does SM content related to MPs influence the awareness and understanding of their impacts among South African users?
2. What specific content types on SM are most effective in influencing the South African public's perceptions of MPs?
3. How does SM influence the public perceptions (as depicted through the constructs of the Theory of Planned Behaviour) of South Africans towards MPs?
4. What role do public perceptions (as depicted through the constructs of the Theory of Planned Behaviour) of MPs, influenced by SM, play in inducing behavioural change in South Africans?

Chapter 2: Literature Review

This section will investigate and review the literature that is most pertinent to the topic of this research and the overarching research question. Some of the topics that will be covered in the subsections that follow include the Theory of Planned Behaviour, MPs in the South African context, public perceptions & PEB, the intersection between media, public perceptions & PEB, the intersection between SM, public perceptions & PEB and the Technologies for Pro-environmental Action Model (TPAM). All the information used in this section emanates from peer-to-peer reviewed articles, with the omission of a thesis from the University of Twente. The literature used was mainly acquired from Scopus and Google Scholar.

2.1. Theoretical Framework

As outlined by Yuriev et al. (2020), the Theory of Planned Behaviour (TPB) is a theoretical framework that is used to determine or predict behaviours. It is one of the most commonly used theoretical frameworks to study behaviour (Yuriev et al., 2020). The TPB posits that behaviours emanate from intentions and PBC (Yuriev et al., 2020; Ajzen, 1985). It also argues that intentions are the antecedents of behaviour which have predictive power when it comes to behaviour (Yuriev et al., 2020; Ajzen, 1985). Intentions are defined as the indicators of the level of effort individuals are willing to attribute to performing the behaviour (Yuriev et al., 2020; Ajzen, 1985).

Ajzen (1985) postulated that attitudes, subjective norms and perceived behavioural control are antecedents of intentions, which have a direct influence on intentions, indirectly predicting behaviour. The author defines attitudes as the perceptions related to the outcome of a given behaviour, being either negative or positive. Further stipulating that individuals with positive beliefs toward the outcome of the behaviour possess favourable attitudes towards pursuing the action in question. In contrast, negative beliefs about the outcome produce pessimistic or unfavourable attitudes to conformance (Ajzen, 1985). These beliefs that influence attitudes are known as behavioural beliefs, which precede the formation of attitudes (Yuriev et al., 2020; Ajzen, 1985). Subjective norms are also influenced by beliefs, however a different form, normative beliefs. These are concerned with the subjective probability of prominent figures or social groups (normative referents), who expect them to perform a particular behaviour (Yuriev et al., 2020; Ajzen, 1985). Subjective norms are therefore a function of normative beliefs, which are activated based on the individual's perception of behavioural expectations, or what is perceived as acceptable behaviour, among prominent figures in one's social group (Ajzen, 1985). Perceived behavioural control refers to the individual's perceived ability to perform the behaviour successfully, taking into account both internal and external factors that may facilitate or hinder the behaviour (Ajzen,

1985). This construct is influenced by control beliefs, which pertain to the factors that either inhibit or facilitate the behaviour. These may come in the form of external factors such as time, cost, available infrastructures and internal factors such as skills, knowledge, emotions, self-efficacy et cetera (Yuriev et al., 2020; Ajzen, 1985). High levels of PBC increase the likelihood of forming intentions and engaging in the behaviour, whereas low PBC may undermine it (Ajzen, 1985). This indicates that it has a direct influence on behaviour (Ajzen, 1985), however, it may also have a moderating effect. As adduced by Wallace & Buil (2023), PBC has a moderating effect on the relationship between intentions and actual behaviour, as people are expected to act on their intentions to the extent that they have control over the performance of the behaviour.

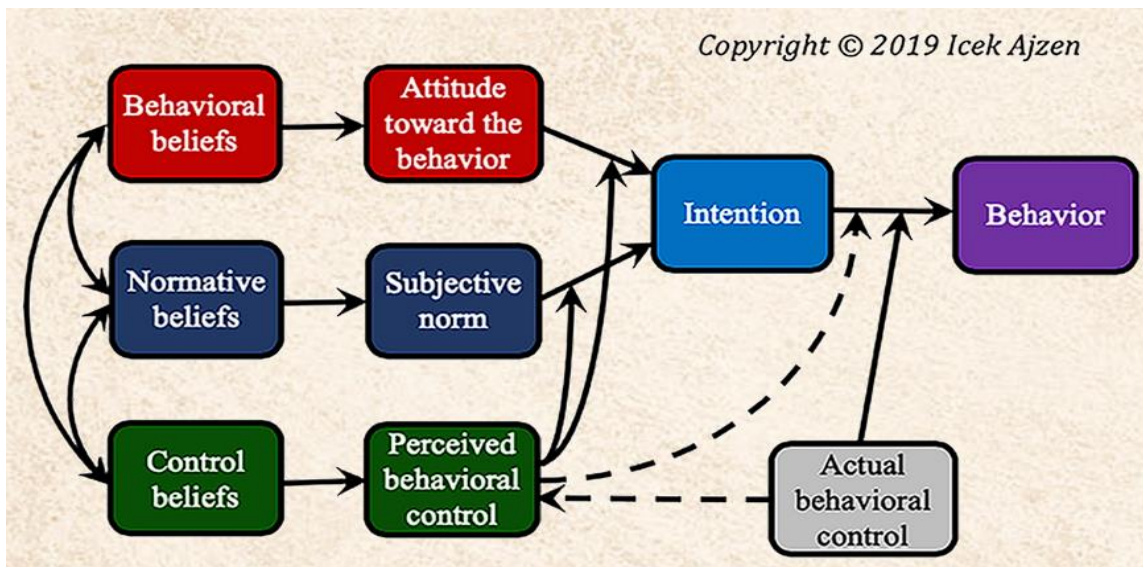


Figure 3. The Theory of Planned Behaviour.

Note. Adopted from Ajzen's official website: <https://people.umass.edu/ajzen/tpb.diag.html> (Accessed on the 10th of April 2024)

As outlined by Garcia-Vazquez et al. (2021) the TPB is considered to be the main theoretical framework used in studying PEB. Furthermore, this theory has been leveraged in studies to gauge intentions leading to recycling behaviour (Garcia-Vazquez et al., 2021). It has also been used to understand recycling behaviour in the South African context (Strydom, 2018). Although few studies have used this theory when it comes to MPs specifically, a study conducted in the USA investigated the influence of attitudes and behavioural control in relation to the intention to purchase clothing that doesn't emit microfibers (Nam et al., 2017 as cited in Garcia-Vazquez et al., 2021). Additionally, TPB has also been successfully applied to other forms of PEB, including sustainable food consumption, fuel-efficient cars (Nayum and Klöckner, 2014 as cited in Judge et al., 2019), willingness to pay for an urban park (López-Mosquera et al., 2014 as cited in Judge et

al., 2019) and the PEBs of high school students (De Leeuw, Valois, Ajzen & Schmidt, 2015 as cited in Judge et al., 2019). In addition to the above, other studies have applied this theoretical framework to investigate the intersection between SM and PEB. For instance, Meng et al., (2023) used a modified version of the TPB (replaced social norms with fear of victimization) to study the effect of SM environmental information exposure on the intention to participate in PEB. Additionally, Rapada et al (2021) utilised an extended version of the TPB in combination with other theories to investigate if SM posts influence consumption behaviour towards plastics.

Table 1

Studies utilising the Theory of Planned Behaviour in similar contexts.

Article Title	Journal Title	Author/s	Year
<i>Applying The Theory of Planned Behavior to Recycling Behavior in South Africa</i>	<i>Recycling</i>	Strydom	2018
<i>Factors Influencing Consumers' Purchase Intention of Green sportswear</i>	<i>Fashion and Textiles</i>	Nam, Dong & Lee	2017
<i>A Comprehensive Socio-Psychological Approach to Car Type Choice</i>	<i>Journal of Environmental Psychology</i>	Nayum & Klöckner	2014
<i>An Extension of The Theory of Planned Behavior to Predict Willingness to Pay for the Conservation of an Urban Park</i>	<i>Journal of Environmental Management</i>	López-Mosquera, García & Barrena	2014
<i>Using The Theory of Planned Behavior to Identify Key Beliefs Underlying Pro-Environmental Behavior in High-school Students: Implications for Educational Interventions</i>	<i>Journal of Environmental Psychology</i>	de Leeuw, Valois, Ajzen & Schmidt	2015
<i>The Effect of SM Environmental Information Exposure on The Intention to Participate in Pro-environmental Behavior</i>	<i>PloS one</i>	Meng, Chung & Zhang	2023
<i>Do SM Posts Influence</i>	<i>Sustainability</i>	Rapada, Yu & Yu	2021

<i>Consumption Behavior Towards Plastic Pollution?</i>			
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2.2. MPs in The South African Context

When it comes to the South African context, some studies have corroborated the presence of MPs in marine, estuarine and inland environments (Malematja et al., 2023; Ariefdien et al., 2024; Saad et al., 2023). Ariefdien et al. (2024) examined stormwater outlets as sources of MP contamination in Cape Town's coastal areas. The authors highlighted that they are a significant contributor to MP pollution, contaminating both the water and ultimately the marine life within it. Saad et al. (2023), on the other hand, explored the characteristics of MPs in the sediments of the Vaal River. The findings suggest high levels of MP pollution, primarily appearing in small, fibrous and coloured forms that are easily transported and consumed by aquatic biota, threatening the ecosystems (Saad et al., 2023). Malematja et al. (2023) investigated the presence of MPs in the landlocked province of Gauteng. Groundwater, tap water and bottled water were all found to have some level of MP pollution (Malematja et al., 2023).

The prevalence of MPs in South Africa can be attributed to various factors, including high levels of industrialization, a lack of recycling behaviour and improper waste management techniques. As outlined by Malematja et al. (2023), South Africa is one of the most industrialised countries in the African continent, with a population that is increasing exponentially. This therefore indicates that there is a high level of demand for both domestic and industrial plastics. Despite this, in the year 2020, only 43.3% of plastic waste was recycled. Currently, there has been a trend of increasing recycling behaviour in the country, however, a lack of proper waste collection in the townships and informal settlements hinders this development (Malematja et al., 2023). Furthermore, more than 50% of all plastic waste is either dumped in illegal dumping sites or littered in terrestrial and aquatic environments (Malematja et al., 2023). This is further echoed by Iroegbu et al. (2020) who highlight the inefficiencies in waste management in South Africa. The authors state that even in the presence of reusing and recycling plastic waste, there is a lack of proper enforcement and support from the government which ultimately results in plastics (which were intended to be recycled) being mixed with other solid wastes and dumped at a single site.

Iroegbu et al. (2020) also highlight the poor environmental behaviours of many South Africans, emanating from poor environmental values, risk perception, a lack of awareness and insufficient education. The authors indicated that behaviours are directly influenced by attitudes irrespective of demographics (Iroegbu et al., 2020). Thus, specific interventions are needed to influence South

Africans' environmental perceptions and ultimately their behaviours. In doing so, education and awareness play a role in risk perception and therefore initiatives to create awareness and educate the public are existential to enabling PEB among the populace (Iroegbu et al., 2020).

2.3. Public Perceptions & PEB

When it comes to regulating MPs from a governance perspective, it has most predominantly been associated with top-down approaches (Garcia-Vazquez et al., 2021). However, as highlighted by Wu et al. (2023), the traditional mode of top-down governance has resulted in a low level of efficiency in addressing the problem. Alternatively, engaging the public has been highlighted as a collaborative bottom-up approach to addressing environmental problems (Wu et al., 2023). Furthermore, public perceptions and behaviours are perceived to be a vital component in remediating the issue, considering that they can have an impact in regulating the presence of these MPs in the environment by adjusting their behaviours to conform to a culture of reduction, reuse and recycling (Soares et al., 2021; Garcia-Vazquez et al., 2021; Henderson & Green, 2020). This sentiment is also echoed by Deng et al (2020) who state that public perceptions, decisions and actions are vital to overcoming the challenge of MPs in the environment. Additionally, taking into consideration that there are currently no effective technical solutions to entirely expelling MPs from the environment, on a global level, the value of public perceptions and behaviours are further emphasised (Wu et al., 2023). Soares et al. (2021) adduced that there is a significant relationship between the public's perceptions of plastic pollution and PEB. This sheds light on the fact that public perceptions may have an influence on facilitating PEB in relation to MPs. However, when it comes to MPs, these perceptions cannot be skewed by physical observations considering that these plastic particles are not visible to the naked eye (Garcia-Vazquez et al., 2021; Catarino et al, 2021). Thus, the media plays a crucial role in facilitating the understanding of MPs among the public as they acquire most of their information from these sources (Wu et al, 2023; Catarino et al, 2021).

2.4. The Intersection Between Media, Public Perceptions & PEB

Some studies have investigated the intersection between media, public perceptions and PEB (Wu et al., 2023; Henderson & Green, 2020; Catarino et al., 2021). As Catarino et al (2021) outlined, the media plays a vital role in facilitating the public's understanding of MPs, disseminating scientific information and shaping discourses surrounding the issue. This is also emphasised by Wu et al. (2023) who adduce that new breakthroughs in environmental research can be propagated to large audiences via the media. Moreover, these authors state that mass media represents a channel for the public to formulate perceptions on environmental issues, which then plays a role

in strengthening or shaping public environmental behaviours (Wu et al., 2023). The Blue Planet Effect acts as a testament to the aforementioned factors. Blue Planet II, a BBC documentary series was labelled a “game changer” when it came to warning people about the dangers of oceanic plastic pollution. The acquisition of information from this documentary led to an increase in PEBs amongst the public, as evidenced by Eric Solheim, the head of the UN’s environment programme, who stated that the documentary helped trigger a wave of action on an international level. Although there is an absence of peer-to-peer reviewed evidence to support this claim, a survey issued by the Keep Britain Tidy charity found that individuals who watched the documentary self-reported that they had an increased inclination to engage in a litter pick, purchase less single-use plastics and increased awareness concerning the actions people take to tackle litter (Henderson & Green, 2020). Additionally, it is important to not misconstrue the nature of the audience of media as simply passive recipients of media information as they engage with the content and apply their own cultural norms, values, knowledge and social practices to emerging scientific and social phenomena (Henderson & Green, 2020). This is particularly true for SM as users actively engage with SM posts through commenting, liking and sharing via these platforms.

2.5. The Intersection Between SM, Public Perceptions & PEB

SM, with over 55% of the global population utilizing these digital platforms, has become a prominent space for the dissemination of information, consumption of news media and advertising, enabling information to reach a global audience (Rapada et al., 2021). This is particularly important for environmental issues considering that information campaigns act as a vital driver for the appropriation of pro-environmental choices (Rapada et al., 2021). Wu et al. (2023) adduce that SM allows users to share their posts or comments, enabling the public to voice their environmental concerns and accelerating the dissemination of information. Furthermore, when PEBs are depicted online, it can influence others to converge to said behaviours by attracting more social pro-environmental participants (Wu et al., 2023). Furthermore, user-generated content on SM platforms allows for the continuous output of posts of an environmental nature, facilitating repeated storytelling which leads to the strengthening of public knowledge and awareness of environmental issues. For instance, an elaborate debate on COVID-19-related wildlife conservation proceeded for a month on the Chinese SM platform WeChat (Wu et al., 2023). Additionally, Shen et al. (2023) mention that participating in green communities on SM can influence the participants to converge to more pro-environmental views, as it may provide them with more insightful information on environmental challenges. This in turn enables them to better comprehend the importance of ecological conservation (Shen et al., 2023). Other studies have also investigated the phenomenon of SM’s influence on PEBs (Anagnostou and Doberstein, 2024; Kyoi and Mori, 2024; Jiang, Balaji, and Kapoor, 2023). Anagnostou and Doberstein (2024) found that

SM is an effective tool that can be leveraged to converge public perceptions and behaviours to be more pro-environmental in nature. Kyoi and Mori (2024) highlight the role of SM as a driver for the large-scale appropriation of sustainable practices. Similarly, Jiang, Balaji, and Kapoor (2023) adduce that persuasive communication on SM can play a role in converging consumer behaviour to sustainability.

Additionally, some studies have also identified how SM can influence environmental behaviours through the constructs of the Theory of Planned Behaviour (Meng et al., 2023; Han et al., 2020; Liu, Yang, Clark, and Shelly, 2022). Lee (2011) as cited in Meng et al. (2023), found that environmental content on SM increases user's PBC, thus influencing their intentions to participate in PEBs. Meng et al. (2023) further add to this, mentioning that it is logical, as individuals who are exposed to environmental-related information on SM perceive few obstacles to pursuing sustainable behaviour, increasing their likelihood of adopting these behaviours. Han et al. (2020) concluded that SM aids in activating an individual's SN perceptions and therefore stimulating the uptake of PEB. Although not directly investigating SM, Liu, Yang, Clark, and Shelly (2022) found that environmental campaigns making use of video formats (a common format utilised on SM) were effective in influencing recycling intentions via a positive correlation among all three constructs of the TPB, with PBC having a moderating effect on attitudes which was specifically influential for individuals with lower levels of PBC.

Thus, the literature depicts an overall positive potential influence of SM on environmental perceptions and behaviours. However, there is a knowledge gap when it comes to its influence on MP-related pro-environmental perceptions and behaviours in the South African context. This thesis will aim to address this gap by investigating how the various functions of SM influence the constructs of the TPB and ultimately PEBs. Although the current sub-section alluded to some of the different functions of SM, a vast amount of the literature on public perceptions and environmental behaviours attributed a significant emphasis on the informational functions of mass media. Therefore, the various functions of SM, not only limited to its informational capacities, will be reviewed in relation to their influence on PEB in the sub-section that follows.

2.6. The Technologies for Pro-environmental Action Model

Ballew et al. (2015), developed a conceptual framework known as The Technologies for Pro-environmental Action Model (TPAM) which outlines how different functions of Web 2.0 and SM generate and/or facilitate various pathways to pro-environmental action (view Figure 4). For the purpose of this thesis, we will prioritise the technologies of SM while disregarding the functions of Web 2.0. Ballew et al. (2015) stipulate that there are three primary functions of SM that can act

as drivers for PEB which include informational, experiential and relational functions. Informational functions are concerned with the technologies SM possess to produce, distribute and collect knowledge. These technologies facilitate the process of scanning for information, reading and reposting/posting findings of environmental research and factual information. Experiential functions involve the self-directed and interactive novel online experiences that are facilitated by SM. Finally, the relational functions are concerned with SM’s ability to enable netizens to pursue social goals, with a focus on facilitating the production of online identities, social network development and dialogue amongst the users (Ballew et al., 2015).

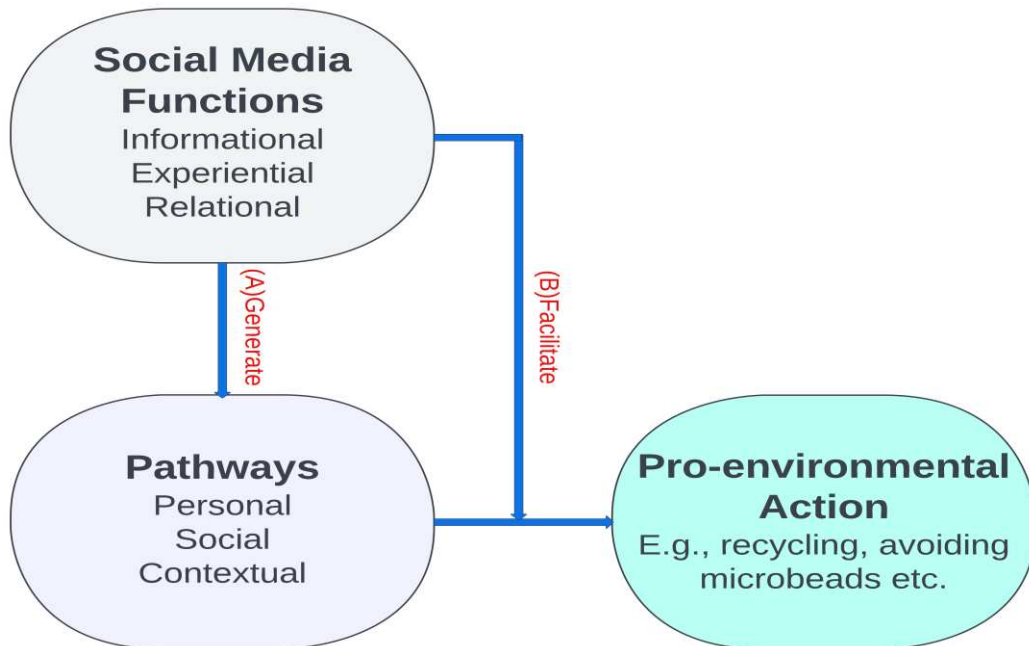


Figure 4. *The Technologies for Pro-environmental Action Model (TPAM).*
Note. Adapted from Ballew et al. (2015)

Ballew et al. (2015) also outline the different pathways to pro-environmental action, namely, personal, contextual and social pathways. Personal pathways include characteristics such as having a strong connection with, and positive attitudes towards environmental matters, which tends to increase the prospect of engaging in environmental conservation. Contextual pathways, on the other hand, are concerned with the particular characteristics or settings (for instance, cultures, communities etc.) of an environment that have an influencing role in developing favourable environmental values, and furthermore, increasing the probability of individuals engaging in PEB. Contextual pathways primarily come in the form of sociological and psychological factors (e.g., a sense of community) or logistic and tangible factors (e.g., the visibility and presence of recycling

programs). Finally, social pathways constitute the social influences, which may be either perceived, envisaged or real, that shape PEBs. Therefore, these social factors influence behaviours by depicting “social correctness” or what the individual perceives others believe constitutes “social correctness”. Additionally, the social benefits of engaging in PEBs are also an influencing factor, such as the enhancement of a social image or standing that comes about as a result (Ballew et al., 2015). Ultimately, the functions of SM technologies should be leveraged to generate and/or facilitate these pathways to induce a positive influence on engaging in pro-environmental actions, in correspondence with the TPAM (Ballew et al., 2015). Furthermore, Ballew et al. (2015) adduce that each of the functions can generate and/or facilitate all 3 of the pathways (view Table 2), however, some functions may be better paired with specific pathways. For instance, the relational function is most effectively matched with social pathways and experiential functions are best matched with personal pathways.

Table 2

Connecting the functions of SM to the various pathways to pro-environmental action.

Note. Adapted from Ballew et al. (2015).

	Personal	Social	Contextual
Informational	<p>Spread information via SM to emphasise the importance of or stimulate “followers” or “friends” to connect with nature. Post pictures of local environmental landscapes to encourage visits and promote connecting with nature.</p> <p>Initiatives to protect the environment, promoted on SM, such as a litter pick-up can help users achieve personal goals, potentially in the form of “giving back” to society, connecting with the community and fostering friendships.</p>	<p>Information posted on Facebook or Twitter can be “Liked,” “reshared,” or commented on providing social cues to other people about the level of social acceptance & approval of the information.</p> <p>The informational functions of Twitter and Facebook allow for publicly visible social cues in the form of “liking”, “commenting” or “resharing” which has implications for social acceptance.</p> <p>Post information about what locals are doing to help the environment.</p>	<p>The dissemination of information to community members may produce an increased “sense of community” by developing collective perceptions of community concern and action.</p> <p>Making use of words that highlight a sense of belonging or attachment to the community such as “we”, “family” and “community” thereby emphasizing a joint sense of purpose and goals.</p>
Experiential	<p>The experiential functions of some SNSs such as Instagram & YouTube allow for self-directed behaviours such as acting as a “videographer” or “photographer” which can</p>	<p>Interactive SNSs such as YardMap or interactive environmental simulation games (ESG) on SM which have prominent experiential functions can also produce normative social pathways. For instance, depicting the</p>	<p>Experiential online contexts might build communities of shared concern, which might lead to community action offline.</p>

	strengthen connections with nature. Thus, resulting in personal pathways to pro-environmental action.	sustainable practices of other users and making them public for others to view (descriptive norms) and acknowledging PEBs via “commenting” and “liking” can promote perceptions of desired behaviour (injunctive norms).	
Relational	The relational functions of SM can also generate personal pathways by fostering dialogue, interactions and identity development. An environmental organisation could spark dialogue among its “followers” or “friends” by asking “What’s your favourite #flower?” which may strengthen connections with nature.	Some of the technologies that SNSs possess embody the role of relational functions by promoting the attainment of relationship-oriented goals via the constructions of social identities, and social connections, thereby “bridging” social capital. They also provide grounds for the maintenance of existing social relationships, capital and connections, ultimately acting as “relationship amplifiers”.	Online communities, such as Facebook groups, can be considered “arenas” for information exchange and sociability or mediums for enhancing community connection and social capital. Online communities and their relational functions can be leveraged to produce and facilitate contextual pathways by stimulating dialogue and interactions and encouraging self-expression which may enable community members to form a psychological connection by creating a “sense of online community”. This can be leveraged to produce “communities of action”

2.6.1. Reflecting on the TPAM

The TPAM provides an interesting and in-depth outlook into how SM can stimulate pro-environmental action, one that does not constrict SM’s abilities to only act as merely a source of information, but as a medium of communication that extends beyond the informational functions, to incorporate relational and experiential functions. Ballew et al. (2015) suggest that leveraging the relational functions of SM is the most effective approach to stimulating social pathways to PEB. The authors also adduce that the dialogic strategies of SM have been neglected in the past, and therefore, the relational functions and their effectiveness in producing social pathways should be leveraged by ENGOs. The authors perceive Facebook to be a valuable platform in doing so, due to its widespread use and strong informational, relational and experiential functions (view Table 6 in Appendix C). Facebook groups with a focus on relational and experiential functions can effectively facilitate dialogues, pertaining to environmental issues. Furthermore, Facebook posts

and their accompanying social indicators (e.g., “likes”) can elicit descriptive and injunctive norms in addition to social status implications. As previously mentioned, some technologies are more compatible with specific pathways. However, it is also important to note that the different functions and pathways may also be more influential to specific individuals, who possess favourable characteristics. For instance, an individual who values interactive experiences may be more drawn to and influenced by experiential functions. Thus, understanding and leveraging the various functions and pathways of SM, and the target audience's characteristics, may significantly enhance the effectiveness of environmental organisations in promoting pro-environmental actions (Ballew et al., 2015). For a more in-depth review of the TPAM and its mention of community dynamics, environmental games, and other considerations, view Appendix C.

Chapter 3: Methodology

This section outlines the methodological approach that was leveraged for the purpose of this thesis. Approaches with regard to the research design, data collection and data analysis are presented in the sub-sections that follow. A summary of the sub-research questions and the accompanying desired information, sources, data collection and analysis methods are highlighted in the table below (view Table. 3). Furthermore, a visual depiction of the overall research methodology is presented (view Figure. 5).

Table 3

Summary of sub-research questions, desired information, sources, accessing & analysis methods.

Sub-questions	Desired Information	Sources	Accessing Method	Analysis Method
How does SM content related to MPs influence the awareness and understanding of their impacts among South African users?	Identify the manner in which SM influences the awareness and understanding of MPs and their potential implications amongst the South African public.	General public, environmental practitioners & South African NGOs	Online semi-structured interviews	Inductive thematic analysis
What specific content types on SM are most effective in influencing the South African public's perceptions of MPs?	Identify what forms of content on SM have the highest receptiveness among the South African public.	General public, environmental practitioners & South African NGOs	Online semi-structured interviews	Inductive thematic analysis
How does SM influence the public perceptions	Identify how SM influences perceptions through	General public, environmental practitioners &	Online semi-structured interviews	Inductive thematic analysis

<p>(as depicted through the constructs of the Theory of Planned Behaviour) of South Africans towards MPs?</p>	<p>attitudes, SN and PBC in relation to MPs among South Africans.</p>	<p>South African NGOs</p>		
<p>What role do public perceptions (as depicted through the constructs of the Theory of Planned Behaviour) of MPs, influenced by SM, play in inducing behavioural change in South Africans?</p>	<p>Identify how public perceptions of MPs in the form of attitudes, subjective norms and PBC may or may not influence the uptake of PEBs amongst South Africans.</p> <p>Identify whether all or only specific constructs have an influence on stimulating behavioural change.</p>	<p>General public, environmental practitioners & South African NGOs</p>	<p>Online semi-structured interviews</p>	<p>Inductive thematic analysis</p>

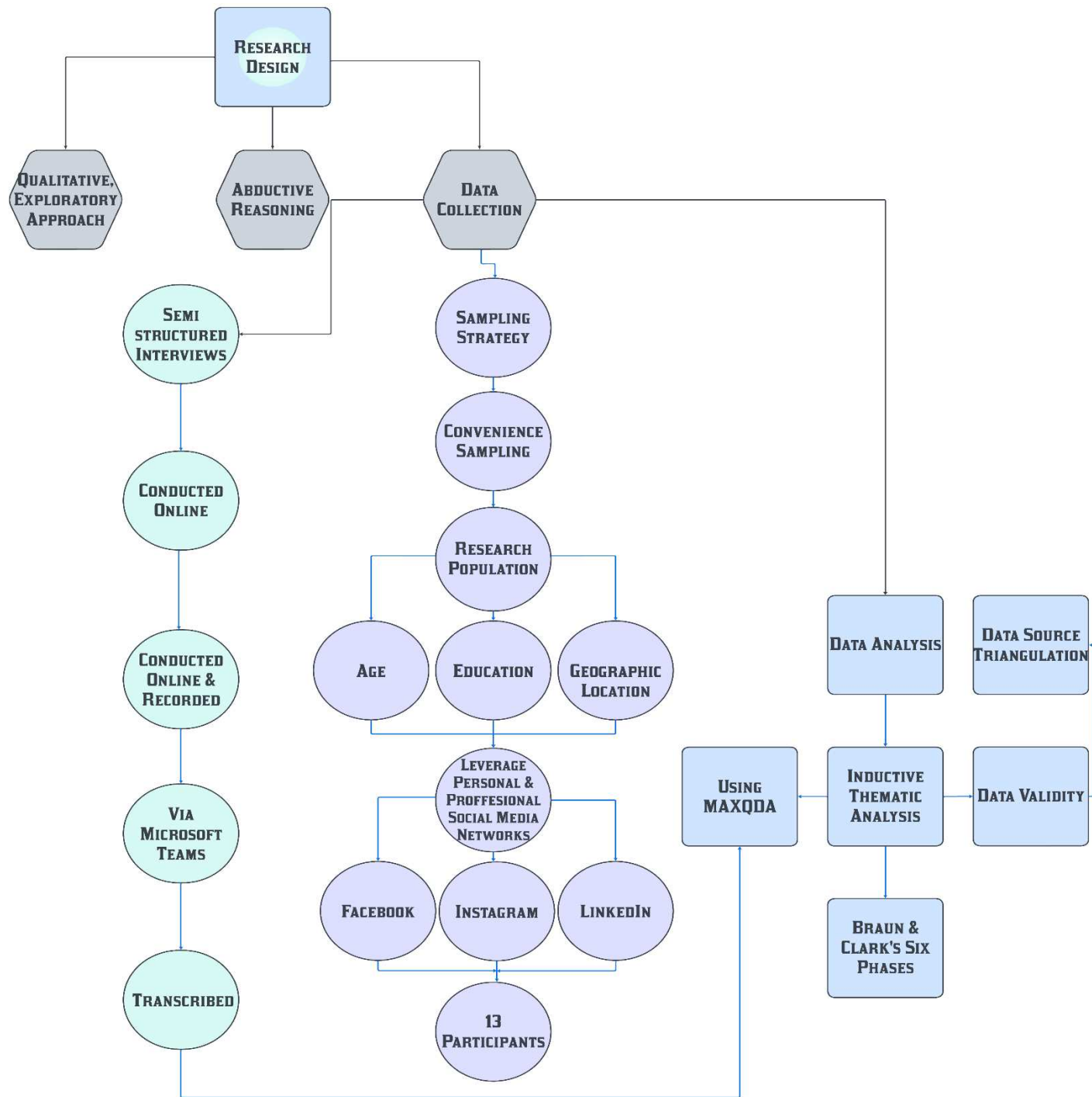


Figure 5. Visualisation of the methodology.
Note. Own elaboration.

3.1. Research Design

A qualitative research approach was deemed the most appropriate for the purpose of this study, considering that it required an in-depth understanding of the phenomenon at hand. As outlined by Tenny et al. (2022), qualitative research enables the researcher to garner a deeper understanding of real-world phenomena, as it amasses knowledge in relation to the participants' behaviours, perceptions and experiences. Furthermore, it is a research design deemed viable when investigating the deep and underlying assumptions from the individual level, as opposed to generalising (Tenny et al., 2022). Considering the absence of pre-existing knowledge on the topic, the nature of this research was exploratory. This further justified a qualitative approach, as it allowed for flexibility and is considered a suitable research methodology when investigating under-researched topics (Jamshed, 2014). It can also provide grounds to garner insights and develop potential hypotheses for future quantitative studies on the topic (Casula et al., 2020).

When it comes to conducting research, there are three primary forms of reasoning, deductive, inductive and abductive reasoning (Creswell, 2011). This study utilised the Theory of Planned Behaviour as a foundation for the research. This may allude to a deductive approach; however, this research aimed to conduct an in-depth exploration into the topic by identifying emerging patterns or themes from the obtained data, which did not align perfectly with the TPB but contributed to developing or refining said theory in the context of this research. Thus, combining elements of both approaches accommodated the qualitative, exploratory and in-depth nature of this research, while also enabling it to be guided through the lens of the TPB. Therefore, it can be said that this thesis made use of an abductive approach (Saunders et al., 2019).

3.2. Data Collection

Interviewing has been identified as the most common format of data collection when it comes to qualitative studies. One of the most prominent benefits of utilising interviews in qualitative studies stems from the fact that it allows the interviewer to garner valuable data regarding the interviewee's beliefs, assumptions, experiences and what motivates them to act in a specific manner. This is achieved by facilitating the use of open-ended questioning and encouraging respondents to freely express themselves, leading to the accumulation of valuable information (McQuarrie, 2016).

Various forms of qualitative interviews exist such as, unstructured, semi-structured, lightly structured or in-depth (Jamshed, 2014). For the purpose of this study, semi-structured interviews were selected. This approach constitutes a mix of both structured and unstructured interviews, in

which the questions are prepared prior to conducting the interview. However, they are open-ended, enabling the respondents to elaborate and express themselves on the topic. This allows the researcher to have an overview of the subject, while maintaining flexibility and preventing the depth and richness of the responses from being inhibited (Alsaawi, 2014). Semi-structured interviews enable the researcher to probe for answers by encouraging the respondents to explain or expand on their responses (Westerbeek, 2022). However, it is important not to neglect the fact that biases may arise if the moderator interjects in the conversation too often, steering the respondents' answers in a particular manner (Westerbeek, 2022). Thus, to maintain objectivity, the researcher allowed the interviewees to express themselves and elaborate on their responses without interjecting too often and influencing the answers.

Considering that this research utilised semi-structured interviews as a primary method of data collection, it is considered to be a mono-method qualitative thesis (Saunders et al., 2019). Two interview guides were developed (see Appendix C), one for participants who had no prior experience with MP-related content on SM and the other was tailored for individuals who do. The questions in these interview guides were similar, despite being tailored for the different levels of experience. The interviews were conducted online via Microsoft Teams. This allowed the researcher to record the interviews for transcription purposes. The video recordings of the interviews from Microsoft Teams were transcribed via the MAXQDA software. The format of the transcription was verbatim. The transcripts were then encrypted and stored securely on the University of Twente's cloud-based storage service, OneDrive. The participants were issued with pseudonyms to preserve their identities (Westerbeek, 2022). All the data from each participant was stored separately, in different folders labelled under their accompanying pseudonymised names, given at random. Only the researcher and their first supervisor had access to this data. Furthermore, this data will be stored until the successful completion of the degree. After which, it will be destroyed.

In accordance with the ethical procedures of the University of Twente, prior to initiating the interviews, the participants were informed of the following (this information was also recorded):

- The aim of the research.
- Their participation is entirely voluntary, and they have the right to withdraw at any stage without any repercussions.
- They can also withdraw if they feel uncomfortable or experience any distress during the interview.

- They can skip any questions that they do not know the answer to or just do not feel like answering.
- Their identity will be protected under the guise of pseudonyms.
- Their data will be encrypted and securely stored on The University of Twente's cloud-based storage services.
- Only the researcher and their 1st supervisor will have access to this data, which will be used solely for the purpose of the study.
- The data will be destroyed upon successful completion of the degree.
- How the research may potentially benefit them.
- The final report can be made available to them upon completion.

3.3. Sampling Strategy

The focus of this research was on public perceptions and behaviours, alluding to the fact that the research population should only consist of the general public. However, it was acknowledged that expert opinions on the matter increase the robustness of the research. As a result of this, environmental practitioners and environmental NGOs were added to the research population. Therefore, producing a research population that consisted of 9 members of the general public, 1 environmental practitioner and 3 representatives of two environmental NGOs. Ultimately, garnering a sample size of 13 participants in total. The respondents were sampled based on the following inclusion criteria, age, education and geographical location (Western Cape, KwaZulu-Natal and Gauteng) (vie Figure 5). These sociodemographic factors were primarily selected to increase the generalisability of the findings.

In terms of the sampling strategy employed, convenience sampling was utilised due to its practicality in terms of speed, efficiency and cost-effectiveness in acquiring non-probability samples (Meng et al., 2023). In line with this sampling strategy, the researcher leveraged their personal and professional SM networks to recruit the participants. In order to do so, Facebook, Instagram and LinkedIn were drawn upon. These SM platforms also had the added benefit of effectively facilitating the recruitment of participants in line with some of the inclusion criteria. For instance, Facebook tends to have somewhat of an older demographic with the majority of the users being above the age of 35. Conversely, Instagram tends to have a younger demographic with a significant number of users ranging between 18-34 years old. Additionally, LinkedIn, being a professional networking site is more inclined to possess users with higher education levels and professional backgrounds (Budree et al., 2019). Thus, Facebook and Instagram provided access to both older and younger participants. LinkedIn allowed the researcher to solicit participants with

higher education levels who work in environment-related fields. A majority of the participants were contacted via direct messaging on Instagram, Facebook and LinkedIn. However, environmental groups on Facebook were used to solicit some respondents (“Mary” and “Thabo”).

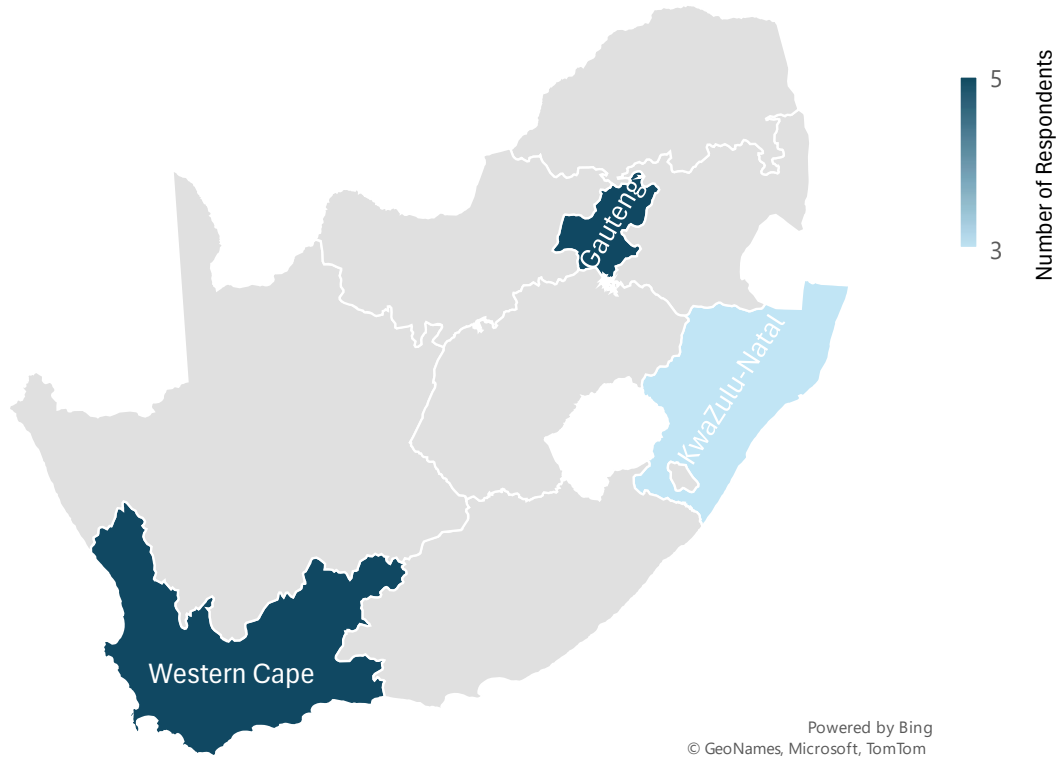


Figure 6. Geographical distribution of the respondents.

Table 4
Background information of the participants.

Name	Age	Education	Geographical Location	Occupation	Research Population
“Nokwanda” *	35<	Master’s degree	Western Cape	Student	General public
“Seaghan” *	35<	Bachelor’s degree	KwaZulu-Natal	Institutional research manager	General public
“Craig” *	35<	Master’s degree	KwaZulu-Natal	Lecturer	General public

“Mary” **	35>	Highschool diploma	Western Cape	SM personality & artist	General public
“Ashley” *	35<	Bachelor’s degree	Gauteng	Student	General public
“Simpfiwe” *	35<	Bachelor’s degree	Gauteng	Operations manager	General public
“James” *	35<	Bachelor’s degree	KwaZulu-Natal	High-school teacher	General public
“Saira” *	35<	Bachelor’s degree	Gauteng	Marketing manager	General public
“Thabo” **	35<	Master’s degree	Gauteng	Environmental Assessment Practitioner/ CEO of an environmental consultancy firm	Environmental practitioner
“Nomkhitha” **	35<	Highschool diploma	Gauteng	Student	General public
“Thandeka” ***	35	Bachelor’s degree	Western Cape	Communications coordinator at an ENGO	ENGO representative
“Avril” ***	35<	Master’s degree	Western Cape	Research officer/ In-house microplastics expert at an ENGO	ENGO representative
“Jasmine” ***	35>	Master’s degree	Western Cape	CEO of an ENGO/ Extensive experience in communications	ENGO representative

*Recruited from Instagram

**Recruited from Facebook

***Recruited from LinkedIn

3.4. Data Analysis

A thematic analysis was drawn upon to analyse the data obtained from the interviews. It is a method used to organise and describe the data in rich detail by identifying, analysing and reporting prominent patterns/themes. This aligned well with the research design, considering that it is an in-depth, qualitative and exploratory study. An inductive thematic analysis was opted for, in which pre-conceived codes were not utilised, rather codes and themes were extracted from the data itself. This approach enabled different patterns to transpire that were not confined or restricted to the TPB, allowing for a more holistic approach and providing more detailed insights into the issue at hand. Furthermore, it enabled the researcher to contribute to the theory in the context of this study. (Westerbeek, 2022). Another dimension that needs to be considered is the level of analysis which comes in the form of either a semantic or interpretative level (Braun & Clarke, 2006). An interpretative level of analysis was selected, implying that the analysis should extend beyond a mere surface-level understanding of the data. This involves producing a more in-depth and nuanced analysis, targeting the underlying meanings, ideas, assumptions and conceptualizations (Braun & Clarke, 2006). This resonated most with the thesis, considering that it aimed to produce an in-depth understanding of the phenomenon at hand. Ultimately, an inductive thematic analysis at the interpretative level was conducted.

In terms of approaching the thematic analysis, the six phases of analysis outlined by Braun & Clarke (2006) were followed. This was primarily used as a guideline and, as mentioned by Braun & Clarke (2006), some level of flexibility is required. Furthermore, it is a recursive process as opposed to a linear one, therefore the researcher moved back and forth from one step to another throughout the analysis. The first phase is concerned with familiarising oneself with the data. The second phase involves generating the initial codes. This is then followed by searching for themes, reviewing the themes, defining/naming the themes and finally producing the report (Braun & Clarke, 2006). The data was structured and organised by leveraging Gioia's Method. This involved categorising the interview data into first-order codes, second-order themes & aggregate dimensions (Gioia et al., 2013). The thematic analysis was used as a primary method for answering the research question and the accompanying sub-questions. Furthermore, this thematic analysis was facilitated via the use of the MAXQDA software, aiding in the process of transcription and coding.

3.4.1 Validation of The Data Analysis

To achieve validity and credibility of the data analysis, this study drew upon the process of data source triangulation. It entails utilising various data sources in the research (Bans-Akutey, 2021).

In accordance with this, multiple sources from the literature review & external sources were leveraged to support or contrast the findings from the interview participants. In doing so, it inhibits the occurrence of researcher biases by allowing a multitude of perspectives or views to emerge and be considered. Thus, increasing the credibility and validity of the data analysis (Bans-Akutey, 2021; Quiroz, 2020). Figure 6 presents a schematisation of the analytical framework, depicting all four sub-research questions required to answer the overarching research question. All the sub-research questions were answered from the data that emerged from the interviews, by means of an inductive thematic analysis.

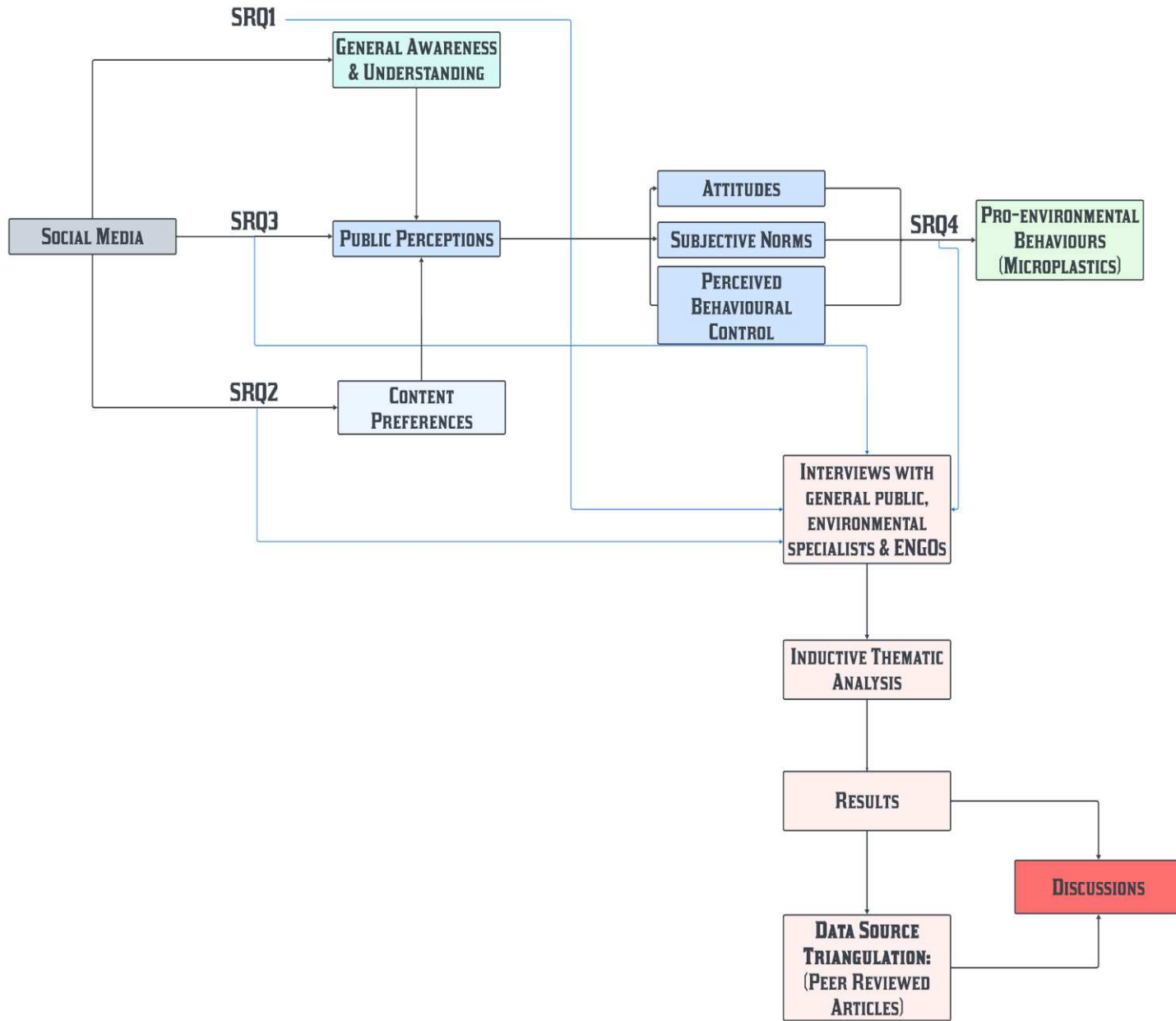


Figure 7. Analytical Framework.
Note. Own elaboration

Chapter 4: Results

Upon conducting the inductive thematic analysis, key themes emerged from the data, providing valuable insights into the issue at hand. Firstly, 23 first-order codes were extracted from the dataset, followed by 9 second-order themes and finally 6 aggregate dimensions. This data structure was developed based on the method outlined by Gioia (2013), illustrated in the table below (view Table. 5). The most prevalent first-order codes that emerged include the following, in descending order, “Social Pressure & Group Conformity”, “Dialogue on SM Can Positively Impact Awareness”, “Dialogue on SM Can Positively Impact Attitudes” and “Immediacy of SM Stimulates Awareness” (view Fig. 8). The following sub-sections will investigate the results that emerged from the analysis and ultimately how the themes came to fruition.

Table 5

Data structure of SM’s role in influencing perceptions and behaviours.

First-Order Codes	Second-Order Themes	Aggregate Dimensions
Reinforcement of Positive Attitudes Through SM	SM’s General Impact on Positive Environmental Attitudes & Awareness	SM as a Catalyst to Pro-Environmental Attitudes & Knowledge Generation
General Influence of SM on Positive Attitudes		
General Influence of SM on Awareness & Knowledge Generation		
Dialogue on SM Can Positively Impact Awareness	SM’s Characteristics Stimulating Awareness & Positive Attitudes	
Dialogue on SM Can Positively Impact Attitudes		
Immediacy of SM Stimulates Awareness		
Emotional Response Influencing Attitudes	Impactful Content Dynamics Influencing Awareness & Attitudes	
Innovative Content on SM as a Catalyst for Environmental Awareness		
Normative Influence from High/Positive Engagement Content	SM as a Facilitator of Social Influences to PEB	
Social Pressure & Group Conformity		

No Peer Influence		
“Sense of Community” & Collective Efficacy in SM Groups/Communities	SM Community Engagement & Leadership	Social Dynamics Influencing Behaviour in Groups on SM
Importance of Organisers to Encourage Interactions in SM Groups		
Influence of ESG on Perceived Capabilities	Influence of SM in Increasing Perceived Capabilities	Increased Agency to Act Stemming From SM
General Influence of SM on Perceived Capabilities		
Contextual Information as a Driver of Recycling		
ESG as a Niche Market		
Effectiveness of Infographics	Effectiveness of Short-form Visual Content	Effective Content Presentation Strategies on SM
Effectiveness of Short-form Videos		
Effectiveness of Images		
"Sense of Numbness" to MP Content	Internal Challenges to PEB	Barriers/Challenges to SM-Driven Pro-Environmental Action
"Sense of Helplessness" in Addressing the Issue		
Economic Constraints and Environmental Participation	External Challenges to PEB	
Algorithmic Curation and Content Visibility		

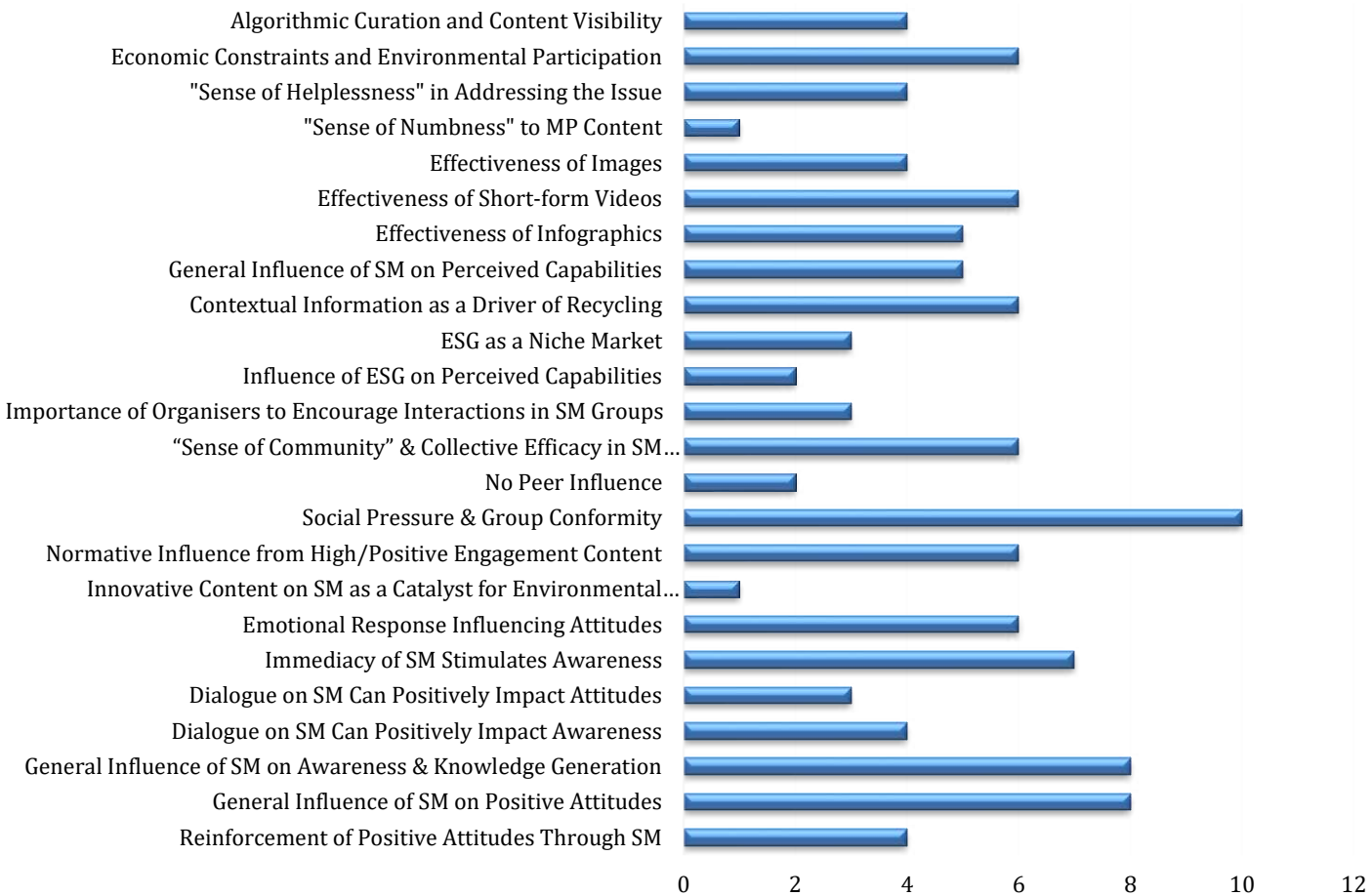


Figure 8. Frequency of first-order codes.

Note. Each bar represents the count of mentions for the respective code.

4.1. SM as a Catalyst to Pro-Environmental Attitudes & Knowledge Generation

To formulate an understanding of SM’s ability to engage individuals in MP-related PEBs, one must grasp the connection between its various functions and their role in disseminating awareness, generating knowledge and influencing attitudes. The respondents of the interviews provided key insights into this interplay, leading to the formulation of the following aggregate dimension, “SM as a catalyst to pro-environmental attitudes and knowledge generation”. This is comprised of three second-order themes which include, “SM’s general impact on positive environmental attitudes &

awareness”, “SM’s characteristics stimulating awareness & positive attitudes” & “impactful content dynamics influencing awareness & attitudes”.

4.1.1. SM’s General Impact on Positive Environmental Attitudes and Awareness

The interview data exhibits that many of the respondents believe that SM, overall, as a platform, is highly efficient in generating awareness about environmental matters, including MP pollution. Avril recounted her own personal experience in conducting MP research among the South African public, indicating that most respondents were aware of MPs, however, they lacked knowledge about their impacts. She noted the following:

“OK, so I’m basing this off a little survey I ran a while back. The majority of people said that they are aware of MPs. They couldn’t get the size right or what were the impacts, but at least they were aware of them and that is from social media. I do think that it has a valuable role to play....” (Avril: 19)

Thus, Avril believes that it is valuable for disseminating awareness, however, there should be a focus on educating the public about its impacts. Mary indicated that it is an effective platform for capturing the public’s attention and raising awareness. Ashley further elaborated on this sentiment, exemplifying SM’s efficiencies by outlining its ability to swiftly penetrate target markets and engage audiences in a more captivating and appealing manner, in contrast to traditional forms of education which may encourage individuals to engage in more in-depth learning. She stipulated the following:

“It’s an extremely easy way for us to access target audiences, so if you know that you’re looking at your SM and you’re looking to enter a certain demographic, you can cater content to them in a way that is eye-catching, colourful, using all of the psychology behind it to get them interested in a subject. Whereas giving a student a book, they might not engage with the content correctly and not find themselves in a position where they want to learn more. Whereas a 30-second clip or a story on Instagram grabs you immediately, or a cool fundraiser, you kind of want to get involved. So, I find it to be something that you can use to your advantage.” (Ashley: 35)

Furthermore, Seaghan and Thandeka highlighted the widespread and far-reaching nature of SM and its pervasive influence, facilitating the dissemination of information and awareness to large and diverse audiences. They stated the following:

“I think SM is a very powerful tool that can be used in today's society. It's something that has influenced a lot of people, especially with whoever is spreading awareness on certain topics, in this case, MPs. For instance, influencers on SM can have millions of followers, which is very effective to actually, you know, make people aware of certain items.” (Seaghan: 29)

“Yeah, I think. I think SM, really, it's, it's a platform that can be used a lot, because now many people, even their youth, everyone gets information from SM. It's, you know, our traditional communication ways, TV and newspapers, they're dying. So, I think we should really use a lot of SM.” (Thandeka: 28)

Ultimately, the data from the respondents highlights SM's general efficiencies in disseminating awareness. Some of these include its ability to efficiently access large audiences and educate them in a manner that is more captivating and appealing. It's also important to note that increased awareness may be considered a precursor to knowledge generation. Once individuals become aware of a topic or issue, they may engage in more in-depth learning and therefore produce a more robust understanding of the problem. Captivating content may be particularly pertinent to this process. Ashely corroborated this, mentioning that traditional forms of education are less captivating and less likely to stimulate in-depth learning, in contrast to a short clip or story on SM. This may also have attitudinal implications. For instance, Nomkhitha indicated that information about MPs on SM led her to be more aware of purchasing bottled water. The influence of acquiring knowledge about the impacts of plastic pollution on attitudes and ultimately behaviours was further outlined by Thabo who stipulated the following:

“...if more people are starting to see the impact, or learning about the impact, hopefully, it will change their behaviour on how they handle plastic pollution. If you want to see if people care, show them the impact of something, then that's how people will start acting. Because most of the people, they don't act because they don't know the impact. Once you know the impact, that's where you're going to start acting and change your behaviour.” (Thabo: 119)

Thabo postulated that most people don't act, as they do not know the impact. This implies that a lack of awareness and knowledge of the impacts of plastic pollution can act as a significant inhibitor to pro-environmental action. However, he further adduced that behavioural changes would emerge upon learning about the impact. Although not specifically referring to attitudes, this

signifies that increased environmental knowledge can shape favourable attitudes, leading to the convergence towards more PEBs. Thabo also emphasises the significance of “*showing*” people the impact, which may imply that the use of imagery can stimulate visceral responses, changing attitudes and driving behavioural change (view section 4.1.3.). The importance of educating people about the impacts of MPs is also echoed by Mary, Avril and Thandeka.

Some of the respondents also believe that SM has the capacity to reinforce positive attitudes by offering additional knowledge, acting as a continual reminder of the issue and further consolidating the idea within one’s mind. By constantly reminding individuals, it can produce a sustained focal point within their minds, potentially increasing its salience and allowing them to be closely connected to the issue. This may be further fuelled by the addition of new knowledge, strengthening their understanding and potentially elevating their level of concern. This is evidenced by the following quotes from Ashley, Jasmine and Nomkhitha:

“... it needs to be continually reinforced. So earlier, I spoke about the share of mind, and that is really important when you're talking about communications. So, if I think about myself, and I think about if I'm travelling to work and I hear something on the radio, and then I see the same thing on a billboard, and then I see it reinforced on SM when I'm scrolling through my feed. That's more likely to stick in my mind and then make me think about things. But it has to be continually reinforced. It cannot be just a once off post on SM... to shift it into an attitude, there has to be share of mind, and then to shift it to an actual action, there has to be an easy way for someone to move along the pathway that you're trying to achieve.” (Jasmine: 36)

“Yes, it's something important because like people need to be reminded. Sometimes, before I used to forget like, you know, I need to be mindful of what I do concerning the environment. So, like now since I'm doing a course in environmental science, now I remember. But, before I did it, I didn't remember that much.” (Nomkhitha: 187)

“They formed quite young, before SM was too much of a thing. But it definitely got fostered more deeply once I was involved in it.” (Ashley: 107)

Thus, the overall responses from the participants highlight their perceptions of SM’s general efficiencies in generating awareness and knowledge, influencing and reinforcing attitudes, pertaining to the issue of MPs. Henceforth, one will investigate the specific attributes of SM that influence awareness and attitudes towards MPs.

4.1.2. SM's Characteristics Stimulating Awareness & Positive Attitudes

The current second-order theme constituting the aggregate dimension is concerned with SM's inherent characteristics, such as its capacity to facilitate dialogue (and the influence this has on attitudes and awareness) and its innate immediacy when it comes to stimulating awareness.

In terms of dialogue on SM and its influence on awareness, Ashley and Seaghan share a similar sentiment in which they believe it is effective in doing so. Seaghan stipulated that discussions and communications among different groups around the topic of MPs would positively impact its awareness. Ashley shed some insights into this by postulating that SM opens the floor for individuals to interact, communicate and ask questions, allowing less knowledgeable individuals to get educated on the matter. Thus, implying that interactions among SM users, in the form of dialogue, can allow for various sources of information to be exchanged, producing a shared pool of knowledge that can be contributed to and accessed via dialogue on SM. Some respondents also indicated that this function of SM can also have an influence on environmental attitudes. Nokwanda indicated that discussions on SM could be beneficial as they offer different perspectives. Seaghan provided a more elaborate response in which he adduced that the individuals engaging in these discussions are more exposed to varying perceptions, allowing for a fuller picture to emerge as opposed to a single viewpoint:

“If it's in a group, or in a one-on-one communication, you know, peers can make a big impact in perceptions. I think of it as a very positive thing, I think it will act similarly to in school, when you have a group discussion. You know, you put your heads together, and you get a fuller picture of what is actually happening and how to look at it. Because you get different angles and perceptions thrown into the mix, as opposed to just seeing things in a single view fashion. So, I think it's very positive to actually have and it has a lot of positive impacts.” (Seaghan: 78).

Additionally, SM's innate immediacy also has positive implications for generating awareness. This encompasses its ability to quickly disperse information and reach audiences, in addition to its efficiencies in allowing for the ease of access to information in a timely manner. Many of the respondents indicated how this characteristic correlates to increased awareness:

“It is the most easily consumed media and it is the media that is the most immediate. You do not have to wait to click on something. It is there. It is in your pocket. It can reach you at any point in time. There is almost no escape. So, if it is in front of you, you cannot just ignore it.” (Ashley: 141)

“So, I think SM is very important, especially now that everybody has a social network, more people to view it, and people are always on their phones and tablets.” (Craig: 34)

“Just because it's got such a widespread reach, something can go viral. And then everybody knows about it, then it becomes a new trend and everybody becomes aware of it wanting to make a difference, all of that stuff, you know, butterfly effect.” (Simpfiwe: 33)

“I think in this day and age, it spreads a lot quicker than traditional media, being your newspapers, magazines, and so on. Purely because it's very easy to access. I mean, people don't want to go out and buy a paper anymore. They just pull out the phone and SM is there. So, for those reasons, I think, yeah, it's a very useful tool.” (Seaghan: 29)

Based on the aforementioned quotes from the respondents, it is evident that a common perception exists among them, in which the ease of access of SM, facilitated by the use of everyday electronic appliances such as smartphones, enables instantaneous access to information and allows for the development of awareness and knowledge among audiences quickly and efficiently. Furthermore, some of the interviewees indicated that most people are active on SM in contemporary society, irrespective of demographics, enabling SM to have a widespread reach. Taking this into consideration, in addition to the prospect of virality, it can be deduced that they perceive SM as an effective tool to reach large audiences and disseminate awareness with increased efficiencies, which are not comparable to traditional media. In contrast, Jasmine indicated that it does not generate awareness very well, stipulating the following:

“Not very well, in my opinion.” (Jasmine: 20)

“I think SM is a specialist skill, and a lot of the organisations and people that speak about MPs and very detailed and complex scientific considerations and research don't know how to package their information for SM. Also, having said that, so the information that is shared on SM is far too complex for the general person to even care about. Secondly, communications is a specialist skill, so SM is a subset of communications, and you need to really understand your target audience in order to be able to package your information correctly. So, a lot of people don't understand that communications is actually a science in and of itself. So, they think that anyone can communicate on SM. They think anyone can

do communications... It's not simple. There's a lot of thinking that has to go into it, a lot of groundwork that has to be done...” (Jasmine: 24)

Jasmine’s response brings to light that the process of generating awareness on SM is not as straightforward as it may seem. It requires a high level of skill, resources and knowledge about the target audience to be effective, as she indicated, *“it's a science in and of itself”*. Therefore, her initial mention of it being ineffective may pertain to the complexity of the process, not per se the inherent inefficiency of SM in generating awareness. Her initial comment is most likely in reference to organisations that have failed to effectively generate awareness about these issues as a result of not considering the intricacies of the process. Thus, although SM can be effective, more effective than traditional media to a large degree, it is a complex process requiring careful consideration.

4.1.3. Impactful Content Dynamics Influencing Attitudes & Awareness

The final second-order theme for the current aggregate dimension is centred around the forms of MP-related content on SM that are most impactful, in relation to awareness and perceptual influence. Numerous respondents identified that the plastic/MP content they viewed on SM elicited an emotional response within them. Ashley and Saira stipulate the following:

“They show you the impact. As sad as it is to see, when you see the level of damage it creates, you see the importance of making the changes around it.” (Ashley: 43)

“And I think it was just really jarring to see because it didn't hold back. So, they'll post quite graphic, gruesome pictures of blood and all that sort of stuff. So, it's like the moment you see it, you're just drawn into it and then you kind of want to look away, but then you also wanna read and see, like, why is this happening and what has caused this.” (Saira: 30)

Ashley highlights the significance of exposing the public to the detriments of MPs. The mention of *“As sad as it to see...”* underscores an emotional response to the damage, inducing an attitudinal shift towards PEB and therefore increasing the salience of taking action against MP pollution. Saira’s response somewhat echoes that of Ashley; however, she dives more in-depth into the nature of the content. She attributes emphasis on the graphical and gruesome imagery that she has seen on SM, stimulating a visceral response and ultimately leading to more in-depth learning. This may have a spillover effect on re-enforcing or converging to pro-environmental views. This process of SM content stimulating an emotional response and potentially influencing attitudes was observed

in real-time when showing Craig (who wasn't very familiar with MP content on SM) a SM video about the detrimental effects of MP pollution. Upon watching the video, Craig stated the following:

"Yeah, I've just watched that video and it's really scary, to be fair... a bit shocking for me, and I'm just taken aback about that." (Craig: 232)

"No, correct, because I was looking at the fish and Indian community. I mean, we have fish, we have fried fish, we have crab, we have prawns, we have oysters, we have lobsters. And, you know, looking at what this is doing to the environment and what we're consuming, you know? I mean, I know about cancer and it's scary to see that there's not much research that's been done regarding this. So, it's very, very insightful. And I think regarding to all the questions that you've asked me, it's very important to get this sort of video to the consumer... Because, I mean, everybody's got it now in your body and you don't even know about it." (Craig: 224)

"But I mean it is everywhere as seen in the video with the ocean life, but it really has given me a shock." (Craig: 240)

Craig's response indicated that he experienced a visceral reaction to the content in the form of "shock". He also mentioned "...it is everywhere...", implying that this newly acquired information elevated his level of concern about the pervasive and widespread nature of MPs. Furthermore, he goes on to relate the issue to his own community, creating a more personal connection with the issue, potentially realizing that it may impact him, his family and other prominent figures in his life, further exacerbating his concern. He also mentioned that the information was very insightful and expressed how he now understood the significance of the research and disseminating this message to other consumers. Therefore, exemplifying that his awareness had increased and that he had attributed more significance to the issue. Although not directly referring to an attitudinal change, the aforementioned factors (increased concern, personalizing the issue and attributing increased salience to the problem) are indicative of precursors to attitudinal change. However, he may have also experienced a momentary change of attitudes, but whether this was sustained is unknown.

Mary outlined another way in which content on SM can be more impactful. She underscored the significance of innovative content in raising awareness on SM, in her case by means of art. She produces fascinating and eye-catching items from plastic waste she gathers from beach clean-ups.

Her art has the added value of disseminating an environmental message, which is facilitated and dispersed via the use of her SM accounts, primarily Instagram. Mary went on to state the following:

“And in the beginning, I was like trying to show on Facebook, like this is what I'm picking up and you know, we need to really start changing our ways as consumers and blah blah, blah. And it wasn't until I started making art four years ago that I started getting attention like it was the craziest thing like people would start opening dialogue. Like they would look at my art which is made of beach plastic, and it would draw them in and then they would start seeing familiar items. And I was just so excited. I was like, yes, this is exactly the voice I want to have for the ocean and to open dialogue and get, you know, people more aware and getting them picking up plastic. And it was through art that changed. From my side, the social media all changed when I started making art, so it was very interesting.” (Mary: 44)

Although others did not echo this sentiment, it is an important point that is pertinent to this research, especially as it emanates from an individual who has experience with spreading an environmental message about the detriments of plastic pollution on SM. Her experience sheds light on the fact that SM users may have become inured (to some extent) by the traditional forms of environmental content on SM, and therefore, more unique, engaging and captivating methods, such as through art, may be more effective in impacting awareness and perceptions. This is justified by the fact that her previous efforts to educate and spread awareness about plastic pollution on Facebook went unnoticed, however, this changed once she started combining her art with her environmental goals. It resulted in increased attention, engagement and interest in her work and the message she is dispersing. Ultimately, the respondents have highlighted that emotional and innovative content have increased competencies when it comes to elevating awareness and influencing attitudes.

All of the results up until this point have addressed the current aggregate dimension, “SM as a catalyst to pro-environmental attitudes & knowledge generation”. The next two sub-sections will address the social influences and dynamics leading to PEB, encompassing the associated aggregate dimensions.

4.2. Social Behavioural Influences Through SM

The current aggregate dimension constitutes how social influences, derived from SM, can influence users to converge to more PEBs, regarding MP pollution. It consists of a second-order theme labelled, “SM as a facilitator of social influences to PEB”. The data from the respondents

provided interesting revelations about how they believed this relationship has affected them (or not), could affect them or how it could impact the broader population. The initial first-order codes that emerged from the data include, “normative influence from high/positive engagement content” and “social pressure & group conformity”.

4.2.1. Normative Influence from High/Positive Engagement Content

Some of the respondents have brought to light how the technologies of SM, more specifically “liking” and “commenting” and their engagement levels, can influence them and/or SM users when it comes to MP posts on these platforms. Seaghan adduced the following:

“I think that affects perceptions to a large degree. Today's day and age, trends are everything. Especially with SM, they look at something that's gone viral, they look at where the cloud is going. So, I think the more likes you get, the more support you're going to get on that. You know, a lot of people are like sheep, if they see the crowd is going in one way, they will follow that crowd. So, I think it holds a lot of weight, especially in this context, especially if someone doesn't understand what's actually happening. The fact that there's a lot of legs will make them try to figure it out, and try to follow it, which supports, you know, raising awareness. So yeah.” (Seaghan: 98)

Based on his response, it is evident that Seaghan believes that high engagement levels via “likes” act as indicators of how widespread or “viral” a post is, which he believes significantly influences the viewers’ perceptions. This may stem from social influences, as the viewers may be influenced by the visibility of these indicators, or “social indicators”, perhaps. This is supported by the fact that he indicated “*people are like sheep*” and “*the more likes you get, the more support you're going to get on that*”, highlighting that people tend to feel more compelled to engage with content that is more widespread. This sentiment of “following the crowd” is further echoed by Thabo who emphasises how high levels of “likes” and “comments” on a post stimulate him to be more drawn and engaged with that content. Thabo stated the following:

“So, what I do is that when maybe I'm on SM, when I come across maybe a post with many likes, I engage myself there. I want to see what is that people are liking on this content. So, I would want to understand also, before hinting that, ‘oh, this is what people are talking about’. If there are many comments, I would want to engage. I want to see what the people are talking about on this content. So, it does influence.” (Thabo: 131)

Saira, on the other hand, does not feel like the level of engagement a MP post has, has any influence on her perceptions of the content itself, however, she does admit that subconsciously she would be drawn to it as a result of general human behaviour. She indicated that one would be more engaged and willing to explore the content as there is “*some pull*” and “*there's definitely people on here*”, signifying that the virality of a post has implications for engagement. Although she doesn't attribute much significance to it, she mentions that for her it only acts as a measure of the legitimacy of the campaign or the content. She stated the following:

“If you're looking at general human behaviour, obviously if it is something that's got more popularity, you're more drawn to that. You'll want to explore maybe that page, or that brand, or that organization and look at their posts and explore that more because it's like, 'ohh, OK, they've got some pull. They have more likes and there's definitely people on here'... So, I think human behaviour would make me drawn to that page. But for me, it doesn't really matter. I mean, if campaigns are running on environmental awareness or something like that. Why not?” (Saira, Pos. 71)

Ultimately, the respondents indicated that the “virality” of a post has implications for how engaged they are with the content. Higher engagement levels, symbolised through “likes” and “comments” draw individuals in as they want to see what the “hype” is all about, and may potentially learn more about the content. This phenomenon of “following the crowd” may potentially stem from social influences, such as social proofing or conforming to descriptive norms. Furthermore, as Saira mentioned, it legitimises the content and reduces concerns about fake news, further compelling users to engage with that post.

4.2.2. Social Pressure & Group Conformity

Social pressures to conform to particular behaviours also represent another avenue to PEB, emanating from SM. Upon analysing the data from the interviews, the respondents emphasised how behavioural change could manifest in the form of pressure to conform to a common behaviour among one's social circle. The respondents stated the following:

“I think it'll, yeah it'll definitely have an impact on me as well. Like I mean especially, maybe not so much influencers and things, but I mean if you're watching your own family engage in recycling or something along those lines, eventually you know you might also pick up the habit as well.” (James: 126)

“Yeah. Ohh, it would totally inspire. Just from what I've been doing, I can already see through my SM posts. People will message me, and they'll be like on the other side of the planet, and they'll be like, I cannot walk on the beach now and not pick up plastic or... I've stopped buying plastic water bottles. So, and that's purely being through SM. So yes, I do. I think it does definitely inspire and influence people.” (Mary: 102)

James disregards the role of influencers in having influential power to encourage PEB, however, he does emphasise the role of viewing relatives on SM converging to or performing said behaviours, such as recycling. Thus, highlighting the influence of more immediate figures in one's social circle when it comes to converging to PEBs, stating “... *you might also pick up the habit you know as well*”. This may potentially be attributed to the pressure to adopt normalised behaviours as one's own family. Mary, on the other hand, has seen first-hand how depicting PEBs through her SM channels can influence or encourage others to adopt similar behaviours. She described how some of her followers had reached out to her to express how her content has inspired them to engage in PEBs, thus providing a first-hand account of how SM influencers can influence their followers. Thabo and Avril exhibited more explicit responses to the social pressures to conform to a particular behaviour. They stated the following:

“Yes, sometimes we are more likely to be influenced by the people surrounding us. So, if you say that, no, my uncle is my role model and my uncle, this is what he does, it means I should also do that. So, the surrounding sometimes influences what you do. So those things, I think it's important, and it can have an influence to change their behaviour.” (Thabo: 127)

“I think something like that will most likely spur people on to the right decision. Because if you see people you look up to doing something, you might be more inclined to do the same thing. It might even be subconscious; you might feel like you need to do something because others are doing it. That will have a snowball effect because more people in your circle will start doing the same thing. So, I do think it is very valuable. It will spur people on to do more things which will have a wider impact”. (Avril: 52)

Thabo postulated that viewing one's role models, which may come in the form of family members on SM performing PEBs, may encourage the individual to change their behaviour to conform to that of the relative or role model. This may indicate pressure to conform stemming from the perception of what behaviour they believe is most valued by the prominent figure, in Thabo's case, his uncle. Avril indicates that this type of pressure may also manifest subconsciously and have a

snowball effect, inducing a wider impact among social groups. Ashley also touches on this, as she mentioned that individuals may conform to PEB out of fear of group rejection and ousting. Ultimately, SM's ability to facilitate the depiction of pro-environmental views and behaviours allows for normative influences to arise which may have the potential to influence behaviours, as outlined by the aforementioned respondents. However, some respondents do not share this same sentiment, some exhibit scepticism towards the effectiveness of social influences. Seaghan adduced that he is aware of the existence of social influences that may present themselves on SM and influence everyone to some extent. However, for him personally, their significance is minimal as he *"takes it with a pinch of salt"*, highlighting that he is critical of social influences.

"For me, I don't think too much. It's okay, everybody is influenced to a certain degree. For me, I take it as a pinch, but with a pinch of salt. Like I say, I don't really do the discussion kind of thing I just read, try and understand and see what the general trend is. And I think that's just a personal thing. It would contribute to the effect where I can see where the majority of people that I know, you know, have certain perceptions. And that would influence me to thinking am I thinking along the right lines or not, but not something to distinctive in my particular case." (Seaghan: 90)

This is also the case with Nomkhitha, who did not hesitate to rule out social influences to PEB and completely disregarded them as being significant to her. She also stated that when viewing negative comments about environmental issues, she would apply her own understanding to the problem and not be influenced by these negative perceptions. Indicating resilience in her own understanding. She stated, *"And then if the comments are negative, I'll just still follow my own personal view about the environment. So, I wouldn't feel discouraged to stop doing more for the environment."*

4.3. Social Dynamics Influencing Behaviour in Groups on SM

SM groups facilitate social interactions among like-minded individuals around certain topics of interest. This can also manifest in the form of environmental groups that may have an emphasis on plastic and/or MP pollution. These groups may produce an environment where people are encouraged to interact, express themselves, and share their ideas. They may also produce social dynamics that are conducive to learning about and stimulating PEBs, either individually or collectively. The current aggregate dimension encompasses this phenomenon. It consists of a second-order theme labelled, "SM community engagement & leadership", formulated from two first-order codes which were extracted from the data including, "sense of community" & collective

efficacy in SM groups/communities” and “importance of organisers to encourage interactions in SM groups”.

James described how SM groups can produce a sense of belonging which can unite the individuals participating in these groups and ultimately encourage interactions and engagement, as they feel a psychological connection to that online community. Although not directly referring to a “sense of community” or “belonging”, Ashley underscores how these groups on SM can foster increased engagement and participation, from her own personal experience. She stated, *“Come hell or high water, even if I don't know the person, if they're asking a question and I have an answer for them I put it on there”*. Thus, emphasizing her connection to the community and her willingness to support others in the group, regardless of whether she knows them or not. She also describes reciprocity and mutual benefit, as one can provide or receive help. The idea of collective efficacy is highlighted in Nomkhitha’s response, in which she adduced that she feels motivated in group settings, as it fosters mutual support and encouragement from others as a means of attaining a common goal. James, Ashley and Nomkhitha stipulated the following:

“So, like, if you give people a platform and a topic where it unites them, then that obviously, like, you know, they'd feel more comfortable engaging on the platform and things like that. Okay, I'm going to use the word community there. Like, you know, they'd feel like they belong to that, that particular sector, if you will.” (James: 164)

“100%. I mean, so I see a lot, I'm on a couple of groups like community groups on Facebook and come hell or high water, even if I don't know the person, if they're asking a question and I have an answer for them I put it on there. So, if I can see it within my own actions, it definitely makes a difference. If you are joined in a community like that, that you all have commonality, it makes a major difference. And you do feel like ‘oh I know what to say here let me ask them’ or ‘oh I'm actually not sure of the answer of that question let me go and look and see what other people are saying’. So, it fosters both you giving information and potentially seeing something that you didn't know before.” (Ashley: 111)

“I mean people would feel encouraged. Like there are other people they can work with. They wouldn't have that mindset, ‘ah I'm the only one’, so like they'll just stop... if there are more groups, then that person is encouraged to work together. But, if they are alone, they might give up.” (Nomkhitha: 191)

Thus, the interviewees indicated that these groups may foster environments where individuals are encouraged to participate, support and learn from each other and attain common environmental goals by producing a psychological connection to this group, resulting in a motivation to contribute. However, some respondents highlighted that in order to achieve this ideal, the organisers or leaders of these communities play important roles. Craig shed light on this when mentioning the group dynamics of his students that he lectures. Although not directly pertaining to environmental SM groups, his response may provide insights on how group dynamics function, which can cross over to SM groups. He stated the following:

“Some people just are leaders. Some people are followers. So in regard to that, I think there has to be a strong leader in that community to make everyone speak... you'll get that one person that just has to say one thing or add the input and then like a light bulb just switches on. And then there's like many questions in the room because now they've broken the ice, you know... You know, once they are in their community for a bit and they feel comfortable, I think more people will change their behaviour.” (Craig: 106)

Ultimately, from Craig's experience in dealing with group settings, he believes that leaders play important parts in stimulating discussions, participation and making the participants feel comfortable (*“break the ice”*) as a means of increasing engagement, which he believes could have behavioural influences. This leads one to draw the conclusion that the admins of these groups play a mediating role in encouraging such interactions and engagement, and once these interactions occur, a snowball effect may ensue. As Craig indicated, *“a light bulb just switches on”*.

4.4. Increased Agency to Act Stemming from SM

SM may allow users to accrue valuable knowledge and/or place them in environments where they can learn how and where to go about pursuing or conducting PEBs, for example, recycling. The respondents accentuated that this could allow them to feel more capable of successfully performing the behaviour, potentially increasing their agency to act. This captures the essence of the current aggregate dimension, which is constituted by one second-order theme, namely, *“influence of SM in increasing perceived capabilities”*. This was generated from the following first-order codes, *“general influence of SM on perceived capabilities”*, *“contextual information as a driver of recycling”*, *“influence of ESG on perceived capabilities”* and *“ESG as a niche market”*.

Seaghan and Nokwanda postulated that SM can provide them with the awareness and knowledge necessary to engage in MP-related PEBs. They both echo that it can aid in acquiring knowledge on how to reduce its impacts, Nokwanda specifically referring to recycling. She also acknowledges

that it can be particularly helpful for more complex forms of recycling, such as softer plastics. Thus, this information may empower individuals to take action, as they may have a reformed perception of the task at hand and their ability to conduct it successfully. Craig's response justifies the aforementioned point, as he stated that such information on SM would increase his capabilities with regards to PEBs:

“Yes. I feel, with regards to that, it would make me more capable, especially how to go about doing it. Tips is one, but how do I actually do it, you know? There needs to be more information of what I can do, where I can go, recycling tips, you know, short things that, in my specific province, that allows me to go and actually, you know, practice what I'm doing. Like, you know, this is what you need to do, this is the way you need to go... if you don't know anything about the situation and you don't know what to do, then you're just not going to do it.” (Craig: 168)

Craig also specifically emphasised how contextual information about his area or province could be most effective in increasing his capabilities in performing the behaviour, as it would directly enable him to engage in that behaviour. Furthermore, he adduced that the absence of this contextual information could be a major barrier to action, *“if you don't know anything about the situation and you don't know what to do, then you're just not going to do it”*. He further emphasised this by indicating, *“Someone could be talking about the same aspect in Johannesburg, or Cape Town, that's different provinces. They're doing it in their province, but what about Durban specifically? What can I do? Where can I go?”*. This was also reiterated by Avril, stating, *“Obviously, if the recycling companies or collection sites are not well known, then they are not gonna be useful for the people that don't know about them”*. Many of the respondents echoed similar opinions. For instance, Nomkhitha stated, *“like mostly they speak about recycling, but they don't tell us where we can find recycling plants”*. Simphiwe outlined the role of influencers in disseminating contextual information and educating people about recycling:

“Yeah, it could. Like I mean, it could show me my area, let's say I see an influencer that's in my area or somewhere around and they go show ‘oh this is the place where you do it’ and I would know for future and you know, telling me how to do it or informing me like this is a procedures you need to do you have to separate this and that and take this to that place, take the plastics to another place. Again, just being informative.” (Simphiwe: 85)

The responses from the interviewees underscore their belief that SM can play a salient role in increasing individuals' self-efficacy in performing PEBs. Some additional respondents also

believe this to be the case, however, more specifically pertaining to interactive technologies on SM such as ESG. Ashley described how she believes that by being put in that situation (referring to a waste management simulation game), one can gauge how detrimental the impacts of plastic are, and how easy it is to prevent it by using the correct resources. She further adduced that it could alter perceptions and encourage individuals to recycle at home. Ultimately, her response highlights her belief that when individuals are placed in that environment, they may form new perceptions of their ability to make an impact, which may translate into offline behaviours such as recycling. Saira believes that these simulation games may be influential for others, but not specifically for her. She also outlined that they may not appeal to the broader population and may constitute somewhat of a niche. She stated the following:

“I think it would be effective, but I think for quite a small target audience, perhaps I don't know if it will appeal to a broad mass. People like the mass, but that's just like my personal opinion. I'm not sure how many people like to play games. But I mean, I don't think it wouldn't do what it needs to do. I'm sure if someone did play it, it would make you feel like you at least are learning about it. Or maybe how you can maybe take control? Because maybe the game's about how to recycle or how could you do certain things to help the environment. And then that way you almost learn interactively.” (Saira: 46)

Ultimately, she believes that it would be an effective tool for people to “*learn interactively*” and “*take control*” which could increase their capabilities and impetus to pursue such behaviours, however, it may not apply to all audiences, inhibiting its impact on the broader population. Seaghan also shares this sentiment that it could be effective but is somewhat of a niche. Craig, on the other hand, shares the view of it being a niche, but has a more pessimistic perspective on it, stating the following:

“I think it's a very niche type of market when you're talking about particular video games, because most times people play what they want to play. They're not going to play a game that's based on being good for the environment, such to say... But I think for someone to do it in the game wouldn't really impact them really doing it in person or themselves.” (Craig: 74)

Thus, these respondents collectively bring to light a significant limiting factor of ESG, when it comes to enhancing capabilities, its potentially limited reach and appeal.

4.5. Effective Content Presentation Strategies on SM

The way MP content on SM is presented may have significant implications on how receptive the audience is to said content. This is something that emerged from the data, more specifically, the respondents stressed the significance of short-form visual content in capturing users' attention. This led to the formulation of the following second-order theme for the current aggregate dimension, "effectiveness of short-form visual content".

Many of the respondents highlighted the effectiveness of visualizing the impacts of MPs. Saira indicated that the previous environmental campaigns she had seen on SM were primarily effective due to the graphics they used stating, "*I think it was just purely the graphics that they use, which is so jarring*". Additionally, James adduced that it would be more impactful to visualise the effects of MPs, specifically referring to the competencies of video formats in doing so. Although not directly addressing why they perceive these visuals to be impactful, it may stem from the fact that they induce an emotional response within these individuals which may influence their perceptions (as outlined in section 4.1.). Other respondents adduced that people are less likely to read, and therefore shorter-form visual content may be more appealing. They mentioned the following:

"Because like most people are lazy, like to read long texts. You know, like when you can look at an image, you can see what's happening or maybe they can be able to relate to it like when they see it visually instead of reading it." (Nomkhitha: 91)

So, I would think images are good. In terms of texts, people don't really want to read. I mean, the new community, and even in the environment that I am in with lecturing, students don't read. It's like a problem for them to read. They always want to do something visually. They want to see it. They want to see the impact that it's having. You know, I think videos would be the most effective. Maybe making snippets of it, showing people visually what's going on. That would, for me, be most effective. (Craig: 62)

"And I've learned people do not read and I think visually and that just shows from my art. Like visually it speaks 1000 words without even having to say anything much more than this is beach plastic, you know?" (Mary: 56)

"They're not gonna read. I feel even if it's a small paragraph they are not even gonna read that. But, if it's in an image, you are more likely to capture their eye or attention. Then you are more likely to have an impact." (Avril: 29)

Thus, these respondents believe that long texts would be ineffective and therefore visualizing the information would be a better approach. Furthermore, as a lecturer, Craig has leveraged his experience to justify the inefficiencies of long texts, stating “*students don't read*”. This is also echoed by Mary, who then further emphasised that her art acts as a testament to the effectiveness of visual content. In coherence with James, Craig further adduced that videos would be most effective. However, he specifically referred to shorter-form videos such as “*snippets*”. He later also highlighted the importance of captivating short-form content stating, “*the first 10 seconds captures you*”, which is further corroborated by Mary indicating, “*you gotta draw them in immediately*”. Numerous other respondents also referenced the effectiveness of this shorter-form video content. Ashley highlighted how people’s attention spans have changed, resulting in more appeal towards “*quick*” and “*to the point*” content such as Instagram Reels or TikToks. This sentiment is also shared by Simphiwe who stated the following:

“I think videos like Instagram reels, let's say and I'd say images, but more like a quick reel would definitely be the most effective, I would say.” (Simphiwe: 49)

Other respondents brought up infographics, as another effective type of short-form visual content. Nokwanda emphasised that images would be most effective for her, however, acknowledging the invisibility of MPs, she stated that realistic infographics may also be effective. Mary mentioned that an infographic outlining the lifecycle of a plastic product and how it eventually permeates the environment could be effective because, as she stated, “*people don't read*”.

Ultimately, the data from the interviews has encapsulated the preferences of the respondents, in which they resonate most with short, impactful and visual content (short-form visual content), which they deem to be most effective in communicating the MP issue on SM.

4.6. Barriers/Challenges to SM-Driven Pro-Environmental Action

The respondents outlined numerous limiting factors that either directly constrain their intention to participate in PEBs or limit their influence from SM. These constraints were Characterised as either internal or external, leading to the formulation of two second-order themes for the current aggregate dimension, namely, “*internal challenges to PEB*” and “*external challenges to PEB*”. In terms of the internal challenges, some respondents mentioned exhibiting feelings of helplessness when it comes to addressing the issue of MPs. Mary and Avril stipulated the following:

“I think that they just see no point in doing anything because there is so much plastic

everywhere, or they just literally don't give a hoot. And they don't see how their individual changes can make an impact.” (Mary: 193)

“It's sometimes even for me still overwhelming. When I read the stuff, I realise that, you know it's such a big task that you can't... it's something overwhelming thinking that you can't actually make a change...” (Avril: 94)

Mary highlighted that individuals don't engage in PEBs as they believe that the issue is far bigger than them and their own individual actions won't have a considerable impact, as there is “*so much plastic everywhere*”. This is also echoed by Nokwanda who stated that she feels helpless as plastics are “*literally every, every, everywhere*”. Even Avril, a professional working for an ENGO, exhibits feelings of helplessness at times. Thus, these respondents believe that the pervasiveness of MPs, and overall plastic pollution, results in individuals questioning their own self-efficacy in addressing the issue. This then leads to the conclusion that “there is no point in doing anything”. Mary also highlighted another issue of prominence, although not shared by the others, it is a valuable point that should be addressed. She indicated that SM users have become blinded or numb to the traditional way of disseminating environmental messages about plastic pollution. This may be due to the fact that these individuals may feel accustomed to seeing such content or they feel like it is being shoved down their throats, resulting in the opposite of the intended effect of engaging these individuals in PEBs. She further stipulated that innovative strategies should be leveraged to mitigate this issue, drawing upon her art as an example (this was previously described in more detail in section 4.1.).

Additionally, the issue of cost and environmental participation was a common theme that emerged from the responses. Saira and Thabo discussed the problem of cost and availability:

“And then I think cost. Glass is usually more expensive, glass packaging, but that sort of thing, it's not easily accessible. Bamboo is definitely becoming more common. I have seen that a lot in supermarket stores, but I feel like your health shops use it more than like a mass produce shop like Checkers or Pick N Pay or even a Woolworths.” (Saira: 141)

“They're always available, and in a cheaper price. So, the availability of plastic in a cheaper price, I think is the barrier which is preventing people from changing.” (Thabo: 184)

Saira emphasised the lack of available cost-friendly alternatives. She did mention that bamboo is becoming more accessible. However, it remains a niche product, primarily being sold in health stores as opposed to mass produce supermarkets. This not only indicates that there may be implications for accessibility but cost as well. Similarly, Thabo postulated that plastic is readily available and at a lower cost, emphasizing this as a significant barrier driving the public's resistance to change. This is also echoed by James stating, *"Because at the end of the day, if you need a product at a certain price or something, you have to go with that"*. Craig, on the other hand, had a more elaborate response to the issue of cost and environmental participation. He adduced that the people of South Africa are currently faced with more immediate issues, resulting in them prioritizing cost over environmental protection. In accordance with this, Jasmine referenced Maslow's hierarchy of needs, postulating that people facing financial insecurities are prioritised with more urgent matters. Craig further highlighted the inefficiencies of the government leading to astronomical levels of unemployment and poverty within the country, ultimately leading him to draw the conclusion that an individual's LSM (Living Standard Measure – used in South Africa to classify standard of living and disposable income) acts as a predictor of PEBs. He stated, *"... it all depends on the LSM of the individual"* and *"People with the higher LSM will partake..."*. The salience of this is further emphasised when considering that a large portion of South Africans are unemployed. Craig stated, *"The unemployment rate is going to be very high; it is about 41 per cent at this point in time"*. Ultimately, this brings about concerns as to whether SM would be effective in influencing the behaviours of the financially disadvantaged individuals, who make up a significant proportion of the population and may not have access to affordable internet. Maintaining an uncapped and reliable internet connection in South Africa is a costly procedure, even for members of the middle class, never mind the financially disadvantaged. This results in individuals purchasing data packages which are sufficient for WhatsApp messaging etc, however, it's not feasible for extensive SM use, considering that it is highly data intensive (source: my own experience as a South African). This issue was outlined by Craig who stated the following:

"... because remember the mass of South Africa, maybe have phones, they have SM, but do they have the data to go and watch these videos, let alone practice it you know? That's why I go back to the LSM of the of the individual. If you have the data, the wi-fi, sure... so the people that can afford to do it, will do it." (Craig, Pos. 244)

Ultimately, the respondents have clearly addressed the fact that cost is a significant limiting factor, and furthermore, it becomes more significant when considering the vast amount of individuals and communities that are financially disadvantaged within the country. Therefore, not only having implications for engaging in sustainable consumer behaviour but also for the prospect of

behavioural change, influenced by SM. Another external limiting factor is concerned with SM's algorithms which tend to either recommend content that is most relevant to you, which is counterintuitive to spreading awareness and informing the unknowledgeable, or "viral" content. Craig deduced that SM is only effective in spreading awareness about MPs to the extent to which it is viral, stating, "*There has to be a trend that's floating around for you to visually see it*". Mary has experienced the issue of algorithmic curation first-hand with her SM following. She stated that most of her followers share similar environmental values as her, emphasizing the issue of reaching the "non-converted".

The data from the interviews has captured the respondents' perceptions of the most prominent barriers/challenges to PEB in relation to MPs, in which they have outlined that there are internal challenges present within the individuals themselves, in addition to external challenges. Thus, encapsulating the essence of the second-order themes and the overall aggregate dimension.

Chapter 5: Discussions

In the previous section, the results from the interviews were analysed to produce various aggregate dimensions which were predominantly concerned with SM's ability to influence pro-environmental perceptions and behaviours, regarding the context of MP pollution. These aggregate dimensions will now be drawn upon to explain how they address the sub-research questions and ultimately the overarching research question, "How does SM influence public perceptions and what role could public perceptions play in shaping behaviours towards more pro-environmental consumer practices surrounding MPs in South Africa?". Although the interview data will be used as a primary method of answering the research questions, the literature, theoretical and conceptual frameworks, outlined in the literature review, will be used to support, contrast and provide academic and theoretical underpinnings for the research. Additionally, new insights emerged from the data that were not previously addressed in the literature review, and therefore, some external sources will be used to explain the findings.

5.1. SM's Capacity to Generate Awareness About MPs and Their Impacts

The aggregate dimension, "SM as a Catalyst to Pro-Environmental Attitudes & Knowledge Generation", provided insights into the respondents' perceptions of SM's efficacy in generating awareness. The respondents outlined some of its efficiencies which include, its widespread reach, captivating content and inherent characteristics such as its immediacy and ability to foster dialogue. Some studies have corroborated these efficiencies outlined by the respondents. For instance, Bajwa (2021) adduced that SM's efficiencies in generating awareness stem from its extensive reach, ease of access, speed and immediacy.

SM plays a pivotal role in exposing the public to environmental messaging stimuli and ultimately the generation of environmental awareness (Bajwa, 2021). The salience of this is further emphasised when considering its extensive reach. SM facilitates the dissemination of information to a global audience, considering that 55% of the global population utilises these platforms (Rapada et al., 2021). As of 2019, Facebook accumulated 2.38 billion monthly active users and Twitter was projected to reach 275 million in the same year. Thus, highlighting the capacity of these platforms to reach vast audiences when disseminating environmental messages (Mavrodieva et al., 2019). This sentiment was also echoed by the respondents, in which a common pattern emerged concerning SM's ability to access large audiences and generate awareness about MPs and their impacts. Seaghan and Thandeka both adduced that SM is the best way to disperse a message, considering that everybody is engaged and receives information from these platforms nowadays.

Similarly, Thabo stated that people spend a large amount of their time on SM and therefore it plays a significant role in educating people. Nokwanda also highlighted the widespread use of SM as a medium for news consumption, stating, “... *it has almost taken over our news feed, so more people actually get information from social media than news platforms*”. Thus, the interview data directly corresponds to the literature, indicating that nowadays people tend to spend a significant amount of time on SM, and an increasing number of SM users make use of these platforms as a primary source of news media consumption (Mavrodieva et al., 2019; Bouvier & Machin, 2018; Wu et al, 2023). From the aforementioned information, it can be deduced that SM can effectively disseminate awareness about MPs to vast audiences.

Another factor that comes into play is SM’s immediacy. In current times, SM has become highly accessible, not only enabling a broader reach but also having implications for disseminating information to individuals in a timelier fashion (Moughal et al., 2023). This is due to the fact that technologies that were previously less accessible such as laptops, tablets, smartphones etc, have become a part of our daily lives. Thus, bringing individuals and communities closer to the flow of information (Bajwa, 2021) and enabling SM to become the fastest medium to disseminate information and generate environmental awareness (Moughal et al., 2023). The respondents echoed this sentiment. Seaghan adduced that SM disseminates information much faster than traditional media, primarily due to its ease of access, “*They just pull out the phone and social media is there*”. Ashley also concurred with this idea in which she stipulated that SM is the most immediate form of media, as it is “*in your pocket*” and it can reach you at any time. Therefore, SM’s innate immediacy allows it to differentiate itself from traditional media, producing core competencies that can be leveraged to quickly disperse the message of MP’s detrimental impacts to vast audiences, influencing their awareness in the most efficient manner possible.

Bajwa (2021) and Russmann & Svensson (2017) also adduced that SM allows individuals to access more dynamic content such as images, texts and videos. This multimedia content on SM enables complex situations to be presented in a simpler and more palatable format (Bajwa, 2021; Vaughan et al., 2021). This approach is important for the context of MP, as noted by Jasmine, information on SM is often far too complex for the layman to comprehend, requiring content to be “*packaged*” accordingly. Thus, by decoding the content and presenting it in multimedia format, making it more palatable, it may also be more captivating for the audience (view section 5.2.) and therefore be more likely to increase their awareness (Vaughan et al., 2021). Ashley corroborated this by stating that content on SM is more appealing and it may encourage users to be more interested in the subject and engage in more in-depth learning, in comparison to traditional forms of education, such as providing a student with a book. She directly referred to the use of more captivating

multimedia content, stating, “Whereas a 30-second clip or a story on Instagram grabs you immediately” (view section 5.2.).

Aside from its extensive reach, immediacy and captivating content, SM produces unique capabilities for fostering dialogue, which can be effective in stimulating awareness about MPs and their impacts. As Bajwa (2021) outlined, environmental SM groups facilitate discussions, and within these groups numerous experts are present, which can provide valuable information, informing all the participants (stemming from the visibility of these interactions). This includes the “common people” who may have less knowledge and therefore contributing to their awareness. This idea is shared by Seaghan and Ashley who noted that dialogue on SM can result in increased awareness. Ashley specifically addressed the fact that its ability to facilitate dialogue allows individuals to communicate and ask questions, resulting in the less knowledgeable becoming more informed and educated. The aforementioned information points to the fact that the relational functions of SM, such as dialogue, can be leveraged to produce personal pathways to PEB. This stems from the fact that dialogue can result in increased awareness and knowledge which may lead to increased personal capacities to engage in PEB (representing an increase in PBC) or the formation of online environmental identities (representing an attitudinal change), acting as significant motivators of PEB (Ballew et al., 2015; Ajzen, 1985). In contrast, Avril stipulated that she airs on the side of caution when it comes to discussions. Although they can be effective, misinformation can be presented within these conversations and therefore have the opposite of the intended effect, as she stated, “*I’m cautious of that because I feel like, I’m just thinking of just general social media. When people start commenting and not all of those people give relevant feedback, you know, information on the topic. So, if people are starting to say some nonsense, then other people, you know, will be there and don’t know much and will follow all the nonsense which will lead them astray*”.

While acknowledging its efficiencies in disseminating awareness, there are also constraints. The issue of “filter bubbles”, leading to restrictions in acquiring new content that stray away from one’s preferences and search history, is widely acknowledged by the literature (Calvo et al. 2020; Khan & Bhatt, 2018; Lee & Wei, 2022). Currently, SM platforms favour algorithmic curation that prioritises user preferences, which may stimulate engagement but also lead to selective exposure, “echo chambers” and therefore polarization. This reduces instances of individuals encountering new content that separates itself from the user’s preferences (“filter bubble”) (Lee & Wei, 2022), resulting in the amplification of specific narratives (that one is already aware of) and the exclusion of others (Khan & Bhatt, 2018). As Craig stated, “*I look at motor vehicles. Because I love cars. So, most of my content is going to be about cars*”. It therefore undermines SM users’ sense of

autonomy in acquiring information (Calvo et al. 2020) and ultimately, has detrimental impacts on communicating the issue of MPs to individuals who are unknowledgeable and unaware of the matter. In congruence with this, Mary acknowledged that a majority of her followers across her SM platforms are already aware of the issue of plastic pollution, and they share similar environmental values and behaviours as her. As a result of this, she went on to further stress the issue of reaching the “*non-converted*”. Craig also accentuated that content is only visible to you if it aligns with your preferences or if it is “*trending*”. This therefore represents a significant barrier to educating and stimulating awareness among the unknowledgeable.

The complexity of this issue has resulted in a lack of consensus among the literature on how to counteract this inhibitor for environmental communicators. However, Miller et al. (2021) indicated that targeted and strategic interventions may alleviate this issue to a certain extent. By tailoring the message to be more accommodating to diverse groups, the filter bubble may be penetrated, allowing for users to receive information that was previously not sought after (Miller et al., 2021). Furthermore, strategic interventions, for instance, the use of engaging imagery (Miller et al., 2021; Feitosa & Mosconi, 2022), keywords, hashtags, timing and frequency of posts and algorithmic feature interactions (stories, reels, live streams), which are highly favoured by the algorithm, were found to have a significant impact on visibility (Feitosa & Mosconi, 2022). Thus, environmental advocacy organizations need to play the “visibility game” and appeal to algorithmic and user preferences (Feitosa & Mosconi, 2022), allowing for a more diverse reach. Conversely, Jasmine does not believe that organic growth is possible, and lead generation is a necessity to penetrate the “filter bubble” and grow an audience. Although her response is not entirely accurate, as evidenced by the aforementioned strategies, organic growth alone may be difficult and less efficient. Thus, these approaches should be combined. Specifically, in terms of lead generation, influencers may play a pertinent role. As Thandeka noted, “*Unfortunately, with us academics, we don't use influencers. And so, we are speaking the same thing to ourselves, and we are already aware of the problem*”.

Ultimately, the digital epoch we are experiencing in current times has enabled the public to become accustomed to using technologies such as SM. This provides increased efficiencies when it comes to acquiring information, by presenting it in a more palatable and captivating manner. Moreover, not only with increased speed stemming from its immediacy but also ease of access, resulting in an astronomical number of users and therefore huge audiences with the potential to be positively influenced. This is even more pertinent to the context of MPs when considering that people increasingly use SM as a source of news information. Furthermore, discussions on SM can also have a positive effect on MP awareness (although it may also have the opposite effect), in addition

to producing personal pathways to PEB. Overall, SM can have significant positive implications for disseminating the message of MP and producing awareness of their impacts. This is also significant for behavioural intentions. Increased awareness, stemming from the various functions of SM, may act as a precursor to environmental knowledge generation which influences behavioural intent (Kamar et al., 2023). This relationship between environmental knowledge and intentions is mediated by behavioural, normative and control beliefs, acting as indirect predictors of attitudes, SN and PBC (Kamar et al., 2023; Yuriev et al., 2020). Its positive implications are significant, as noted by Avril and Thandeka, a lack of awareness and knowledge is one of the main barriers to the public changing their behaviours. Despite this, there are limitations to stimulating awareness and reaching new audiences, which manifest in the form of filter bubbles, requiring targeted and strategic intervention strategies, in addition to lead generation to mitigate this issue. Although not necessarily a limitation, effectively stimulating awareness on SM is a complex process (“*a science in and of itself*”) requiring many considerations, knowledge and specialist skills in order to understand the target audience and effectively communicate the message to them. This is corroborated by Jasmine.

5.2. Effectiveness of Content Presentation Strategies in Stimulating Awareness & Influencing Perceptions

The respondents provided insights regarding the effectiveness of short-form visual content in communicating the issue on SM. They primarily highlighted the use of images, short-form videos and infographics. Visualising the impacts may be particularly relevant for the context of MPs, considering that they are invisible to the naked eye (Garcia-Vazquez et al., 2021; Catarino et al., 2021). Furthermore, visual learning is particularly effective due to its alignment with the cognitive functions of the brain. Around 50% of the brain is concerned with visual functions, and for this reason, the retina is perceived to be a physical extension of the brain. Additionally, approximately 30% of the brain’s neurons constitute visual functions, disproportionately higher than for other functions such as touch (8%) and hearing (3%). This makes it considerably easier for the mind to process imagery in comparison to text. Moreover, images are processed faster as text requires decoding the information in a linear manner, whereas the brain processes numerous sources of information presented in images simultaneously (Smiciklas, 2012). This is even more significant when realising that 65% of the global population are visual learners (Smiciklas, 2012). Therefore, images play an essential role in environmental advocacy in current times (Henderson & Green, 2020; Altinay & Williams, 2019). This was also corroborated by Ballew et al. (2015) who indicated that images are more effective than text-only options, as they are more captivating and engaging. Avril directly echoed this, indicating, “*...if it’s in an image you are more likely to capture their*

eye or attention". Others highlighted that people tend to avoid reading and therefore visual content is more appealing, with Nokwanda, Saira and Nomkhitha directly referring to the use of images being particularly impactful for them. The reduced appeal of textual information is supported by Smiciklas (2012) who stipulated that people tend to refrain from reading online, indicating that users only read approximately 20% of the words on a web page.

When it comes to video format, online short-form videos have become the most prevalent format for environmental communication, which may stem from its increased levels of engagement and captivating nature (Vaughan et al., 2021). This is supported by research indicating that engagement and attention levels drastically decline after the 2-minute mark (Fishman, 2016 as cited in Vaughan et al., 2021). Furthermore, considering the nature of contemporary SM information consumption habits (scroll and scan) (Vaughan et al., 2021; Smiciklas, 2012) and the fact that SM users are "cognitive misers" (Pielke 2007 as cited in Vaughan et al., 2021) with a limited pool of environmental concern (Shome and Marx 2009 as cited in Vaughan et al., 2021), the efficacy of this form of content is emphasised (Vaughan et al., 2021). The respondents corroborated this, emphasising the importance of "short" and "to the point" videos that captivate you in the first couple of seconds, exemplified by Mary who stated the following upon watching a MP video, "Yeah, it needs to be a little bit shorter... my mind's like drifted away a little bit". Ashley and Simphiwe also highlighted that they believe short-form videos, such as Tick Tocks or Instagram Reels, are most effective. Additionally, Craig mentioned the use of "snippets". This appeal toward short-form videos may emanate from their captivating, visual and easily digestible nature (Vaughan et al., 2021). Thus, environmental communicators should adapt to shorter video presentation strategies that employ connotative significance (via the use of visuals and audio) to compact elaborate meanings into easily digestible short-form video formats (Vaughan et al., 2021).

Additionally, Nokwanda, Mary and Avril indicated that combining text and imagery, in the form of infographics, could produce the most favourable results. Mary specifically refers to educational infographics that display the lifecycle of plastic and how it eventually permeates the environment. As is the case with short-form videos, the effectiveness of infographics is primarily attributed to their ease of consumption (in addition to all the other benefits of visual content), as it has the capacity to disseminate complex data in an easily digestible and visually appealing manner. As adduced by Smiciklas (2012), infographics are more digestible and produce a sense of relief in an environment comprised of overwhelming amounts of information, indicating, "...it's like a clearing in the jungle".

Ultimately, the respondents believe that short-form visual content is best suited to producing the most favourable results when disseminating the message of MP on SM, which is supported by the literature. As Ashely postulated, “*people's attention spans have changed*”, indicating that the effectiveness of short-form visual content manifests as a result of this. This is attributed to changes in the way we process information over the past couple of decades, stemming from the digital age we are experiencing in current times (Smiciklas, 2012). This has produced continuous partial attention, implying that users are connected to multiple digital platforms, thereby maximising their access to information. However, it results in fractured attention spans as they process vast amounts of content but at a superficial level (Smiciklas, 2012). Thus, this approach draws parallels with contemporary SM consumption habits and may therefore maximise engagement and be most effective for stimulating education about MPs and their impacts. Furthermore, this may represent an overall trend of shifting back to visual communication on SM (Russmann & Svensson, 2017). However, to misconstrue it as merely a return of visual communication would be inaccurate as SM not only allows for multimodality (via the use of images, videos and text among other things) (Bajwa, 2021; Russmann & Svensson, 2017) but also strategic and reflexive communication (Russmann & Svensson, 2017). Thus, images can be combined with other forms of content, such as text (which is effective in the case of infographics) and audio-visually, providing additional layers of depth to the information and making it more captivating (Bajwa, 2021), but also enabling communicators to produce specific, intentional and strategic impressions among the target audience (Russmann & Svensson, 2017), as is the case with emotional content.

5.3. SM's Influence on The Public's Perceptions & Behaviours Towards MPs

The sub-sections that follow will investigate SM's influence on public perceptions of MP, as depicted through the constructs of the Theory of Planned Behaviour (TPB) namely, attitudes, SN and PBC. Additionally, the role of these public perceptions in influencing MP-related PEBs will also be discussed.

5.3.1 Influence on Attitudes

As proposed by the TPB, beliefs about the consequences of a particular behaviour precede the formation of attitudes (Ajzen, 1985; Yuriev et al., 2020). Logically, these beliefs are influenced by the acquisition of information leading to increased awareness and knowledge generation (Ajzen, 1985). For instance, Sultan et al. (2020) postulated that sharing environmental information on SM results in environmental knowledge generation which influences beliefs and perceptions towards PEBs. For the context of this research, SM can effectively stimulate awareness about MPs

and their impacts (view section 5.1.), which may lead to knowledge generation, the formation of beliefs about the consequences of not conforming to behaviours that avoid or mitigate MP pollution, stimulating an environmental concern and contributing to the formulation of attitudes towards MP-related PEBs (Sultan et al., 2020; Ajzen, 1985).

For instance, some respondents explicitly outlined the importance of learning about the impacts of MPs. Avril mentioned that content on SM can be effective, but it should include information about the impacts. Ashley also noted, *“They show you the impact. As sad as it is to see, when you see the level of damage it creates, you see the importance of making the changes around it”*. This illustrates how learning about the impacts from SM can increase the salience of the issue, leading to the formation of beliefs about the consequences of MPs, which in turn stimulates an environmental concern and contributes to an attitudinal change. This then influences intentions, driving behavioural change, as postulated by Thabo, *“Once you know the impact, that's where you're going to start acting and change your behaviour”*. Furthermore, Nomkhitha mentioned that SM made her more aware of what she purchases, especially bottled water. This sentiment is also echoed by Avril, indicating that she expresses increased caution when purchasing products that potentially contain MPs, *“I'm just thinking for me now, I'm more cautious of the products that I buy that might contain microbeads or something or I'm thinking you know, maybe I should put this back down kind of thing”*. Simphiwe also noted that it would make him do a *“double take”* before purchasing products. These responses are indicative of an attitudinal shift towards purchasing products that may contain MPs, consequently, having implications for their purchasing behaviour. When referring to depicting the impacts on SM, Avril postulated, *“If it touches a person's perceptions, it will drive them to make better choices”*. This encapsulates the essence of the respondents' opinions, while also aligning with the TPB (Ajzen, 1985). The influence on attitudes is further perpetuated when learning about the impacts in a manner which stimulates emotional responses.

By acquiring information about the impacts of MPs in a manner which elicits visceral responses, attitudes and overall public perceptions toward the issue can be positively influenced. This was echoed by Thandeka, stating that the most effective way to influence people via SM is to appeal to their emotions. Vivid and emotional imagery, for instance, wildlife entanglement, can have a significant positive effect on public perceptions, as it can make the issue more relatable (Henderson & Green, 2020; Smiciklas, 2012) and urgent (Henderson & Green, 2020; Altinay & Williams, 2019). Evidently, this was also the case with our respondents, who provided vivid accounts of the imagery they had seen on SM and how it affected them. Saira indicated that the effectiveness of environmental content is primarily attributed to its emotional visuals, stating, *“So I think it was*

just purely the graphics that they use, which is so jarring". Nokwanda also attributed the effectiveness of the content she has seen on SM to emotional imagery, referring to images of turtles suffering from plastic entanglement being most impactful for her. Saira also stated that upon viewing imagery of dying animals (referring to plastic entanglement) on SM, she feels *"worked up"* and an increased urgency to learn about the impacts and *"make a change"*. Nomkhitha and Thandeka also noted that visualising the impacts via images may make the issue more relatable and immediate. This encapsulates Craig's response, who upon learning about the impacts of MPs from a SM video (which was heavily reliant on emotional imagery), stated that he felt *"shocked"* and *"taken aback"*. Thus, stimulating an emotional response, which was further perpetuated when relating the issue to his own community and potentially his immediate social circle, increasing the urgency of the issue. This increased urgency emanating from the emotional response may represent an indirect elevation in perceived risk, positively affecting behaviour. As supported by Rampedi and Ifegbesan (2022) who found that increased risk perception is significantly positively correlated to the uptake of PEBs among South Africans.

Thus, learning about the impacts in a manner that stimulates visceral responses, in the form of negative emotional imagery, can be effective in influencing attitudes and ultimately behavioural intent, supported by the TPB (Ajzen, 1985). However, the question of whether this attitudinal change is sustained remains. Henderson & Green (2020) outlined that "shock" & "disgust" does not always result in sustained change. Further adducing that continually viewing this type of content may result in the audience becoming habituated to this imagery, resulting in "pollution fatigue" and no longer having its intended effect (Henderson & Green, 2020; Vaughan et al., 2021). Mary provided a first-hand account of this. Although not specifically referring to emotional content, she mentioned that her efforts to disperse the message of plastic pollution via the typical means of saying, *"we need to change our ways"*, and *"look at the plastic I have collected"*, went unnoticed on Facebook. Further stating that her SM presence only began to gain traction and engagement upon producing art with an environmental message. Thus, implying that the audience may have become inured to this type of content. Ultimately, this indicates that although negative emotional content may be useful, overexploitation may have a detrimental effect (Henderson & Green, 2020; Vaughan et al., 2021). In addition to balancing positive and negative emotional content (Altinay & Williams, 2019; Vaughan et al., 2021), innovative content with an environmental message, such as art in Mary's case, may re-engage the audience.

Dialogue on SM also plays a role in influencing attitudes and behaviours. Sultan et al. (2020) adduced that discussions in SM communities/groups surrounding environmental topics, may produce environmental knowledge which influences perceptions. Hurst et al. (2023) provided

insights into this process, indicating that dialogue stimulates “discussion-generated elaboration”, whereby conversations produce meaningful information processing, establishing new connections between existing knowledge and the information acquired from the discussion. This elaboration then translates into enhanced learning, attitudinal change and ultimately behavioural change post-conversation (Hurst et al., 2023). This process is particularly impactful when the individuals are not previously in agreement, as it introduces them to varying perspectives and ideas (Hurst et al., 2023). This underpins Seaghan’s response, indicating that it exposes individuals to different perceptions and viewpoints, challenging one’s preconceived views or attitudes and producing a “fuller picture”. As he noted, “... you put your heads together, and you get a fuller picture of what is actually happening and how to look at it. Because you get different angles and perceptions thrown into the mix, as opposed to just seeing things in a single view fashion”. Furthermore, Simphiwe specifically addressed its implications for behavioural intent, stating, “... it would definitely make me more aware and wanting to try, you know, make a difference, even if it's small things like trying to recycle”. Thus, revealing that these discussions may elevate his awareness and knowledge, resulting in an altered perception and increased inclination or intention to engage in PEBs such as recycling. Therefore, the aforementioned information also aligns with Ballew et al. (2015) who stipulated that discussions in SM groups can encourage the members to partake in more PEBs, depending on the extent to which these discussions are concerned with environmental issues. Ultimately, this indicates that the relational functions of SM can be effectively leveraged to facilitate personal pathways to PEB (Ballew et al., 2015). However, the same can be said for anti-environmental behaviour, as mentioned by Avril, it also enables misinformation to arise.

SM may therefore act as a promising platform to facilitate attitudinal influences. It may also have auspicious implications for sustaining attitudinal changes, as continual exposure to this information may influence and reinforce environmental attitudes and produce a share of mind, a significant factor driving behavioural change. James agrees with this sentiment, indicating, “I think seeing it more often would obviously, um in the back of your mind, you know it will obviously be playing in the back of your mind. So, you'd be more mindful on what you're doing you know”. Jasmine reiterated this, adducing that sporadic posts that are few and far between will not change behaviour, further stating that there has to be continual exposure in order to produce a share of mind. This underpins Cacioppo and Petty (1979) findings who postulated that repeated messaging can produce stronger and more resilient attitudes. However, this is dependent on how persuasive the argument within the message is. Stronger arguments result in less scrutiny and positive attitudinal influences, whereas weaker arguments have the opposite result (Cacioppo and Petty, 1979). Additionally, the issue of “filter bubbles” was discussed previously with regard to its negative implications, however, there may be positive implications for continual exposure as it

leads to “echo chambers” (Lee & Wei, 2022) which may produce a share of mind and reinforce attitudes. The effect of this form of algorithmic curation on reinforcing attitudes was corroborated by Jasmine. However, it is important not to neglect the issue of overstimulation of certain content types which can lead to psychological issues, such as learned helplessness (unavoidable aversive stimuli) (view section 5.3.3.1.) and pollution fatigue (negative emotional imagery) (Vaughan et al., 2021; Landry et al., 2018; Henderson & Green, 2020)

In sum, SM can effectively influence attitudes by disseminating information about the impacts of MPs (which may be further exacerbated if it targets the audience’s emotions), facilitating dialogue and continually reinforcing these positive attitudes. Additionally, as per the TPB, these attitudes can influence intentions, as they are antecedents of behavioural intent which has predictive power when it comes to behaviour (Ajzen, 1985). However, a complex and multifaceted relationship between continual reinforcement, negative emotional content and dialogue exists. All three of these aspects can have both positive and negative externalities. Thus, environmental communicators need to consider these implications when pursuing public intervention strategies on SM.

5.3.2 Influence on Subjective Norms

The TPB posits that when individuals perceive a particular standard or behaviour, associated with prominent figures in their lives, to be the norm or socially desired by these important figures, then they are more likely to converge to said behaviours (Ajzen, 1985). Some of the respondents indicated how depictions of PEB or attitudes of prominent figures on SM could trigger these SN perceptions. Thabo’s mention of, “*my uncle, this is what he does, it means I should also do that*”, may imply that the PEB is not inherited from learning about the behaviour, but more so because of the individual’s admiration of the prominent figure, which may make them feel pressured or motivated to align their behaviours with this individual. However, it may also suggest that the individual may be motivated out of fear of disapproval from the prominent figure or broader social group encompassing this individual. Ashley also touches on this, as she mentioned that individuals may conform to PEB out of fear of group rejection and ousting. Saira postulated the following:

“I think you do. Subconsciously you maybe don't want to always be influenced, but I think in that respect I mean, there's a positive influence. Like if I saw OK, my friends are actually doing something about it. Recycling or being sustainable, choosing grocery options to like avoid plastic and things like that. I think I would in some way feel the pressure because I'm like, OK, well, they're able to do it. So why can't I...” (Saira: 68)

Saira indicated that she would feel pressured to conform to PEBs as a result of viewing her friends' actions, illustrating a connection between behavioural intent and SN, as her influence emanates from behavioural perceptions of prominent figures in her life, such as friends. She mentioned that the influence may not be explicit, implying that there may be subconscious perceptions of SN at play, pressuring her to conform to the behaviours in question. In line with this, Avril stipulated, *"Because if you see people you look up to doing something, you might be more inclined to do the same thing. It might even be subconscious; you might feel like you need to do something because others are doing it. That will have a snowball effect because more people in your circle will start doing the same thing"*. Thus, the interview data indicates that SM can play an important role in stimulating subjective norm perceptions among its users, which may also manifest at a subconscious level and lead to a snowball effect among social groups. The respondents indicated that these perceptions ultimately result in motivation to conform to the most desirable behaviour among the significant figures in one's life, either out of fear of rejection or appraisal from these figures in question. Jasmine also indicated that this influence is particularly effective in the context of rural areas where community leaders, such as religious leaders are held to a high regard and are *"seen as influencers"*. From her own experience, she indicated that it is an incredibly useful tactic that she has successfully implemented within her own ENGO. Thus, this may represent an important avenue for stimulating PEB among rural communities, by leveraging community leaders to disseminate crucial information to the masses. However, members of these rural communities may face restrictions in consuming significant amounts of SM (view section 5.3.3.1.). Therefore, less data-intensive applications, potentially in the form of WhatsApp groups, may be most effective in doing so. The respondents therefore indicated that SM can facilitate the depiction of SN which may influence behavioural intentions, directly aligning with the TPB (Ajzen, 1985). Not only is this echoed by Han et al. (2020), who found that SM is effective in activating SN perceptions and ultimately influencing the uptake of PEBs, but also Ballew et al. (2015), indicating that the relational functions of SM are most effective in producing social pathways to PEB.

On the contrary, other respondents such as Seaghan and Nomkhitha adduced that social influences do not play much of a role in influencing their behaviours. Nomkhitha completely disregarded the role of peer influences, however, Seaghan mentioned that they may play some role, although he *"takes it with a pinch of salt"*. Thus, these responses indicate that they are critical of social influences and are more likely to trust their own personal convictions when engaging with environmental issues on SM. Ultimately, Seaghan and Nomkhitha's views signify that not

everyone is receptive to social pathways and people are different, applying their own values, personalities, knowledge and other attributes to SM interactions or content that they view (Henderson & Green, 2020; Ballew et al., 2015). This represents an important perspective that needs to be taken into account when considering strategies to influence behaviour on SM, requiring careful consideration of the target audience and their characteristics. Furthermore, there may also be instances where SN are at play to foster anti-environmental sentiment and behaviour, facilitated by SM, as Avril noted, “... *there's a lot of pressure out there, so I'm guessing it can go the wrong way as well*”.

5.3.3 Influence on Perceived Behavioural Control

Lee (2011) found that environmental content on SM influences the public's intentions to engage in PEBs by increasing their PBC. This was also reflected in the interview data, with the theme, “increased agency to act stemming from SM”, providing relevant insights. The respondents highlighted that SM can empower individuals via numerous mechanisms, making them feel more capable of engaging in PEBs and making an impact on MP pollution.

Nokwanda indicated that SM can provide the relevant knowledge on how to engage in recycling, specifically acknowledging its salience for more complex forms of recycling. This was also echoed by other respondents such as Seaghan stating, “*So, in my particular case, it will actually make me aware of MPs and how to decrease its impact*”. This could result in an increase in self-efficacy, as Craig stated, “*Yes. I feel, and with regards to that, it would make me more capable, especially how to go about doing it. Tips is one, but how do I actually do it, you know?*”. He further emphasised the importance of providing actionable steps which was also noted by Nokwanda, indicating that it would influence her perceived capabilities, “*Yes. If it had actionable ways for me to, to deal with it, I do think so. Yes*”. Thus, leveraging SM to empower the public to engage in PEBs by decoding the task into simpler more specific actionable steps, may stimulate an increased perceived ease, and therefore perceived capabilities (Ajzen, 1985), as this may make the task seem more achievable. Ultimately, the respondents indicated, that it can provide them with information on how to engage in MP-related PEBs, increasing their perceived capabilities and therefore their PBC (Ajzen, 1985).

Furthermore, Nomkhitha, Craig, Jasmine, Simphiwe and Avril emphasised the platforms' role in providing contextual information about how and where to recycle within one's specific area or

region, influencing them to partake in said behaviour. This may be explained by the fact that the visibility of local recycling programs (stemming from SM), may increase one's control beliefs, acting as an indirect predictor of PBC (Ajzen, 1985; Yuriev et al., 2020). For instance, Avril adduced, *"In South Africa, it depends on where you are, in P.E. for example where I am, the municipality doesn't collect recyclables like in Durban or Cape Town. So, if there are municipalities that have those programmes, that sort of, will motivate people to recycle"*. Moreover, Craig indicated that the absence of this information may be a significant limiting factor to engaging in recycling behaviour. He stated, *"If I'm more informed about these places that are out there to practice, then yeah, sure. But if you don't know anything about the situation and you don't know what to do, then you're just not going to do it"*. This is also reiterated by Avril, suggesting that the absence of said information may act as a significant barrier. Therefore, this highlights that control beliefs, emanating from perceived resources, can influence PBC (Ajzen, 1985) which moderates the relationship between intentions and PEB (Wallace & Buil, 2023). Evidently, SM's informational functions can produce personal pathways (increased self-efficacy) and contextual pathways (increased visibility and presence of local recycling programs; also increasing self-efficacy) to PEB in the form of recycling (Ballew et al., 2015; Ajzen, 1985). This underscores SM's influential power in disseminating critical environmental information, impacting PBC and consequently having implications for recycling behaviour. Albeit it may also act as a limiting factor if these programs lack visibility or are non-existent as a whole.

Additionally, the interactive and experiential technologies of SM, in the form of ESG, can also produce personal pathways to PEB, in accordance with the TPAM (Ballew et al., 2015). As by simulating engagement with sustainable activities, motivations may become more salient, and the extent to which these activities are concerned with environmental conservation can engender the uptake of PEBs in the offline realm (Ballew et al., 2015). The respondents also corroborated this. Ashley indicated that by placing individuals in such an environment, it could positively influence individuals' perceived ease of performing the behaviour, increasing their motivation to pursue the behaviour offline. She stated, *"...you see how easy it is to then fix that problem with the right resources. So, you might then have an altered perception of how you do things, you might start recycling things in your own home"*. Moreover, learning interactively and successfully performing behaviours within the context of ESG, may provide the users with direct experience, knowledge and skills generation. This is supported by Janakiraman, Watson, Watson, and Shepardson (2021) who investigated the role of EnerCities (an environmental game available on Facebook) in influencing environmental attitudes and behaviours. The authors found that the facilitation of instant feedback (via scores and monitors) allowed the users to learn about desirable and undesirable actions. This was found to be conducive to mastering new environmental behaviours

in the game, but also potentially having a spillover effect on offline behaviours as the game was found to positively influence the behavioural intentions of the participants (Janakiraman et al., 2021). This can be attributed to the fact that it may potentially reinforce their beliefs in their confidence to perform the behaviour offline, emanating from the acquired knowledge, skills and experience from the game, not only influencing their attitudes but also inferring an influence on PBC. Such simulations enable individuals to take control, which may increase their sense of autonomy regarding the outcomes of their behaviour, consequently influencing their beliefs in making an impact. This is validated by Wang et al. (2021) who found that all the questions posed to their participants regarding PBC, depicted significant results and that the participants displayed an increased sense of control in making an impact on climate change and sustainability post-game (relating to an augmented reality environmental game). This is particularly important when acknowledging that perceived control plays a significant role in formulating behavioural intentions among eco-gamification users (Kamar et al., 2023). Saira corroborated the aforementioned factors, stating that it may allow one to “*learn interactively*” and “*take control*”. Thus, it may produce personal pathways to PEB by increasing one’s self-efficacy and therefore PBC, influencing both behavioural intentions and actual behaviour (Ballew et al., 2015; Ajzen, 1985). Although this is the case, the respondents also brought to light that these games may constitute somewhat of a niche market and therefore may not appeal to the masses. Thus, its influence may be negligible, emanating from the fact that it may not impact the broader population.

Overall, SM and its various functions can increase the public’s self-efficacy in engaging in MP-related PEBs, aligning with the views of the respondents and the literature. Furthermore, as per Landry et al. (2018), the positive association between self-efficacy and PEB is a well-established relationship within this field of research, underscoring the significance of SM’s influence on PBC. However, the respondents noted that there are also various challenges to engaging in PEBs, acting as inhibitors of PBC. They can manifest in the form of external (economic constraints and environmental participation) or internal (learned helplessness) inhibitors/challenges. This is investigated in the sub-section that follows.

5.3.3.1 Inhibitors of Perceived Behavioural Control

Some of the respondents highlighted the issue of feeling a “sense of helplessness” in addressing the problem. This may be explained via the concept of learned helplessness. Landry et al. (2018) noted that learned helplessness is a phenomenon where individuals acquire a learned trait of helplessness, emanating from continual exposure to unavoidable aversive stimuli, negatively influencing behavioural output. Furthermore, the authors mention that the concept of “eco-anxiety” exemplifies this phenomenon, in which individuals feel helpless and frustrated, stemming

from their perceptions of their inability to make an impact (Landry et al., 2018). The respondents directly addressed this. Nokwanda indicated that she feels helpless, *“I feel like a needle in a haystack”*, stemming from the pervasive nature of MPs, in which she indicated, *“... as much as I even do try to avoid plastics, I just can't. They're like literally every, every, everywhere”*. Further stating, *“... It's in our clothes. It's in our food”*. This was also echoed by Mary who acknowledged that individuals don't act because *“there is so much plastic everywhere”* and they don't see how their individual behavioural changes can make an impact. Similarly, Avril stated, *“... it's something overwhelming thinking that you can't actually make a change...”*. Although the respondents omitted where this trait is learned or inherited, it is most likely acquired from continual exposure to content from mass media (unavoidable aversive stimuli). Thus, despite learned helplessness and self-efficacy being distinct concepts (Landry et al., 2018), it can still negatively influence perceived control and therefore self-efficacy by instilling a broader attitude of ineffectiveness of environmental participation and expectations of failure in that regard (Vaughan et al., 2021). Furthermore, the inclusion of hopeful imagery (before and after imagery) can have a mitigating effect on this psychological constraint. It does so by directly depicting tangible evidence of how environmental behaviours can translate into positive change (Altinay & Williams, 2019; Vaughan et al., 2021). This can positively influence perceived control, increasing efficacy beliefs (Vaughan et al., 2021) and therefore PBC, ultimately, reducing feelings of helplessness. Similarly, ESG may also be particularly promising in this regard, as they may enable the public to see how their individual behaviours can make an impact, thereby influencing their perceived control (Wang et al., 2021).

Another limiting factor is the cost of alternatives and the purchasing power of South Africans. Income is a factor that has always affected the public's intentions to engage in green purchasing behaviour, as environmentally friendly products tend to be more expensive (Awad, 2011). This was also echoed by Berthold et al. (2023) who found that people facing financial scarcity tend to refrain from engaging in PEBs, as their financial status prevents them from paying a premium for green products. This is significant for the South African context considering that a vast amount of the population is unemployed and suffers from poverty. Craig adduced that 41% of South Africans are unemployed (According to the South African Government News Agency (2024), the average unemployment rate is 32.9% and 59.7% for youth unemployment. Although Craig's mention of 41% is inaccurate, the unemployment rate is still very high) and ultimately, they have to prioritise cost over the environment as *“they still have to eat”*. This was also corroborated by Simphiwe, stating, *“People are less worried about microplastics and more worried about if they can have food”*. Craig further stipulated that individuals with higher disposable incomes will partake, whereas individuals with lower disposable incomes won't, aligning with the literature. The issue

of cost and purchasing alternatives was also highlighted by James and Saira. This may not only negatively impact sustainable purchasing behaviour, but also the prospect of being influenced by SM. As Craig noted that people at the lower LSM may not have access to data or Wi-Fi, limiting their consumption of SM. Ultimately, these factors can either directly or indirectly negatively influence PBC. Logically, financial constraints can directly inhibit control beliefs, and therefore PBC, as people can only engage in sustainable consumer behaviour to the extent that they have the financial autonomy to do so, restricting their control and reducing their self-efficacy. On the other hand, constraints to consuming SM media content can prevent individuals from obtaining valuable information that may influence their perceptions and motivate them, or make them feel more capable of making an impact and engaging in PEBs. Furthermore, this may have implications for environmental advocacy organizations in targeting marginalised communities via SM.

Thus, these SM-driven MP intervention strategies may be effective in inducing actual sustainable consumer behaviour among the wealthier segments of the population. However, it may not be as effective for the middle and lower classes. When it comes to sustainable purchasing behaviour among the middle class, it may effectively influence their perceptions and therefore behavioural intent, although actual behavioural change is restricted by cost. However, the same does not go for recycling. As adduced by Jasmine, people with more access to resources and higher incomes are intrinsically motivated as they want to *“leave the world a better place”*. However, this is not the case for lower-income individuals who need to *“put food on the table”*. Recycling may represent an extrinsic motivation for these individuals, as it may offer a financial incentive, via buyback programs with recycling facilities. Thus, disseminating information about recycling and its financial incentives may represent a vital avenue to PEB for middle and lower-income communities, as Jasmine stated, *“So, for them, it’s an opportunity to bring in an income and put food on the table.”* However, difficulties may arise when attempting to disseminate this information to lower-income communities, stemming from data/Wi-Fi constraints.

Ultimately, due to its constraints in reaching or influencing the broader population, SM in itself, is ineffective in inducing widespread behavioural change across the population. However, it may still represent a useful tool that should be embedded within a broader, longer-term and more holistic communications strategy. As Jasmine pointed out, *“So, in my opinion, when you are dealing with behaviour change, you need to be thinking long term. I’m talking here five to 10 years. And you need to be thinking about how to use SM as a tactic in a broader campaign”*.

5.4. Theoretical contributions

The previous sequence of sub-sections provided theoretical contributions by outlining how SM and its various functions can influence the constructs of the TPB, which are antecedents of behavioural intent, in the South African context. Moreover, the various inhibitors to PEB and the effectiveness of various content types were also discussed. Other contributions emerged from the results that do not precisely align with the TPB. These are primarily manifested in the form of social influences to PEB. Although the respondents did highlight an influence from SN, some of them also described instances where descriptive norms and SM community dynamics were at play in fostering PEBs.

5.4.1. Influence on Descriptive Norms

One of the primary motivators for conforming to social norms consists of perceptions of how “normal” a behaviour is (what most people do), resonating with descriptive norms (Thøgersen, 2014). This is particularly relevant when considering that, as outlined by Ballew (2015), the informational functions of SM can act as “social indicators” in the form of “likes” and “comments”, depicting descriptive norms and facilitating social pathways to PEB.

The visibility of these “social indicators” enables the audience to gauge how widespread a particular behaviour is, allowing them to formulate an understanding of the most common behaviours and therefore activating their descriptive norms perceptions (Ballew, 2015). This resonates with Seaghan’s response, indicating that people tend to follow the crowd and therefore the virality of a post has significant implications on public perceptions. He stipulated, *“The more likes you get, the more support you’re going to get”*. Further stating, *“Today’s day and age, trends are everything”*. Similarly, Nomkhitha postulated, *“I mean like I would feel motivated to do more because I’ll be seeing like people are becoming more aware and becoming engaged on like environmental issues”*. Thus, these respondents directly point out that the more prevalent a behaviour is, depicted via the “social indicators”, the more likely the public will converge to said behaviours. This was also corroborated by Ashley, stating, *“... the easiest way to get people involved is if they see other people are involved”*.

Seaghan further noted that people tend to pursue the most common behaviour, particularly when faced with uncertainties, *“...especially if someone doesn’t understand what’s happening. The fact that there’s a lot of legs will make them try to figure it out and follow it...”*. This corresponds with Keizer and Schultz (2018) who adduced that as a result of descriptive norms, people tend to follow the group or the most common behaviour when presented with unfamiliar environments, aligning

with the concept of informational social influence. Thus, in addition to quickly disseminating information, viral content can activate descriptive norms perceptions and therefore influence behavioural intentions. This relationship between descriptive norms and behavioural intentions was investigated by Thøgersen (2014), Saracevic & Schlegelmilch (2020) & Helferich, Thøgersen & Bergquist (2023) in which they all found that descriptive norms had a significant positive correlation with pro-environmental behavioural intent. Furthermore, Saracevic et al. (2020) adduced that personal norms have an effect on the relationship between descriptive norms and intentions. However, the impact of personal norms is negligent, as when it is controlled for, descriptive norms still strongly correlate with intentions (Saracevic et al., 2020).

Considering the uncertainties that MPs present, viral content displaying the omnipresence of MP-related PEBs and therefore stimulating descriptive norms perceptions, and ultimately behavioural intentions, may be particularly impactful due to informational social influences. Evidently, descriptive norms and their strong influence, as outlined by the literature and the respondents, act as an antecedent of Pro-environmental behavioural intent. Therefore, contributing to the TPB by accounting for an additional construct that is pertinent to the context of this study.

5.4.2. Communities of Action in SM Groups

Developing a psychological connection via producing a “sense of community” is central to fostering “communities of action” in SM groups. (Ballew et al., 2015). This produces contextual pathways to PEB that emanate from either the informational or relational functions of SM (Ballew et al., 2015).

Drawing upon informational functions, organisers generate a sense of community and stimulate collective efficacy by encouraging the use of inclusive identity language such as “we”, “us”, and “community”. This influences social identity formulation, stimulating a sense of connectedness, attachment and belonging which is positively associated with pro-environmental behavioural intentions (Gulliver et al., 2021; Ballew et al., 2015). Nomkhitha stressed the significance of this, indicating that SM groups can encourage collective action and motivate people to engage in and sustain their PEBs, stemming from a sense of community, *“I mean people would feel encouraged. Like there are other people they can work with. They wouldn't have that mindset, ‘ah I'm the only one’, so like they'll just stop”*. Similarly, James stated that allowing like-minded individuals to engage on a particular platform can enable the members to feel united. Thus, enhancing collective efficacy by emphasizing a joint sense of purpose and goals in SM groups may be perceived as a promising avenue to mobilizing communities of action (Ballew et al., 2015). This can be further spurred by disseminating information to members about community-specific issues, generating

collective perceptions of community concern and action (Ballew et al., 2015) and therefore influencing attitudes. Additionally, it can be associated with disseminating information about local recycling programs (Ballew et al., 2015), positively influencing PBC (view section 5.3.3).

In terms of relational functions, stimulating dialogue and interactions is essential to fostering a sense of community. Producing an environment where self-expression is encouraged, and members feel comfortable and willing to interact and exchange ideas, information and experiences that are personally relevant to them is a key indicator of a successful SM community. This drives engagement levels and encourages the participants to stay up-to-date with the community (Ballew et al., 2015). James noted the following, *“So if you give people a platform and a topic where it unites them ...they'd feel more comfortable engaging on the platform... they'd feel like they belong to that particular sector if you will”*. Thus, highlighting the interplay between engagement levels and a sense of community. Furthermore, Ashley elaborated on her own experience with SM groups, indicating that she feels compelled to interact with others when a question arises. However, also highlighting that it is a reciprocal process which allows for information exchange with all parties in the community. This sheds insights on the fact that group members who are highly engaged, are invigorated to help other members and pursue dialogue to disseminate information that reaches the whole group. This is further accentuated when acknowledging that dialogue within SM groups may have a positive influence on attitudes (view section 5.3.1). Thus, facilitating these types of environments is conducive to stimulating engagement, dialogue, interactions and overall, a sense of community. However, the organisers/leaders of these communities play a vital role in doing so (Ballew et al., 2015). Craig stated that these organisers need to initiate dialogue, providing the example of his students in which he noted that as soon as one student initiates a conversation, a snowball effect ensues. Seaghan also emphasised that groups can influence his perceptions, however, he mentioned that it is dependent on whether the group is managed effectively and is fulfilling its intended purpose. In accordance with Seaghan, Jasmine mentioned that if these groups are designed and positioned effectively, they play a significant role in influencing community perspectives and attitudes.

Another important consideration is that this sense of community, and the relational functions within these groups, may enable its members to develop SN perceptions. Some of these members may potentially form part of one's immediate social circle or they may be viewed as role models. Therefore, it may produce normative pressure to conform to the PEBs exhibited by these prominent figures (Ajzen, 1985). As stated by Simphiwe, *“People want to do more for the other people in the group or help out more”*. This implies that this strong attachment to the community compels one to be more environmentally proactive, driven by the perceived social benefits or appraisals

from the prominent figures in the community. This is exemplified by Thandeka's own experience as a member of environmental groups on LinkedIn, stating, "... *being part of a bigger plastic group on SM, which is LinkedIn, in this case, now I always carry a bag when I go shopping, you know. If I buy plastic, I feel guilty like I am really being part of the problem as well*". Her expression of guilt in utilising plastic, emanating from the behavioural expectations of the other members of her group, resulted in a direct behavioural change to accompany more sustainable packaging for her shopping goods. Thus, these "social arenas" can stimulate SN perceptions and have the potential to induce behavioural change among the members.

Ultimately, the findings suggest that SM Groups or communities act as arenas for information exchange and sociability, effectively influencing the perceptions of the members and stimulating a psychological connection. This can produce "communities of action" which can be leveraged to encourage online/offline PEBs on both an individual and collective level, aligning with Ballew (2015). This represents a common approach for advocacy organisations on SM which aim to induce social change by following a three-step process. Firstly, information is dispersed to the audience, followed by building an online community and then calling said community to action (Guo and Saxton, 2013). This was also reiterated by Jasmine, indicating that such communities are conducive to producing "*communities of influence*" and "*communities of practice*". She further stated that NGOs tend to believe that "*their work is done*" once they have established these communities of action, however, she noted that it should be a continuous process of growing the group. Thus, these findings have contributed to the TPB by depicting how SM groups can influence perceptions, produce communities of action and facilitate PEBs.

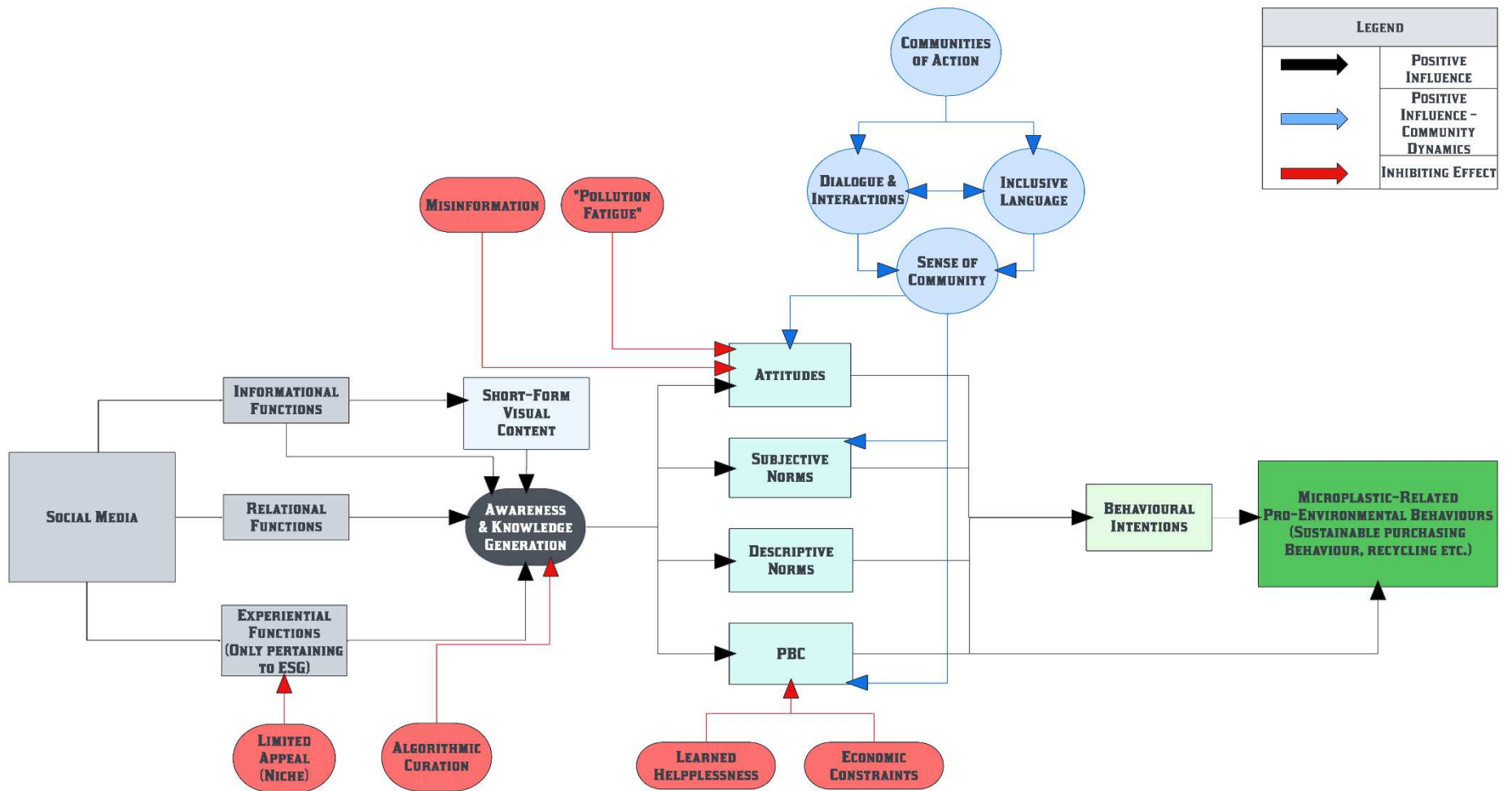


Figure 9. Influence of social media on pro-environmental perceptions and behaviours among South Africans: Integrating the TPAM and the TPB.

Chapter 6: Conclusion and Take-Home Messages

The issue of MPs, further spurred by its pervasiveness and uncertainties about its impacts, has resulted in a global wave of research. Studies have pointed to its devastating human and environmental impacts, and therefore, the precautionary principle should be leveraged in this situation. Plastic currently represents a dominant regime in South Africa, creating a reliance and resistance to change, stemming from the efficiencies that it provides. By implementing bottom-up approaches through influencing the public's perceptions and behaviours, this regime can be challenged, and the public can be mobilised to fight the existential threat to humanity and the environment that MP pollution imposes. However, this is a very optimistic view and there are currently various inhibitors that prevent this from manifesting into reality for a large portion of the population. This thesis utilised the TPB, complemented by the TPAM, to produce novel insights into the capacities and limitations of SM in stimulating awareness, influencing perceptions and inducing MP-related PEBs among the South African public (although limited to the sample of this study). Various sub-research questions guided the thesis, producing novel insights supported by theoretical underpinnings. The sections that follow will synthesise the findings and outline their implications for the sub-research questions.

SM's Role in Stimulating Awareness about the Impacts of MPs (SRQ1)

The findings suggest that SM can disseminate MP-related information expeditiously to large audiences. Technological advancements in current times have allowed for increased access to technological devices such as smartphones, laptops et cetera, inadvertently enabling large audiences to congregate and consume information on SM. Furthermore, people tend to be highly engaged on SM and make use of it as a primary source of news media, increasing the prospect of vast audiences acquiring information about MPs from these platforms. Furthermore, this ease of access to SM increases its immediacy as it allows users to instantly access information via their devices with "a click of a button". Thus, bringing the public closer to the flow of information. It also facilitates the use of multimedia content which can be more captivating and engaging, conducive to stimulating awareness. Additionally, its capacity to facilitate dialogue positively contributes to stimulating awareness and educating individuals, which is further perpetuated when considering the visibility of interactions (for instance, in the comment section). In sum, SM and its informational and relational functions can be leveraged to disseminate awareness about MPs

with increased efficiencies to large audiences. However, this does not come without its limitations. It was revealed that the issue of “filter bubbles” was significant, requiring targeted and strategic interventions, in addition to lead generation techniques, to mitigate this as much as possible. Furthermore, spreading awareness on SM is a complex and multifaceted process, requiring careful consideration and planning, which many environmental communicators tend to overlook, resulting in ineffective campaigns. Thus, extensive planning, skills and knowledge are essential to producing effective MP awareness campaigns on SM.

Effective Content Types on SM (SRQ2)

The findings indicate that short-form visual content can be the most effective in influencing the perceptions of South Africans. This stems from the fact that, nowadays, people’s attention spans have changed and therefore they tend to avoid reading and prefer receiving information quickly, in a visual, easily digestible and captivating manner. This enables environmental communicators to reap the strategic benefits of multimodality, visual learning and aligning content with contemporary social media consumption habits, boosting engagement. The most effective content presentation strategies that arose were images, short-form videos and infographics.

SM’s Influence on Public Perceptions & Behaviours (SRQ3 & 4)

One of SM’s most prominent informational attributes includes its ability to effectively educate the public about the impacts of MPs, influencing beliefs and stimulating an environmental concern, contributing to the formation of positive environmental attitudes. This may be presented in a manner which elicits negative emotional responses, further perpetuating its impact on attitudes by making the issue more relatable and urgent. Indirectly, this may also represent an elevation in risk perception, positively influencing behaviour. Overstimulation, however, can lead to pollution fatigue. Thus, requiring diverse strategies that do not solely rely on negative emotional content and potentially combine it with positive emotional imagery, or innovative content which tends to be more captivating and engaging. Furthermore, algorithmic curation can have negative effects on influencing new audiences, however, it can positively impact individuals who are already aware by reinforcing the idea and producing a share of mind. Conversely, this can also lead to oversaturation of negative emotional content or unavoidable aversive stimuli, exacerbating psychological constraints. Additionally, dialogue may have a positive effect on attitudes by stimulating discussion-generated elaboration and enabling a “fuller picture” to emerge, but also allowing for misinformation to arise. Therefore, this brings to light the intricacies of fostering attitudinal influences on SM, requiring significant strategic considerations to manoeuvre through the negative externalities, emanating from the same aspects that can be drawn upon to induce

positive attitudinal influences. Jasmine noted the complexities of generating awareness on SM, clearly these intricacies are not only isolated to awareness raising. Ultimately, both generating awareness and stimulating positive attitudinal change, require thoughtful and strategic considerations to be effective (which is even more salient when considering they are related).

Although not all the participants were receptive to social influences, the interview data indicated that subjective norm perceptions may come into play when viewing the PEBs of prominent figures in one's life on SM, influencing behavioural intent. Additionally, these influences may not be explicit. They may manifest at a subconscious level and potentially induce a snowball effect among social groups. Furthermore, leveraging community leaders as "influencers" to disseminate vital environmental information and stimulate subjective norms perceptions, arose as an important avenue to promoting PEBs among rural communities.

As is the case with attitudes, the findings suggest a more nuanced perspective when it comes to PBC. SM can provide actionable steps on how and where to engage in PEBs such as recycling, which can elevate PBC. Additionally, ESG on SM can place individuals in an environment where they can see the impacts, learn interactively and take control, positively influencing their perceived control and therefore PBC. However, its impact is negligible due to its potentially limited appeal to the broader population. From this perspective, one may assume that SM's influence on PBC may be a promising avenue to PEB. However, South Africans are faced with inhibitors that reduce its impact, such as a "sense of helplessness" (which may stem from learned helplessness) and economic constraints that either directly inhibit participation in PEBs, or indirectly by preventing users from consuming significant amounts of SM, reducing their potential influence. Although strategies can be employed to reduce learned helplessness, economic constraints persist. Furthermore, considering that a vast number of South Africans are unemployed and live below the poverty line, the significance of this barrier is further stressed.

Despite being an intricate and multifaceted process, this research has revealed that SM has the potential to effectively facilitate MP-related perceptual change. However, its positive implications for sustainable purchasing behaviour among the broader population are either directly or indirectly constricted by cost. Schotte, Zizzamia, & Leibbrandt (2017) categorised the population on the basis of their economic status, in which 50% of the population represents the chronically poor, 11% transient poor, 15% vulnerable, 20% middle class and 4% elite (view Fig. 10). Thus, 76% of the population (chronically poor + transient poor + vulnerable) are mostly excluded from SM's influence, as a result of resource constraints in the form of a lack of sufficient access to data/Wi-Fi. Its positive implications for the middle class (who may have increased access to data/Wi-Fi)

are not directly on behaviours, but on behavioural intent, considering that the influence of attitudes and SN are directly hampered by cost (inhibitor of PBC). Therefore, preventing behavioural intent from manifesting into actual behavioural change. However, it does not apply to all PEBs, as it can still encourage actual recycling behaviour among these groups (recycling may provide an extrinsic motivation in the form of financial incentives). Therefore, environmental advocacy organisations aiming to target lower/middle-income communities, should attribute salience toward disseminating information that promotes the uptake of recycling behaviour among these communities. However, disseminating this information to the poor, transient poor and vulnerable may pose significant challenges. A potential solution for this may be to leverage community leaders, such as religious leaders (which is especially effective in this context as the teachings of the bible promote environmental values) in the lower-income rural areas to disseminate this information to the masses, via community WhatsApp groups, which is much less data-intensive than other SM channels. This not only stimulates SN perceptions, but also PBC by increasing their perceived capabilities emanating from the financial rewards.

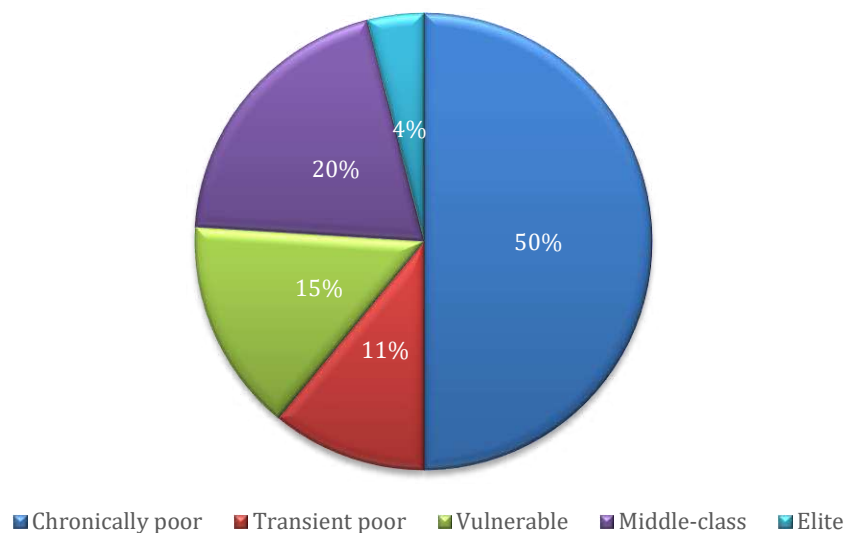


Figure 10. Economic status classification of the South African public.
Note. Adapted from Schotte, Zizzamia, & Leibbrandt (2017) and graphed manually via Excel.

Overall, SM intervention strategies focussing on inducing MP-related behavioural change may be most effective for the wealthier segments of the population, who have the necessary resources to engage in all forms of PEBs or to spend a significant amount of time consuming SM content. However, this represents a very small segment of the overall population, and therefore SM may be

ineffective in inducing widespread behavioural change among the South African public. However, it may still be considered a useful tool that should form part of larger, longer-term environmental communication and public intervention strategies.

The Spread of Misinformation and Anti-environmental Behaviour

Although others did not echo this, Avril postulated that discussions on SM open the floor for misinformation to arise and the promotion of anti-environmental sentiment. She further stressed that group pressures (such as that of SN) can encourage PEBs, but also have the potential to induce the opposite effect. Thus, the same mechanisms that can be leveraged to promote PEBs can also be utilised to encourage anti-environmental behaviour, via the dissemination of misinformation, negatively influencing perceptions and therefore behaviours. This can produce a specific set of ideologies, beliefs and social norms perceptions, negatively impacting attitudes which stimulate these individuals to become more inclined to consume, spread and accept misinformation. This is further perpetuated by homophily (which is facilitated by SM, for instance, SM groups/communities), leading to “eco-chambers” and therefore polarization (Treen et al., 2020). Moreover, algorithmic curation features that promote engagement over factual information, such as “filter bubbles”, can amplify “eco-chambers” and prevent individuals from receiving diverse content which may be more factual (Treen et al., 2020; Calvo et al. 2020; Khan & Bhatt, 2018; Lee & Wei, 2022). These negative mechanisms can therefore undermine its potential positive influence in stimulating PEBs by promoting anti-environmental perceptions and behaviours.

Summary of Contributions

This thesis has therefore contributed to the TPB in the context of this research, exemplifying how SM influences MP-related attitudes, SN and PBC via its various functions, within the South African context. Furthermore, descriptive norms were found to be an influential factor that impacts behavioural intent, and as a result, it was added as an antecedent of intentions. Additionally, the informational and relational functions of SM, producing contextual pathways in the form of community dynamics, were also found to play a pertinent role in influencing the constructs of the TPB. Ultimately, the current study delineates the prominent, yet conditional influential power of SM. It sheds light on the psychological and technical challenges that environmental communicators must navigate through, while being constrained by the economic barriers that many members of the public are faced with in the country.

Chapter 7: Limitations and Future Directions

This thesis initially aimed to acquire a sample size of 15 participants, with 5 of these participants constituting environmental experts (representatives of ENGOs and environmental practitioners) and 10 from the general public. However, soliciting respondents to participate in the research proved to be a more arduous challenge than one initially thought. This was particularly evident when it came to the experts and the older target group. Numerous environmental NGOs and environmental practitioners were contacted, only to receive an interview from one environmental assessment practitioner and three interviews from two different ENGOs. Furthermore, older individuals forming part of the general public were less inclined to participate in the research, resulting in an underrepresentation. This was not the case for the younger generations who were much more receptive to participating and taking an interest in the study. This reduced the sample to 9 members of the general public and 4 experts. Despite this, 13 interviews were sufficient to reach data saturation. Furthermore, a majority of the interviewees had higher education levels, with only two participants possessing solely a high school diploma.

Thus, selection bias was present in the form of an overrepresentation of younger and higher-educated individuals, in addition to an underrepresentation of participants from KwaZulu-Natal. This stems from the inherent nature of convenience sampling, a sampling strategy rooted in convenience and accessibility in contrast to random selection procedures. This limits the conclusions drawn to the sample of this study, and therefore, discretion is advised when applying these findings to the broader population. Although these discrepancies may skew the findings to some extent, they still provide valuable novel insights into the issue at hand. However, to inhibit selection bias and produce more indicative results of the entire population, future research can employ random sampling strategies, such as stratified random sampling.

Additionally, many of the answers to the questions posed to the participants were heavily dependent on self-reporting which may also result in the emergence of biases. For instance, the respondents had to recall instances where they experienced microplastic-related content on SM. However, the recollection of these instances may not always be accurate, resulting in recall biases. Furthermore, the respondents may want to answer the questions in a manner that is most favourable for the researcher or is most socially acceptable, leading to social desirability biases. Another aspect to consider is concerned with the analysis of the data. The use of an inductive thematic analysis at the interpretative level implies that the researcher needed to impose their own understandings and assumptions to the data. However, as a result of this, researcher biases may have emerged. Although data source triangulation was implemented to mitigate this, some level of researcher bias may be present despite this. Future studies can make use of mixed method

approaches in order to cross-validate the data, reducing subjective biases (from both the researcher and participant) that may be present from the qualitative aspect and reducing oversimplification from the quantitative side.

Factors such as gender and culture were also not considered in this research. Previous studies have shown that gender plays a role in influencing the uptake of PEBs, thus it could provide interesting revelations about the interplay between gender roles and PEB in South Africa. Furthermore, culture plays a strong role in predicting individuals' values and behaviours. Considering the diversity and complexity of the cultural makeup of the country, different groups may be more inclined to engage in PEBs and may be more receptive to different pathways or influences. Therefore, excluding these variables may have resulted in a loss of potentially valuable insights that could have contributed to this study. Thus, future studies should consider these aspects which may reveal how gender roles and cultural factors drive or inhibit MP-related PEBs. In terms of culture specifically, studies could implement the 6 dimensions of the national culture framework by Geert Hofstede to intricately examine the cultural dynamics within the country and relate this to public perceptions and behaviours towards MPs in South Africa. This could provide an interesting outlook into the social influences facilitated by SM, as collectivist cultures (representing a majority) may be more receptive to said influences.

Bibliography

- Alsaawi, A. (2014). A critical review of qualitative interviews. *SSRN Electronic Journal*, 149–156. <https://doi.org/10.2139/ssrn.2819536>
- Altinay, Z., & Williams, N. (2019). Visuals as a method of coastal environmental communication. *Ocean & Coastal Management*, 178. <https://doi.org/10.1016/j.ocecoaman.2019.05.011>
- Anagnostou, M., & Doberstein, B. (2024). Exotic pet trade in Canada: The influence of SM on public sentiment and behaviour. *Journal for Nature Conservation*. Retrieved from <https://www.sciencedirect.com/science/article/pii/S1617138123001930>
- Ariefdien, R., Pfaff, M., Awe, A., & Sparks, C. (2023, November 22). *Stormwater outlets: A source of MPs in coastal zones of Cape Town, South Africa*. *Marine Pollution Bulletin*. <https://www.sciencedirect.com/science/article/pii/S0025326X23012353>
- Awad, T. A. (2011). Environmental segmentation alternatives: buyers' profiles and implications. *Journal of Islamic Marketing*, 2(1), 55–73. <https://doi.org/10.1108/17590831111115240>
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action control: From cognition to behavior* (pp. 11-39). Springer.
- Baechler, B. R., De Frond, H., Dropkin, L., & Weaver, A. (2024). Public awareness and perceptions of ocean plastic pollution and support for solutions in the United States. *Frontiers in Marine Science*, 7, Article 142. Retrieved from <https://oceanconservancy.org/wp-content/uploads/2024/01/PlasticPollutionSurvey-Paper-2024.pdf>
- Bans-Akutey, A. (2021). Triangulation in research. *Bluecrestcollege*. https://www.academia.edu/51125516/Triangulation_in_Research
- Bajwa, Dr. S. S. (2021, January 1). *SM: Divergent paradigms*. Google Books, <https://books.google.nl/books?hl=en&lr=&id=co06EAAQBAJ&oi=fnd&pg=PA36&dq=effectiveness%2Bof%2Bsocial%2Bmedia%2Bin%2Bspreading%2Bawareness%2Babout%2Benvironmental%2Bissues&ots=QWojE-p-P&sig=o7IbSnIEAY5NgBNmk2HbOuvGZt0#v=onepage&q=effectiveness%20of%20soci>

[al%20media%20in%20spreading%20awareness%20about%20environmental%20issues&f=false](#)

Ballew, M. T., Omoto, A. M., & Winter, P. L. (2015, August 7). *Using web 2.0 and SM technologies to foster proenvironmental action*. MDPI. <https://www.mdpi.com/2071-1050/7/8/10620>

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>

Berthold, A., Cologna, V., Hardmeier, M., & Siegrist, M. (2023). Drop some money! The influence of income and subjective financial scarcity on PEB. *Journal of Environmental Psychology*, 91, 102149. <https://doi.org/10.1016/j.jenvp.2023.102149>

Bouvier, G., & Machin, D. (2018). Critical discourse analysis and the challenges and opportunities of SM. *Review of Communication*, 18(2), 178-192. doi:10.1080/15358593.2018.1479881

Budree, Adheesh; Fietkiewicz, Kaja; and Lins, Elmar (2019) "Investigating usage of SM platforms in South Africa," *The African Journal of Information Systems: Vol. 11 : Iss. 4* , Article 1. Available at: <https://digitalcommons.kennesaw.edu/ajis/vol11/iss4/1>

Casula, M., Rangarajan, N., & Shields, P. M. (2020, December 8). The potential of working hypotheses for deductive exploratory research. <https://www.researchgate.net/publication/346773952> The potential of working hypotheses for deductive exploratory research

Calvo, R. A., Peters, D., Vold, K., & Ryan, R. M. (2020). Supporting Human Autonomy in AI Systems: A framework for ethical enquiry. In *Philosophical studies series* (pp. 31–54). https://doi.org/10.1007/978-3-030-50585-1_2

Catarino, A. I., Kramm, J., Völker, C., Henry, T. B., & Everaert, G. (2021, February 16). *Risk posed by MPs: Scientific Evidence and Public Perception*. *Current Opinion in Green and Sustainable Chemistry*. https://www.sciencedirect.com/science/article/pii/S2452223621000237?casa_token=9NX5fHeHnKgAAAAA%3As0J-N56fdd-cty8VPsQqcp1-fQi_DbhTcVEMMJFaj1w_H65Ft7JJyB1U6eMrPyeknYWP9tARWChk

Cacioppo, J., & Petty, R. E. (1979). Effects of message repetition and position on cognitive response, recall, and persuasion. *Journal of Personality and Social Psychology*, 97–107. <https://doi.org/10.1037/0022-3514.37.1.97>

Creswell, J. W. (2011). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage.

Deng, L., Cai, L., Sun, F., Li, G., & Che, Y. (2020, August 14). *Public attitudes towards MPs: Perceptions, behaviors and policy implications*. Resources, Conservation and Recycling.

https://www.sciencedirect.com/science/article/pii/S0921344920304134?casa_token=8XgtjlypnG8AAAAA%3AG60k2QHQ1Ss72nWqQ6LH19k6fSsKvLWs6l4H5NUeMSGW712pawMgqj6meaJfj3iDY7rWXw0vWU7y

Faust, M., & Schrödner, R. (2024). Investigating the atmospheric dispersion of MP particles - A model study. In *EGU General Assembly 2024* (p. EGU24-9022). Vienna, Austria. <https://doi.org/10.5194/egusphere-egu24-9022>

Feitosa, M., & Mosconi, M. (2022). The influence of SM algorithms on brand visibility and customer engagement for new ventures [Original Research]. *Journal of Technology in Entrepreneurship and Strategic Management*, 1(2), 5–15.

https://www.journaltesm.com/article_196495_d811c02ad1c9077304eb11767c2a8a6b.pdf

Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley.

Garcia-Vazquez, E., & Garcia-Ael, C. (2021, July 31). *The invisible enemy. public knowledge of MPs is needed to face the current MPs crisis*. Sustainable Production and Consumption.

https://www.sciencedirect.com/science/article/pii/S2352550921002311?casa_token=NZP8dIu0kH4AAAAA%3AFWwfmZecnCCAAaqC4D5Mj-ci-gFc7cEKz-3hBUpSjCc9ZGD_OkEsutZzO1JIvSaOUKMkwO46OxoTZ#fig0001

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: notes on the Gioia methodology. *Organizational Research Methods*, 16(1), 15– 31. <https://doi.org/10.1177/1094428112452151>

Guo, C., & Saxton, G. D. (2013). Tweeting Social Change. *Nonprofit and Voluntary Sector Quarterly*, 43(1), 57–79. doi:10.1177/0899764012471585

Gulliver, R., Fielding, K. S., & Louis, W. R. (2021). Assessing the mobilization potential of environmental advocacy communication. *Journal of Environmental Psychology*, 74, 101563. <https://doi.org/10.1016/j.jenvp.2021.101563>

Han, R., & Cheng, Y. (2020, September 30). The influence of norm perception on pro-environmental behavior: A comparison between the moderating roles of traditional media and SM. MDPI. <https://www.mdpi.com/1660-4601/17/19/7164>

Helferich, M., Thøgersen, J., & Bergquist, M. (2023). Direct and mediated impacts of social norms on pro-environmental behavior. *Global Environmental Change*, 80, 102680. <https://doi.org/10.1016/j.gloenvcha.2023.102680>

Henderson, L., & Green, C. (2020, January 20). *Making sense of MPs? public understandings of plastic pollution*. *Marine Pollution Bulletin*. <https://www.sciencedirect.com/science/article/pii/S0025326X20300266>

Hurst, K. F., Sintov, N. D., & Donnelly, G. E. (2023). Increasing sustainable behavior through conversation. *Journal of Environmental Psychology*, 86, 101948. <https://doi.org/10.1016/j.jenvp.2022.101948>

IANOȘI, E. S., JIMBOREAN, G., RACHIȘ, D. L., JIMBOREAN, O., SÁRKÖZI, H. K., GÂRBOVAN, C., & VULTUR, M. A. (2023). GLOBAL POLLUTION – A PUBLIC HEALTH PROBLEM THE EFFECTS OF POLLUTION ON THE RESPIRATORY SYSTEM. *THE PUBLISHING HOUSE OF THE ROMANIAN ACADEMY*.

Iroegbu, A. O. C., Sadiku, R. . E., Ray, S. S., & Hamam, Y. (2020, March 2). *Plastics in municipal drinking water and wastewater treatment plant effluents: Challenges and opportunities for South Africa-A Review - environmental science and Pollution Research*. SpringerLink. <https://link.springer.com/article/10.1007/s11356-020-08194-5>

Janakiraman, S., Watson, S. L., Watson, W. R., & Shepardson, D. P. (2021). *Exploring the Influence of Digital Games on Environmental Attitudes and Behaviours Based on the New Ecological Paradigm Scale: A Mixed-Methods Study in India*. *Journal of Education for Sustainable Development*, 097340822199784. doi:10.1177/0973408221997844

- Jamshed, S. (2014, September). *Qualitative research method-interviewing and observation*. Journal of basic and clinical pharmacy.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4194943/>
- Julius, D., Awe, A., & Sparks, C. (2023, July 22). *Environmental concentrations, characteristics and risk assessment of MPs in water and sediment along the Western Cape coastline, South Africa*. National Library of Medicine.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10407148/>
- Judge, M., Warren-Myers, G., & Paladino, A. (2019, January 7). *Using the theory of planned behaviour to predict intentions to purchase sustainable housing*. Journal of Cleaner Production.
https://www.sciencedirect.com/science/article/pii/S0959652619300356?ref=pdf_download&fr=RR-2&rr=85981dcfcf33b896
- Jiang, Y., Balaji, M. S., & Kapoor, P. (2023). Changing the traveller's behaviour using sustainability communication: effects of message appeal and message authorship. *Tourism and Behaviour Change*. Retrieved from
<https://www.elgaronline.com/edcollchap/book/9781800372498/book-part-9781800372498-20.xml>
- Khan, S., & Bhatt, I. (2018). Curation. *The International Encyclopedia of Media Literacy*, 1–9. <https://doi.org/10.1002/9781118978238.ieml0047>
- Kamar, M. A., Maher, A., Salem, I. E., & Elbaz, A. M. (2023). Gamification impact on tourists' pro-sustainability intentions: integration of technology acceptance model (TAM) and the theory of planned behaviour (TPB). *Tourism Review*, 79(2), 487–504.
<https://doi.org/10.1108/tr-04-2023-0234>
- Keizer, K., & Schultz, P. W. (2018). Social norms and Pro-Environmental behaviour. *Environmental Psychology*, 179–188. <https://doi.org/10.1002/9781119241072.ch18>
- Kyoi, S., & Mori, K. (2024). Development of policy measures for diffusing human pro-environmental behavior in social networks—Computer simulation of a dynamic model of mutual *World Development Sustainability*. Retrieved from
<https://www.sciencedirect.com/science/article/pii/S2772655X23000733>

- Liu, Z., Yang, J., Clark, S., & Shelly, M. (2022). Recycling as a planned behavior: The moderating role of perceived behavioral control. *Environment, Development and Sustainability*, 24. <https://doi.org/10.1007/s10668-021-01894-z>
- Landry, N., Gifford, R., Milfont, T. L., Weeks, A., & Arnocky, S. (2018). Learned helplessness moderates the relationship between environmental concern and behavior. *Journal of Environmental Psychology*, 55, 18–22. <https://doi.org/10.1016/j.jenvp.2017.12.003>
- Lee, K. S., & Wei, H. (2022). Developing responsible algorithmic curation features in SM through participatory design. In [] *With Design: Reinventing Design Modes* (pp. 2905–2921). https://doi.org/10.1007/978-981-19-4472-7_188
- Malematja, K. C., Melato, F. A., & Mokgalaka-Fleischmann, N. S. (2023, December 15). *The occurrence and fate of MPs in wastewater treatment plants in South Africa and the degradation of MPs in Aquatic Environments-A Critical Review*. MDPI. <https://www.mdpi.com/2071-1050/15/24/16865>
- Miller, A., Arndt, S., Engel, L., & Boot, N. (2021, August). *Nature conservation in a digitalized world: Echo chambers and filter bubbles*. Research Gate. https://www.researchgate.net/publication/353738771_Nature_conservation_in_a_digitalized_world_Echo_chambers_and_filter_bubbles
- ModorIntelligence. (2024). *Plastic Packaging Industry in South Africa Size & Share Analysis - Growth Trends & Forecasts (2024 - 2029)*. <https://www.mordorintelligence.com/industry-reports/south-africa-plastic-packaging-market>
- Moughal, W., Nordin, S. B. T. M., Salleh, R. B. T., & Abbasi, H. A. (2023). Role of SM to influence the environmental knowledge and awareness toward education for sustainable development in Malaysia. In *Eurasian studies in business and economics* (pp. 25–35). https://doi.org/10.1007/978-3-031-30061-5_2
- McQuarrie, E. F. (2016). *The Market Research Toolbox: A Concise Guide for Beginners*. Thousand Oaks, California: Sage Publications.
- Meng, Y., Chung, D., & Zhang, A. (2023, November 16). *The effect of SM environmental information exposure on the intention to participate in pro-environmental behavior*. PloS one. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10653508/>

O'Brien, J., & Thondhlana, G. (2019). Plastic bag use in South Africa: Perceptions, practices and potential intervention strategies. *Waste Management*, 84, 320–328. <https://doi.org/10.1016/j.wasman.2018.11.051>.

Quiroz, F. R. de S. C. (2020, August). *DEALING WITH MP POLLUTION IN THE NETHERLANDS: HUMAN HEALTH RISK ASSESSMENT AND POLICY MAKING APPROACHES*. University of Twente. <http://essay.utwente.nl/82792/1/Ruiz> de Somocurcio Chavez Quiroz_MA_BMS-pdf.pdf

Rapada, M. Z., Yu, D. E., & Yu, K. D. (2021, November 9). *Do SM posts influence consumption behavior towards plastic pollution?*. MDPI. <https://www.mdpi.com/2071-1050/13/22/12334>

Rampedi, I. T., & Ifegbesan, A. P. (2022). Understanding the Determinants of Pro-Environmental Behavior among South Africans: Evidence from a Structural Equation Model. *Sustainability*, 14(6), 3218. <https://doi.org/10.3390/su14063218>

Russmann, U., & Svensson, J. (2017). Introduction to Visual Communication in the age of SM: conceptual, theoretical and methodological challenges. *Media and Communication*, 5(4), 1–5. <https://doi.org/10.17645/mac.v5i4.1263>

Ryan, P. G., & Moloney, C. L. (1990). Plastic and other artefacts on South African beaches: Temporal trends in abundance and composition. *S. Afr. J. Sci./S.-Afr. Tydskr. Wet.*, 86(7), 450-452.

Saracevic, S., & Schlegelmilch, B. B. (2020). The Impact of Social Norms on Pro-Environmental Behavior: A Systematic Literature Review of The Role of Culture and Self-Construal. *Sustainability*, 13(9), 5156. <https://doi.org/10.3390/su13095156>

Saad, D., Ndlovu, M., Ramaremsa, G., Tutu, H., & Sillanpää, M. (2023, September 5). *Characteristics of MPs in sediment of the Vaal River, South Africa: Implications on bioavailability and toxicity - international journal of Environmental Science and Technology*. SpringerLink. <https://link.springer.com/article/10.1007/s13762-023-05168-1>

Saunders, M. N., Tornhill, A., & Lewis, D. P. (2019). *Research methods for business students*. New York: Pearson Education Limited.

Smiciklas, M. (2012). *The Power of Infographics: Using Pictures to Communicate and Connect with Your Audiences*. Pearson Education, Inc.
<https://ptgmedia.pearsoncmg.com/images/9780789749499/samplepages/0789749491.pdf>

Schotte, S., Zizzamia, R., Leibbrandt, M. (2017). Social stratification, life chances and vulnerability to poverty in South Africa. Cape Town: SALDRU, UCT. (SALDRU Working Paper Number 208)

Shen, J., Liang, H., Zafar, A. U., Shahzad, M., Akram, U., & Ashfaq, M. (2023, February 15). Influence by osmosis: SM Green Communities and pro-environmental behavior. *Computers in Human Behavior*.
<https://www.sciencedirect.com/science/article/pii/S0747563223000572>

Soares, J., Miguel, I., Venâncio, C., Lopes, I., & Oliveira, M. (2021, January 28). *Public views on plastic pollution: Knowledge, perceived impacts, and PEBs*. *Journal of Hazardous Materials*.
https://www.sciencedirect.com/science/article/pii/S0304389421001904?casa_token=FBk2rPx9eYcAAAAA%3AAsaReuHVx9RoEMTnNsK3n_6R5pO3E8I798a8MX01SdTd_JLW1fzebRkAuZpEvFYXtyucTNWjp0R5#sec0010

Shahbaznezhad, H., Dolan, R., & Rashidirad, M. (2021). The role of SM content format and platform in users' engagement behavior. *Journal of Interactive Marketing*, 53, 47–65.
<https://doi.org/10.1016/j.intmar.2020.05.001>

South African Government News Agency. (2024, May 14). SAnews. Retrieved July 5, 2024, from [https://www.sanews.gov.za/south-africa/sa-unemployment-rate-increases#:~:text=According%20to%20Stats%20SA%2C%20the,2023%20\(Q4%3A%202023\)](https://www.sanews.gov.za/south-africa/sa-unemployment-rate-increases#:~:text=According%20to%20Stats%20SA%2C%20the,2023%20(Q4%3A%202023)).

Strydom, W. F. (2018, September 8). *Applying the theory of planned behavior to recycling behavior in South Africa*. MDPI. <https://www.mdpi.com/2313-4321/3/3/43#:~:text=Only%203.3%25%20of%20South%20Africans,likely%20to%20be%20over%2Dreported>.

Sultan, M. T., Sharmin, F., Badulescu, A., Stiubea, E., & Xue, K. (2020). Travelers' Responsible Environmental Behavior towards Sustainable Coastal Tourism: An Empirical Investigation on SM User-Generated Content. *Sustainability*, 13(1), 56.
<https://doi.org/10.3390/su13010056>

Tenny, S. (2022, September 18). *Qualitative study*. StatPearls [Internet]. <https://www.ncbi.nlm.nih.gov/books/NBK470395/>

Thompson, J. D. (2024). *Transcriptional regulation of North American wood frog (Rana sylvatica) dorsal skin during development and in response to chronic exposure to a MPs mixture*. UWSpace. <http://hdl.handle.net/10012/20339>

Thogersen, J. (2014). *The mediated influences of perceived norms on pro-environmental behavior*. cairn.info. <https://www.cairn.info/revue-d-economie-politique-2014-2-page-179.htm>

Thompson, R. C., Olsen, Y., Mitchell, R. P., Davis, A., Rowland, S. J., John, A. W., ... & Russell, A. E. (2004). Lost at sea: where is all the plastic?. *Science*, 304(5672), 838-838.

Treen, K. M. D., Williams, H. T. P., & O'Neill, S. J. (2020). Online misinformation about climate change. *Wiley Interdisciplinary Reviews Climate Change*, 11(5). <https://doi.org/10.1002/wcc.665>

Vaughan, H., Johns, L., University of Colorado Boulder, & University of Miami. (2021). Beyond frame analysis: Formal analysis and genre typology in the communication study of short-form environmental video messaging. In *Journal of Environmental Media* (Vol. 2, Issue 1, pp. 55–78). Intellect Limited. https://d1wqtxts1xzle7.cloudfront.net/67601016/Beyond_frame_analysis_Formal_analysis_and_genre_typology_in_short_form_environmental_video_messaging-libre.pdf?1623453906=&response-content-disposition=inline%3B+filename%3DBeyond_frame_analysis_Formal_analysis_an.pdf&Expires=1722694963&Signature=M6ytK3r0jzSWnlEKG3zO1-dAuwfU77-0Xa8R--Pu0~kUdXHhs1E9CtC7VcrMJd-dnhhsb1~fT7V2kkf~XG1qFYOnYGxOhtED0aHapXtWEUitq-CGvV~bW-d2cZtRAeX489Lfpkcq2ckDdOkDsYy7ZOOC3KrkCU4rgi71qjjsUC7QpHHVu8ijB12uHCUEBo7uLa3Pac6oFyJvqnP4bGyvxGmRBc3WijchdOLiyxNSjjudBcUZ5B1z~-i-r9PG7PbQ0e9mcyV5m39ADnCptd-Y6CAaSWgoOTNsBV5VYInXDjxPvQN4836sP8hqwKMwFN8~364AcYUXN9pnSL1X MmFzVA__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA

Wairagade, N., Reddy, Dr. D. V. L., Mamoria, Dr. P., & Kishore, Dr. P. N. (2024). *SM AND IDENTITY FORMATION: EXAMINING THE IMPACT ON CONTEMPORARY*

SOCIETY. View of SM and Identity Formation: Examining the impact on contemporary society. <https://journalra.org/index.php/jra/article/view/1030/1036>

Wallace, E., & Buil, I. (2022, December 22). *Antecedents and consequences of conspicuous green behavior on SM: Incorporating the virtual self-identity into the theory of planned behavior*. *Journal of Business Research*.
https://www.sciencedirect.com/science/article/pii/S0148296322010141?casa_token=MvivSsedWJ8AAAAA%3ApVKt4DT70sCBd3EX6ZkQHrC8h-7IfovHwE5wTep7B9MLVmrDhFaek16fUs8OEH45TxHtsFXr_mI-

Wang, K., Tekler, Z. D., Cheah, L., Herremans, D., & Blessing, L. (2021). Evaluating the effectiveness of an augmented reality game promoting environmental action. *Sustainability*, 13(24), 13912. <https://doi.org/10.3390/su132413912>

WWF-SA. (2023, November 30). *Project to implement and scale circular solutions to plastic pollution in South Africa*. WWF South Africa.
<https://www.wwf.org.za/?46624%2FProject-to-implement-and-scale-circular-solutions-to-plastic-pollution-in-South-Africa>

Westerbeek, A. (2022, October 19). “No plan B because there is no planet B” Exploring the drivers of employees’ lean and PEBs in Dutch municipalities.
https://essay.utwente.nl/93439/1/Westerbeek_BA_%20BMS.pdf

Wu, Y., Mo, D., Liu, J., Li, Z., Chen, X., & Xie, L. (2023, June 5). *Public perception of MPs on a popular Chinese SM platform*. *Journal of Cleaner Production*.
https://www.sciencedirect.com/science/article/pii/S0959652623018462?casa_token=zezwyQ02isAAAAA%3AH4Wwe_hwSY6bdeIXEI_ibaQg143J3hHqNQm-iPDBCQM64HOWpTCIpldRU_ofmcqdnSaFBPx284qd

Yuriev, A., Dahmen, M., Paillé, P., Boiral, O., & Guillaumie, L. (2020, January 9). *Pro-environmental behaviors through the lens of the theory of planned behavior: A scoping review*. *Resources, Conservation and Recycling*.
[https://www.sciencedirect.com/science/article/pii/S092134491930566X#:~:text=The%20theory%20of%20planned%20behavior%20\(TPB\)%20allows%20researchers%20to%20identify,both%20organizational%20and%20domestic%20settings.](https://www.sciencedirect.com/science/article/pii/S092134491930566X#:~:text=The%20theory%20of%20planned%20behavior%20(TPB)%20allows%20researchers%20to%20identify,both%20organizational%20and%20domestic%20settings.)

Appendix A

The OneDrive link to the interview transcripts can be found [here](#).

Table 6

Aggregate dimensions and their associated definitions.

Aggregate Dimension	Definition
SM as a Catalyst to Pro-Environmental Attitudes & Knowledge Generation	This theme encompasses social media’s ability to disseminate awareness expeditiously to large audiences, inadvertently highlighting its potential for widespread knowledge generation. Furthermore, it outlines its capacity to generate microplastic-related perceptual influences, an important factor contributing to pro-environmental behaviours.
Social Behavioural Influences Through SM	This dimension is concerned with the normative social pathways that are facilitated by social media platforms. It depicts how they are presented on social media and their influence in encouraging individuals to converge to pro-environmental behaviours.
Social Dynamics Influencing Behaviour in Groups on SM	This theme illustrates how community dynamics within social media groups can foster positive community perspectives and produce communities of action, that can be leveraged to pursue pro-environmental behaviours.
Increased Agency to Act Stemming From SM	This dimension depicts how social media can empower its users, by increasing their knowledge and perceived capabilities in addressing the issue of microplastics.
Effective Content Presentation Strategies on SM	This dimension highlights the most effective content presentation strategies on social media that are most inclined to effectively generate awareness, and influence

	microplastic-related perceptions among South Africans.
Barriers/Challenges to SM-Driven Pro-Environmental Action	This theme constitutes the most prominent barriers to microplastic-related pro-environmental behaviours, among South Africans. It illustrates how these barriers inhibit actions conducive to reducing microplastic pollution, primarily manifesting in the form of psychological, technical and economic barriers.

Appendix B

The interview guides developed for individuals with and without prior experience with MP content on SM are listed below:

Thesis Interview Guide (No Experience)

Background Questions

1. Are you above or below 35 years of age?
2. What province in South Africa are you from?
3. What is your level of education? Do you have a high school diploma or lower, a bachelor's degree or a master's degree or higher?
4. Do you have any prior experience with MP-related content on SM?
5. What is your occupation?

General Awareness and SM Influence (SRQ1)

1. Do you think SM is an effective platform for spreading information and creating awareness about environmental issues such as MP pollution? Why or why not?
2. How do your interactions with others on SM (comments, shares, discussions) impact your personal awareness of MPs?

Content Preference and Perception (SRQ2)

1. Can you recall any specific type of SM content about MPs or other environmental issues that you found particularly impactful? What made it effective?
2. What type of content (e.g., images, text, videos, infographics) on SM do you think would be most effective in communicating the issue and influencing your perceptions of MPs?
3. Do you think that interactive content on SM such as quizzes, games & virtual events can effectively influence perceptions and behaviours towards MP pollution?

SM and Public Perceptions (TPB Constructs) (SRQ3)

1. How do you generally feel about environmental issues like MP pollution? Do you think they are important?
2. If you were to see content about MPs and their detrimental human and environmental impacts on SM, how do you think it would affect your attitudes towards the issue? How would this impact your behaviour?
3. How do you think dialogue among SM users, surrounding the issue of MPs, could impact one's attitudes on the topic?
4. How could the environmental views and actions of prominent figures in your life (friends, family, influencers), depicted on SM, affect your perceptions related to MPs?
5. How do you think the number of likes, comments and overall sentiment in the comment section of a particular MP-related post on SM could affect your perceptions?
6. Do you feel capable of making an impact on plastic pollution through your actions? Why or why not?
7. Do you think SM could make you feel more capable of reducing your plastic use or engaging in recycling activities? Do you think it could provide helpful tips, knowledge, opportunities or motivation?

Role of Public Perceptions in Behavioural Change (TPB Constructs) (SRQ4)

1. How do your personal attitudes towards plastic pollution influence your daily consumer behaviour? Do they influence your choice of products or your intention to engage in recycling?
2. Do you think seeing more information about MPs on SM would encourage people change their behaviour regarding plastic use? How?
3. How do you think participating in environmental groups/communities on SM could influence the behaviours of the participants?
4. Do you think SM can act as an effective mobilizing tool to incite participation in environmental campaigns?

Video

1. Have your perceptions changed after watching the video? If so, how?

Concluding Question

1. Barriers and Solutions:
 - In your opinion, what are the biggest barriers to people changing their behaviour to reduce MP pollution, and how could SM help address these barriers?

Thesis Interview Guide (Experience)

Background Questions

1. Are you above or below 35 years of age?
2. What province in South Africa are you from?
3. What is your level of education? Do you have a high school diploma or lower, a bachelor's degree or a master's degree or higher?
4. Do you have any prior experience with MP-related content on SM?
5. What is your occupation?

General Awareness and SM Influence (SRQ1)

1. In your opinion, how effectively do SM campaigns raise awareness about MPs and their environmental impact?
2. How has information on SM contributed to your understanding of the environmental impacts of MPs?

3. How do your interactions with others on SM (comments, shares, discussions) impact your personal awareness of MPs?

Content Preference and Perception (SRQ2):

1. Can you describe a specific SM post (or campaign) about MPs that you found particularly impactful? What specific elements made it effective?
2. When encountering information about MPs on SM, which format resonates most with you (e.g., images, text, videos, infographics)? Why?
3. Do you think that interactive content on SM such as quizzes, games & virtual events can effectively influence perceptions and behaviours towards MP pollution?

SM and Public Perceptions (TPB Constructs) (SRQ3):

1. How do you generally feel about environmental issues like MP pollution? Do you think they are important?
2. Thinking about the MP information and the environmental impacts you see on SM, how would you say it affects your personal feelings towards the issue (attitudes)?
3. How do you think dialogue among SM users, surrounding the issue of MPs, could impact one's attitudes on the topic?
4. How could the environmental views and actions of prominent figures in your life (friends, family, influencers), depicted on SM, affect your perceptions related to MPs?
5. How do you think the number of likes, comments and overall sentiment in the comment section of a particular MP-related post on SM could affect your perceptions?
6. Do you feel capable of making an impact on MP/plastic pollution through your actions? Why or why not?
7. How might SM influence your ability to reduce plastic use and improve plastic disposal? Do you think it could provide helpful tips or motivation?

Role of Public Perceptions in Behavioral Change (TPB Constructs) (SRQ4)

8. How do your personal attitudes towards MPs influence your daily consumer behaviour? Do they influence your choice of products or your intention to engage in recycling? (attitudes)
9. Do you think seeing more information about MPs on SM would change your behaviour regarding plastic use? How?
10. Do you feel that the PEBs of prominent figures in your life (family, friends, SM influencers) depicted on SM would pressure you to reduce your own plastic consumption (SN)?
11. How do you think participating in environmental groups/communities on SM could influence the behaviours of the participants?

Concluding Question

2. Barriers and Solutions:

- In your opinion, what are the biggest barriers to people changing their behaviour to reduce MP pollution, and how could SM help address these barriers?

Appendix C

Elaboration on the TPAM

Informational Functions

According to Ballew et al. (2015), some of the most prominent informational functions of SM include the facilitation of the production of “viral” media and the dissemination of information about environmental or social issues. These authors further argue that Twitter, which may be considered a microblogging social network (enabling the dissemination of public opinions and information), has many important features that support informational functions. Some of these features include “tweets” (posting text about information and opinions which allows for active participation in public discourses), “follows” (allowing the user to receive tailored content such as news streams), “hashtags” (allows posts to be connected to specific trends or topics, enabling users to search for and find information via these “hashtags”), “retweets”, “shoutouts” & hyperlinks (“tweets” can be shared on other user’s accounts via “retweeting”. Users can also be directed to certain posts and information via “shoutouts”. Additionally, users can also share third-party content via the use of hyperlinks). Ultimately, these features enable and facilitate the rapid dissemination of information by organisers to their network of followers, while also allowing users to easily cluster and scan for information that is most pertinent to what they are searching for (Ballew et al., 2015).

The ultimate goal of SM’s informational functions is to therefore spread awareness on particular topics, some of which may include environmental issues. This is leveraged by environmental NGOs, as it is common for them to make use of a variety of SM channels (Twitter, Facebook, Youtube) to spread awareness, create visibility and allow for the circulation of important information pertaining to their environmental campaigns (Ballew et al., 2015). This is particularly relevant to them considering that distributing information via online technologies (including SM) has been directly correlated with wider readership and knowledge content as users have increased

access to and engagement with a richer body of knowledge (Newell & Dale, 2015 as cited in Ballew et al., 2015). Imagery used in SM platforms may also play a crucial role in engaging the public (Ballew et al., 2015; Henderson & Green, 2020) which is particularly relevant for the context of MPs considering their lack of visibility (Henderson & Green, 2015). Ballew et al. (2015) adduce that images may be more effective than text-only functions stemming from the fact that they are more captivating and engaging. This is further echoed by Henderson & Green (2020) who state that in the currently evolving media landscape, images are essential for environmental communication. In their findings, they further adduce that when their participants were shown images of plastic pollution, it induced intense reactions in the form of shock and disgust (Henderson & Green, 2020). However, both of these forms of content may be useful depending on the intended purpose of the SM campaign/post and the preferred type of engagement. As outlined by Shahbaznezhad et al. (2020), the type of content may have a moderating effect on SM user's engagement. Rational content, with the intended purpose of disseminating factual information, may be effectively leveraged in image format to generate likes (passive engagement) and contribute to its "virality". However, the nature of this format is less conducive to stimulating conversations (via commenting). On the other hand, emotional content which aims to stimulate visceral and emotional responses to environmental information, for instance, the impact of MPs on environmental and human health, is more effective for stimulating active engagement (conversations and dialogue in the comment section) when it is disseminated via video format (Shahbaznezhad et al., 2020). It is also important not to neglect the issue of "pollution fatigue", as Henderson & Green (2020) indicate, environmental SM campaigns that overuse content that aims to elicit feelings of fear and disgust may have the unintended consequence of overstimulating their audiences resulting in them being accustomed to or inured by this type of content. Ultimately, no longer inducing its intended effect.

When it comes to stimulating PEB, Ballew et al. (2015) indicate that informational functions involving the dissemination of information can facilitate personal pathways to PEB by aiding users in achieving personal goals required for personal development in addition to environmental goals. For instance, initiatives to help the environment, promoted on SM, such as a litter pick-up can also help users achieve personal goals, potentially in the form of "giving back" to society, connecting with the community and fostering friendships. Informational functions can therefore be leveraged to highlight multiple reasons for engaging in these behaviours which can contribute to making motivations salient (Ballew et al., 2015). Additionally, creating awareness about different ways to connect with nature and their associated benefits can encourage individuals to also participate in such activities and form their own connections with nature. Including pictures of local environments in these posts can also be particularly impactful in stimulating more visits to the area

and therefore developing said connections, as these images can increase the salience of connecting with nature and as a result facilitates the connection with PEB.

The informational functions of SM can also enhance socially rooted mechanisms to engaging in PEB. Platforms such as Facebook, Instagram & Twitter can depict injunctive and descriptive norms. For instance, posts on these platforms can convey what the community is doing to aid in environmental protection which may influence others to also participate in said actions. SM posts are also accompanied by social indicators in the form of likes and comments (Facebook, Instagram) which can influence user's perceptions of the issue or information on the post. Twitter's "retweet" and "shoutout" technologies can also act as an indicator of social approval. Ultimately, these technologies produce cues about the degree of social acceptance or endorsement of particular actions/attitudes or information (injunctive norms). Furthermore, they influence users' perceptions of how widespread certain attitudes/actions are (descriptive norms). Additionally, they may also produce connections between social status and PEB by conveying what social practices (attitudes or behaviours) are socially valued. Although the visibility of these SM technologies (likes, comments) may positively influence perceptions and behaviours, there is also a potential negative consequence that may emerge as a result. Ballew et al.. (2015) indicate that content may have overall positive connotations via liking and commenting, however, there may also be negative perceptions that are visible in the comment section which may influence others and hinder attempts to foster positive attitudes and PEB. Additionally, this issue is further exacerbated when there is a net negative sentiment. Shahbaznezhad et al.. (2020) state that there is a significant negative effect amongst the net sentiments and the number of comments, thus alluding to the fact when individuals have a negative sentiment they feel more inclined to comment therefore resulting in more negative comments. Conversely, when there are more comments with positive sentiments, there is a direct correlation with an increased amount of likes (Shahbaznezhad et al., 2020).

Browsing "green communities", such as SM groups with a focus on the environment, can also have significant informational functions. Shen et al. (2023) adduce that the dissemination of environmental information and knowledge within these communities can positively impact individuals' environmental values leading to the formulation of ecological perceptions and environmental concerns. These authors also stipulate that this process increases environmental awareness and positively corresponds to improved attitudes and an increased propensity to engage in recycling behaviour. User-generated content within these groups also plays a strong role in encouraging PEB. Ultimately, browsing green communities via SM platforms has a strong capacity to shape perceptions and promote PEB (Shen et al., 2023). Furthermore, for the individuals directly participating in these "green communities" on SM, the contextual factors can

be leveraged to form pathways to PEB. Interventions making use of contextual pathways may leverage the informational functions of SM to promote PEB by spreading awareness and creating visibility for community-specific issues. The dissemination of this information to the community members may produce an increased “sense of community” by developing collective perceptions of community concern and action (Ballew et al., 2015). Furthermore, in order to produce this “sense of community”, it is important to make use of words that highlight a sense of belonging or attachment to the community such as “we”, “family” and “community” thereby emphasizing a joint sense of purpose and goals (Ballew et al., 2015).

Experiential Functions

Ballew et al. (2015) highlight that SM possess technologies that enable users to have unprecedented experiences such as interactive, self-directed participation and learning that they may not come across in offline environments. SNSs serve experiential functions by encouraging users to engage in collective action for social causes via “online activism” and philanthropy, for instance, SNSs can be leveraged to stimulate crowdfunding and online petitioning for environmental issues. In the past, Green Peace has also made use of Facebook as a “mobilising tool” to incite participation in their environmental campaigns. Instagram is another social networking site (SNS) with strong experiential functions. It enables its users to act as “photographers” and share their experiences via images to their network of followers to “like” and “comment” on. Similarly, YouTube enables its users to act as “videographers” by allowing them to upload, watch and share videos with other users. The experiential functions of these platforms allow users to document valued moments of their lives, which may include experiences with nature and other environmental topics, instantaneously to a potentially global audience, a novel experience which does not usually occur offline. Furthermore, SM users can participate in other self-directed behaviours such as graphics design contests focussing on developing “memes” with the purpose of spreading an environmental message, as such moderating the link between a connection with nature and pro-environmental action. Ultimately, the experiential functions of these technologies may be most effectively matched with personal pathways, such as strengthening the connection with nature, to pro-environmental action. Furthermore, these functions may be particularly attractive to the youth who value interactive technologies that empower them, provide them with tools and increased efficacy to take ownership of environmental issues (Ballew et al., 2015).

Ballew et al. (2015) also outline alternative technologies on SM that have experiential functions such as interactive games and mapping tools. A two-part study conducted on an interactive game, known as “Power House”, had interesting revelations about users' engagement with PEBemanating

from their participation in the game. Although this game may not constitute SM, similar ESG can be found on SM platforms such as Facebook. The game tracks the energy usage of a family of four with the goal of stimulating more sustainable practices to reduce the family's energy consumption and prevent them from overloading their electricity. The participants are provided with information regarding the energy usage intensity of each appliance. The first part of the study was conducted on workers in a laboratory in which it revealed that the individuals in the laboratory who participated in the game were strongly correlated with increased sustainable offline behaviours in which they were more likely to turn-off all the electrical appliances in the laboratory prior to exiting the room. Following this, a field study was conducted in which it was observed that individuals who participated in the game (who played for an average of 17 days) expressed increased values of reduction and conservation in their at-home lives. These individuals were more likely to significantly reduce their energy usage at home, up to 30 days post-participation in the game. This may be explained by the fact that the experiential functions of the game allow for previously absent motivations to arise in regards to conservation and pro-environmental action. Additionally, it facilitates the connection between concerns and taking action, as by simulating engagement with conservation activities, energy conservation motivations may become more salient. This is in correspondence with the TPAM (Ballew et al., 2015).

Another example is “YardMap”, a conservation-based SNS. It makes use of a Google Maps interface to allow its users to visualise their environmental practices. The individuals making use of this SNS have the option to choose a particular location and outline characteristics of the specified location (e.g., the use of pesticides on the vegetation). The participants are then tasked with virtually managing and developing their chosen location. The extent to which these practices are concerned with environmental sustainability may have an influence on the users' offline behaviours. The experiential functions of YardMap, primarily in the form of simulating environmentally sustainable practices, produce or facilitate personal pathways (making motivations, stemming from concerns, more salient and reinforcing environmental identities) to pro-environmental action. In addition to the experiential functions, YardMap has many relational functions, playing a role in generating socially rooted pathways to pro-environmental action. For instance, users can follow, like and comment on different users' locations. Furthermore, users can earn badges for appropriating different sustainable practices, which is publicly visible in the social network's news feed. These badges may act as a visual representation of social status or, in the case that the individual possesses many badges, prestige. Ultimately, this platform facilitates the depiction of norms, both descriptive and injunctive. Thus, users operating in this virtual environment, learn about and are influenced by both of these norms as they can view the sustainable practices of others (descriptive norms) while also receiving positive feedback when

they exceed the norms (injunctive norms). This has a tendency to foster awareness of environmental impacts (both positive & negative) leading to an increased inclination and engagement towards offline conservation practices. Therefore, in line with the TPAM, leveraging both experiential and relational functions by fostering public visibility of the users' contributions and overall participation induces socially rooted (specifically normative) pathways to pro-environmental action (Ballew et al., 2015).

Online groups such as bulletin boards (although not specifically considered SM, they may have some overlapping features with SM groups) also have prominent experiential functions in the sense that they simulate real-life interactions and allow for collaboration among the users. For instance, a qualitative study conducted on the platform Wikispace, in a corporate environment, revealed that collaborators on the platform experienced an increased "sense of community" in relation to their organization, producing heightened motivations to participate and cooperate with other users in comparison to face-to-face settings. This may contribute to fostering "communities of action" (contextual pathway) which can be leveraged for environmental purposes. Ultimately, the findings suggest that the experiential functions of online groups can stimulate increased participation and interactions in relation to offline groups. Furthermore, these functions are most effective when matched with contextual pathways to PEBand therefore should be leveraged by creating a "sense of online community" surrounding environmental issues (Ballew et al., 2015).

Relational Functions

As outlined by Ballew et al. (2015), the relational functions of SM are most predominantly found in social networking sites (SNS). Some of the technologies that these social networking sites possess embody the role of relational functions by promoting the attainment of relationship-oriented goals via the constructions of social identities, and social connections, thereby "bridging" social capital. They also provide grounds for the maintenance of existing social relationships, capital and connections, ultimately acting as "relationship amplifiers". These functions are also leveraged by organizations to build relationships with stakeholders, to build a sense of community in both offline and online realms and to overall foster social connections. The social networking site, Facebook which is the most commonly used SNS, has many technologies dedicated to relational functions, some of which overlap with the platform Twitter. Facebook has a strong capacity for fostering dialogue via messaging and commenting, furthermore, it facilitates multi-person interactions via the construction and engagement with public/private groups. Facebook also has technologies similar to Twitter such as "following", "shoutouts" & "liking". The combination of these technologies is a testament to the platform's competence in facilitating relational functions such as developing social interactions, engaging in public dialogues and constructing social

identities (Ballew et al., 2015). Overall, Ballew et al. (2015) deduce that the relational functions of SM are most effective in stimulating social pathways to pro-environmental actions or behaviours.

Although this is the case, the relational functions of SM can also generate personal pathways by fostering dialogue, interactions and identity development. For instance, as proposed by Ballew et al. (2015), an environmental organisation could encourage dialogue among its “followers” or “friends” to produce or strengthen environmental identities by emphasising the importance of a strong connection with nature and initiating conversations by asking “What’s your favourite #flower?”. Online communities and their relational functions can also be leveraged to produce and facilitate contextual pathways, primarily via creating a “sense of community”. The public/private sphere in online communities can become blurred considering that these communities are co-created by their members allowing for conversations to arise that are personally relevant to them and enabling communication to be conversational as opposed to one-sided, contributing to building and maintaining a sense of online community. Dialogue and interactions play a crucial role in generating a sense of online community; thus, organisers of these online communities should emphasise the importance of and leverage relational functions to stimulate dialogue and interactions. In doing so, the organisers should make these communities personally relevant to the members by considering their variances, tailoring the content to best suit their interests and encouraging self-expression. If the aforementioned criteria are met, members may become highly engaged with the community, increasing the salience of staying up to date with the community. Ultimately, the construction of an online community that allows its members to exhibit feelings of psychological connectedness by making use of relational functions, can be leveraged to encourage both online and offline participation in PEBs (Ballew et al., 2015).

According to Ballew et al. (2015), fostering dialogue on social networking sites can occur via one-on-one communication as well as multi-person communication which produces somewhat of an “online arena” for dialogue. For instance, a Facebook group can be made with the intention of fostering socialisation via dialogue with and among the group members, facilitating open discussions on various matters. The extent to which these matters and exchanges are concerned with environmental topics could engender an increased uptake of PEBs. Online communities can be considered “arenas” for information exchange and sociability or mediums for enhancing community connection and social capital. However, the mere existence of an online community does not necessarily result in dialogue and interactions. The organisers of these SM groups/online communities need to play a central role in stimulating dialogue and encouraging self-expression. Thus, relational functions should be at the forefront of online environmental groups/communities

to generate and facilitate social & contextual pathways which can be leveraged to promote pro-environmental actions in both online and offline environments (Ballew et al., 2015). The Facebook application, Hot Dish, is a good example of how relational functions can facilitate social pathways to pro-environmental action. It is primarily concerned with facilitating and promoting information and knowledge sharing, commentary and PEBs in response to climate change for its users. The application also encourages participation in both online and offline environmental-related team challenges. A study conducted on this application revealed that the users, post-participation, had increased environmental knowledge, PEBs, motivation to socialise with like-minded individuals via the application and new perspectives & insights relating to environmental science. Ultimately, Ballew et al. (2015) deduce that the relational function of this online community/application such as facilitating dialogue and the construction of social identities acts as a vital moderator of social influences in converging to PEBs. Another study conducted on the Facebook application My Everyday Earth also revealed the influence of the social context on PEBs. It is an application that promotes energy-saving among university students and it encourages engagement in both online and offline activities. The study identified that the most significant influence to save energy and continue participating in the application was associated with the influence of peers. Ultimately, technologies or programs on SM, acting as online communities/groups, that support relational functions and social interactions associated with environmental matters may be drawn to facilitate online and/or offline participation in PEBs (Ballew et al., 2015).

As highlighted by Wairagade et al. (2024), the current day and age we live in, characterised by a SM epoch, has significant implications for identity formation and the construction of “online identities” as SM presents users with unparalleled and previously non-existent opportunities to present themselves and facets of their lives to potentially large audiences via intricately crafted online personas. This is primarily attributed to SM's relational functions which are made use of when navigating through SM, providing users with numerous opportunities to engage in self-expression and connect with like-minded individuals which has a positive effect on online identity formulation. Furthermore, SM users engage in numerous self-presentation strategies to depict a lifestyle that is socially accepted and praised, ultimately conforming to societal norms. Turkle (2011) as cited in Wairagade et al. (2024) indicates that these self-presentation strategies are constituted by an intricate curation and selection of aspects of one's self that best align with social expectations, however, this may produce a digital facade that does not represent one's offline persona. On the contrary, Wairagade et al. (2024) found that there is a spill-over effect from individual's online identities to their offline lives. This alludes to the fact that the construction of “environmental online identities” via SM may result in these environmental attitudes, values or

behaviours being transferred to their offline lives. This is further corroborated by Wallace & Buil (2022) who state that “green virtual identities” are commonly associated with conspicuous green behaviour which may have narcissistic tendencies, for instance, like-seeking and social approval, however self-presentation on SM, even when motives may be deceptive, is still a motivator for some PEBs. In addition to influencing the formulation of individual identities, Wairagade et al. (2024) outline that SM also plays a vital role in developing and reinforcing group identities. The relational functions of SM allow like-minded individuals to connect and construct shared identities based on common interests, affiliations and beliefs. Thus, having implications for both personal and collective identities (Wairagade et al., 2024).

Table 7
SM platforms and their accompanying functional capacity.
Note. Adapted from Ballew et al. (2015).

SM	Description	Level of Functional Capacity (High, Moderate, Low)		
		Informational	Relational	Experiential
Facebook	Most commonly used SNS which has numerous features (e.g., games, groups). Users on this platform can post images, links, text, videos etc.	High	High	High
Instagram	Online mobile application which has a focus on image and video sharing by enabling users to upload, share and edit photos & videos by utilising filters.	Low	High	High
YouTube	Online video-sharing website that allows for users to upload, watch, and share videos (e.g., funny clips, vlogs).	High	Low	High
Blogs	Online journal used for reading and writing long-form narratives as well as inserting graphics, interface customization, and dialogue using the comments section.	High	Low	High
Twitter	Widely used SNS or microblogging technology that limits posts to 140 characters and is useful for instant conversations, customizable news feeds, and online networking.	High	High	Moderate