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A social identity approach to understanding sustainability and environmental behaviours in South Africa

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ABSTRACT

In recent years, change in behaviour towards the environment has gained prominence as a policy tool to influence positive environmental value. Simultaneously, the role played by social identity in promoting pro-environmental action is gaining recognition. Within this work, the intersection between collective group identity and environmental behaviour has received very little attention. Group norms are considered a strong predictor of pro-environmental behaviour, yet the influence of social identity and collective action on environmental action has not been adequately investigated in a multi-ethnic setting. Within this context, this study examines the affective component of social identity influence on pro-environmental action. More succinctly, this study demonstrates how outgroups and in-groups' relations and broader sociocultural structures, values, interest, and norms impact environmental and sustainability transitions behaviours. Through interviews with participants across the four dominant social groups in South Africa, this study provides compelling evidence that country-wide expressions of social identity and ingroup dynamics shapes the individual behaviour regarding environmental and sustainability concerns and further strengthen the individual's perspective for social environmental transformation. This study advances the need for a social-identity centred approach to foster pro-environmental and sustainability outcomes.

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Social identity; social group behaviour; social structure; pro-environmental behaviour; sustainability transitions

Highlights

The influence that social contexts and social group memberships have on individual perception and behaviour provide important insights to build an empirical base for an inclusive environmental and sustainable action. We applied the theory of social identity to explore these processes and how normative group values and group interest shape environmental behaviour.

1. Introduction

It is widely held understanding that issues associated with climate change and waste related effects on the environment are linked to unsustainable behaviour (Barakat and Aboulnaga 2023; Marshall

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and Farahbakhsh 2013; Singh and Singh 2017). Therefore, sustained response to shift societal norms through effective behavioural change is important in driving sustainable development and promoting pro-environmental behaviour. Whilst monetary approaches and policy incentives have been applied to manage and improve environmental behaviour; however, studies have shown these as transient and restrictive drivers without long-term transformational benefits (Lau et al. 2024; Mbassi, Hyoba, and Shahbaz 2023).

More recently, there has been a growing body of studies using social psychological framework to understand the multi-dimensional processes of pro-environmental behaviour (Larson et al. 2015; Qiu et al. 2024; Zulkepeli et al. *In Press*). Building on empirical evidence and contributions from various fields in the literature such as environmental psychosocial determinants and studies focused on moderating conservative lifestyle behaviour (Pocock et al. 2023), environmental citizenship (Larson et al. 2015), consumption choices (Ammann et al. 2023), land stewardship (Feldermann and Hiebl 2022) and green identity (Asif et al. 2023) have been used to promote pro environmental behavior. Arguably, environmental policy interventions are shifting from individual behavioural change to collective behavioural change in enhancing environmental quality. Comparatively little has examined the dimensionality and the range of ways in which social group environmental behaviour is operationalised in the Global South. We argued for consistency and systematic cross-situational perspective in driving societal-wide pro-environmental values. Specifically, reflecting on how social groups identities could influence and guard pro-environmental action. When individuals acknowledge that their social group values and interests are both prioritised and reflected in pro-environmental action can translate into coherent and transformative pro-environmental actions (Liu and Yu 2023; Mouro and Duarte 2021; Tsai, Stritch, and Christensen 2016). The extent to which group dynamics and collective phenomenon influences pro-environmental action can have important implications on effective interventions on fostering pro-environmental behaviour change.

The objective in paying close attention to a broad range of social processes in promoting pro environmental values is certainly not to establish a new theoretical paradigm but to contextualise the power of cultural norms, group values and communal interests in improving environmental sustainability and governance of sustainability transitions (Head, Klocker, and Aguirre-Bielschowsky 2019; Johnson, Bowker, and Cordell 2004; Medina et al. 2019). Sustainability transitionist and environmental psychologists emphasise the benefits of examining the relationship between group behaviour and more succinctly interconnected collective intentions and norms (Axon 2018; Becker, Bögel, and Upham 2021; Chapin III and Knapp 2015; Masterson et al. 2017; Welch and Yates 2018). This complementary understanding arises from among many simultaneous social and cultural group influences underlying collective environmental behaviour (Jans 2021; Postmes et al. 2005). By exploring the interaction and influence of collective group processes, this study establishes the social context in which environmental behaviour occurs. This paper introduces the concept of social identity and shapes how this is implicated in both the initiation and formation of individual environmental behaviour.

It is not always clear if pro-environmental and sustainability policies capture both individual and social group sensitivities (Bomberg and McEwen 2012). Therefore, interventions aiming to change individual behaviour should consider social group to stimulate behaviour change. To fill this gap, this study proposes that groups and individuals in the same geographical space may respond differently to environmental and sustainability concerns, making pro-environmental policies unachievable and ineffective. Importantly, commonly held impression within the social group may reinforce individual-level behaviour offering an objective component of group experiences, a reflection of how people make sense of environmental issues. Therefore, social group roles and self-categorisation may be used to predict the dimension of behaviour, and how individual identity correlates to these social systems of classification and description.

Developing and fostering societal action towards sustainable future at a community level are critical when tackling sustainability and transition challenges. Based on this understanding, our research examines the influence of collective action on group environmental and sustainability behaviour

(Adriaanse et al. 2018; Kapucu and Beaudet 2020; Neal et al. 2011). Studies have highlighted the efficacy of social identity in framing collective action towards implementing the SDGs (Bryson, Crosby, and Stone 2006; Emerson, Nabatchi, and Balogh 2012; Kapucu and Hu 2020; Wong 2019). Therefore, this study adds to the broader literature by exploring the centrality of social identity on individual and group intention towards environmental and sustainability values.

The social identity approach stems from the embeddedness of social processes and perception of oneness that are congruent of group identity and social structures (Hu and Cheung 2024). Scholars argued for the element of collective thought and collaborative governance, using various dynamic social processes and conceptual frames to model the systematic way individuals and social group shape their behaviour towards the environment (Jackson and Smith 1999; Verkuyten 2016). Therefore, social identity becomes a general frame of making sense of the social world with deep roots in perceptual, conceptual, historical and social processes (Rhodes and Baron 2019). We theorise that environmental transformation and sustainability transitions processes are complex social developments and multi-dimensional. And that deepening our knowledge of social dynamics and identities is useful in understanding sustainability transitions and pro-environmental behaviours. To do this, we use South Africa as the illustrative case for the investigation.

The study is structured as follows: Section 2 explores literature review and the mediating role of group social processes on environmental and sustainability transitions behaviour. Section 3 describes the methodological approach, data collection and analysis techniques employed in this study to draw findings. Section 4 presents the study results, including interpretations, imperatives of social identity on collectivistic cultures traits that reinforces individual and group practices and attitudes, towards framing an environmental and sustainability identity. Section 5 describes set of social identity-based outcomes for advancing positive environmental policy and behaviour. Section 6 assess the study limitations and scope for improvements in future research. And Section 7 concludes the study with a summary, contribution and recommendations for future research.

2 Literature Review

2.1 *Embedded perspective of social identity in environmental transformation*

Social identity and group categorisation form the basis and understanding of environmental identity, a sense of connectedness with the physical environment (Clayton 2003). In other words, social identity is a learning and active sharing activity, a process by which individuals develop knowledge about traditional values, norms and social practices (Heredia et al. 2013). Societal transformations entail fundamental changes which may provoke complex interactions and contestation of values evident in a multicultural setting (Swilling 2020). In considering approaches to fostering pro-environmental and sustainability values, it is important to acknowledge that the relationship between individuals and group environmental values, and the behaviour they demonstrate is a complex one.

The concept of social identity builds from the seminal work of Tajfel and Turner (1978) and refers to how individuals construct and situate their perspective and identity in society. Research showed that to act collectively group members develop a shared understanding of group values and interest, which in turn, motivate individual members to behave collectively (Akfirat et al. 2021). Therefore, promoting pro environmental behaviour without considering the wider societal social structure will not foster developmental changes (Irene 2021; Mackay and Schmitt 2019). The interconnectedness of social structure, beliefs and cultural norms enable the individual to draw experiences and perception on how the social group view the world. We define social structure as a cluster of different social groups and/or traditional institutions and how they interrelate and co-exist in a shared space (DiMaggio 2019) (Figure 1). From this point of view, human experiences begin with interpersonal relations with group members, observing and attending to conditioning that are relevant to the social group (Akfirat et al. 2021; Irene 2021).

Group related activities and uncertain environmental factors compel individuals to collaborate more, causing them to forge a stronger communal bond and higher structural power (Fullan 1998). Additionally, group members describe themselves in terms of a particular social context and display unique collective similarities as a group member different from other groups thereby manifesting biases and conflicting key values to intergroup relations (Abrams and Hogg 2010). It is widely debated among scholars that insights from sociocultural studies can provide a groundwork for observing and monitoring social group biases, although prejudices can get embedded within the social system (Dovidio, Gaertner, and Pearson 2005). However, it is important to map the manifestation of collective constructs and how they affect individual behaviour and actions towards the environment (Bogaert, Boone, and Declerck 2008). Social norms intersect group values and obligations shaping an individual's beliefs and how they should act (Anderson 2000).

There are several other social structure, paradigms and group processes that addresses the theoretical background of intergroup relations such as Realistic Conflict Theory (RCT), which focuses on the assumption that intergroup conflict is derived from the individuals desire to maximise interest of their group at the cost of other social groups (Mutezo 2015). Equity Theory (ET) on the other hand highlights that personal anxiety and intergroup conflict arise from injustice to the group in terms of distribution of resources (McKown 2013); Relative Deprivation Theory (RDT) describes dissatisfaction of intergroup caused by measures of socioeconomic and political deficit that are comparative rather than absolute (Stewart 2006). The social identity theory (SIT) is relevant to this study as it provides a coherent social framework that captures the perspective of normative elements and beliefs potentially shaping the environmental worldviews of individuals across the social groups (Day 2011) (Figures 1 and 2). The awareness of group membership can be attributed to being characterised by the larger society on the ground of distinct cultural/ traditional legacy and complex historical connections (Barak 2008). Therefore, emergent environmental identity is based on the contextual specificity of the social group, cultural and societal factors (Figure 1).

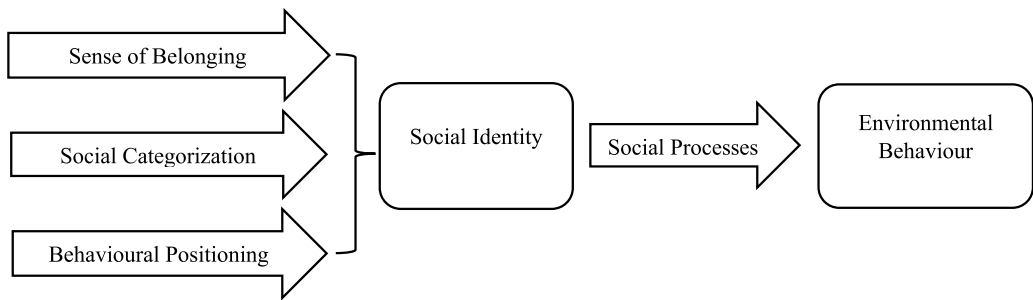


Figure 1. Theoretical model of social identities in environmental action. Source: Own illustration.

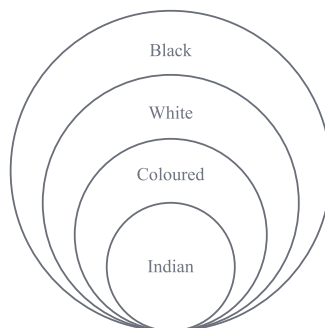


Figure 2. Cultural and population mosaic in South Africa. Source: Own illustration.

2.2 System approaches to understanding environmental behaviour

Deep system changes and accelerating sustainability transitions are less effective across culturally diverse settings (Feola 2020; Häyrynen and Hämeenaho 2020; Schot and Kanger 2018; Swilling 2020; Wieczorek 2018), raising the question of how interventions can be used to guide the design of cultural adaptations strategies (Castro, Barrera Jr, and Holleran Steiker 2010; Schot and Kanger 2018). Recent evidence suggests that sociocultural adaptations and multi-level studies are valuable to accelerate the directionality of sociotechnical changes and environmental transformation (Irene et al. 2023; Schot and Kanger 2018). It does so through the configurations of actors, specific niches and interconnected social and economic factors (Schot and Kanger 2018). This perspective complements studies in social identity and relations to environmental collective action and responses to societal transformation (Grin, Rotmans, and Schot 2010; Levine et al. 2005; Rotmans, Kemp, and Van Asselt 2001; Swilling 2020).

Within the context of growing cultural diversity, dynamic contestation could emerge between the social groups imposing divergent directions and unrealistic challenges on sustainability transitions (Irene et al. 2023). The idea of embedding social identity processes to transition and pro environmental studies underscore the importance of going beyond generic individual experiments, incorporating place-specificity, community niche factors and localised institutional framework to society-wide transitions (Coenen and Truffer 2012; Coenen, Raven, and Verbong 2010; Hansen and Coenen 2015). This approach offers the opportunity of broadening and deepening the scale of societal transformations towards collective actions. Drawing from this, the Multi-Level Perspective – MLP and Social Practice Theory – SPT used in most sociotechnical studies provide further empirical support for analysing the complex social interactions and embeddedness of social actors especially in culturally diverse environment (Geels 2002; Schot and Kanger 2018). The findings from this study informed the conceptualisation of a functionalist paradigm providing the basis for mapping the complex interpersonal social processes influencing group behaviour. The social identity viewpoint examines the function of society and shared concepts to real-world sustainability challenges and solutions. The aim of this study is not to provoke a comprehensive analysis of the MLP and SPT but relate social identity as a complementary theoretical framework for conducting the analysis and understanding of complex societal challenges.

2.3 The concept of social identity in the South African context

Although social identity is a complex construct, its construction is relevant in racially and ethnically diverse and heterogeneous population who share distinct cultural characteristics and experiences. Culture is a unifying frame that allow individuals to conceptualise the perception of self, community and the real world (Kitayama, Duffy, and Uchida 2007). Group-focused distinctiveness and customs that apply to sociocultural groups provide a framework that guide the values, beliefs and environmental worldview of the people (Muñoz and Mendelson 2005). Hill (2006) argued that identifying the construction of environmental worldviews is valuable because it provides an understanding into environmental and social behaviours, including learning for environmental social transformation.

While some studies explore factors influencing perception of environmental concerns, however, few researchers have explored the role that social identity plays in shaping environmental behaviour (Brieger 2019; Charness and Chen 2020). The role social identity plays in influencing societal transformations and pro-environmental values in South Africa has not been adequately explored. Therefore, findings from a limited number of scholarships enhance the need for further empirical studies (Irene 2021). For example, Irene (2021) found divergent perception among the social groups in South Africa on developing unconventional energy systems based on economic and environmental factors. Similarly, Willems et al. (2016) found difference in social group perception relative to risks and benefits of unconventional energy systems in South Africa. Previous studies have demonstrated

the need to explore the degree of ingroup and outgroup perception about sustainability transitions (Burghard et al. 2021; Colvin 2020; Upham, Bögel, and Johansen 2019) supporting the theory that low uncertainties about the cost and risks of the energy transition have an impact on sustainability outcomes (Pye, Sabio, and Strachan 2015).

Social categorisation across the South Africa population describes the distribution of the dominant ethnic groups (tribes) as “having distinct culture”, denoting that the people share commonality of beliefs, values, norms, prospects, including customs and traditions, as well as sharing recognised social networks and ideals of behaviour that describe them as a cultural group (Betancourt and López 1993) (Figure 2). Within the framework of ethnicity as a social construct, social identity is used to understand the variations in environmental values across the population. In- and outgroup identification and the dynamics that create these differences (biases, generalisation, emotions, prejudices and stereotypes) can trigger conflicts in the landscape. The differences between the social groups can become more evident and predominate leading to disruptive activities rather than transformational innovation (Denning 2005; Newman and Dale 2005; Slee et al. 2021). At the same time, cultural heritage is important in defining the social identity of the individual which may overlap several other subgroup configurations/ affiliations of the individual in terms of class, occupation, corporate culture, gender, education and personal ability. These social configurations can provoke contradictions of ideas and values resulting to social crisis (Bonthuys 2005; Wasserman 2005). For example, studies by Booyesen and Nkomo (2010) highlight incidences of social/ racial conflicts between the various dominate social groups in South Africa (Figure 2). Furthermore, the consequence of power imbalances among the social groups in South Africa illustrates the need to apply the theory of social identity in advancing social environmental transformation (Figure 2). For instance, the White social group have the most management and economic power while the Black have the political power (Booyesen and Nkomo 2010).

Furthermore, the effect of multiculturalism produces unequal power relations among the social groups. Accordingly, the dominant groups may have considerable influence in the society, promoting only values that serves their interest (Figure 2). The effects and dynamics of these imbalances (economic, social and political) and the racial/social divide in the South Africa landscape could pose a barrier to environmental transformation (Booyesen 2007; Irene 2019; Irene 2021). Furthermore, the effects of power dominance of an individual in the social group may be repressed in other sub systems or social groups. Sustainability and environmental transformation and may be considered too radical/ fast or too slow provoking the spatial context upon which it is assessed (Booyesen and Nkomo (2004)). Booyesen (2007) highlighted cases of privileges by the dominant social groups and threat posed by the minority groups to transformational changes in South Africa. The Black and White population constitute dominant social groups in South Africa while the minor social groups are the Coloured and Indian groups. For example, the South African Africa National Congress affirmative action policy measures aims to empower Blacks and Coloured groups rather than Indians, and the White social groups (Booyesen 2006; Irene 2021; Ngambi 2002).

Studies have demonstrated that social identity groups prefer clear, distinct, and protected spaces or boundaries and identify their ingroup configuration as homogenous; social groups are locked-in values, norms and culture (Roccas and Brewer 2002) which becomes challenging for transformation to take place. Nooney et al. (2003) suggest that individual worldviews, behaviours and environmental consciousness “are held in different ways across the social groups of the population”. Therefore, conditions that increase difference between the social groups are likely to develop divergent environmental behaviour.

From this perspective, social identities can adapt or change through continuous interaction with the environment. From a social–ecological systems perspective, developing an inclusive, yet distinct sustainable interventions are central in building environmental self-efficacy (Irene 2019). The fostering of a broad theoretical and empirical basis that aligns to the values of the individual social group is critical to social environmental transformation, provoking studies highlighting collective action for developing pro-environmental and sustainability behaviour (Jesse, Heinrichs, and Kuckshinrichs

2019). These differences will become progressively significant in today's world as multilateralisation requires cultures and social networks to cooperate in advancing societal transformation (del Miño and Olmedo 2014), bringing the importance of social identity to the fore. Therefore, studies on social identities are expected to provide useful insights to cultural responses to environment issues, environmental identity formation and culturally prescriptive intervention framework.

2.4 Environmentally specific group categorisation

Drawing on the theory of social identity,¹ this study posits that an individual's membership to a social group strengthens the individual's solidarity, cohesion and attitude towards environmental sustainability (Figure 3). In consequence, the willingness to consider group values and collective interest (strong environmental identity and strong economic incentives) to sustainability transitions remain the reflexive position of this study. Based on the analysis of literature, this study hypothesises that the configuration of the social structure and social group processes are keys to understanding the question of whether and how sociospatial changes could be initiated and what role social actors play in shaping the directionality of societal transformation. Accordingly, this paper advances the theory of social identity as the crucial factor underpinning sustainability outcomes. More specifically, the study examines the question of whether environmental pressure induces the behaviour of individuals in the social group, including the direction of transformational change, and if so, which trajectories would they choose to improve environmental well-being (Figure 3).

Sustainability transitions are complex and chaotic processes that are anchored on significant adaptation and has different implications for different group of people in society. It is further necessary to note that these changes may create sectorial barriers among incumbent actors triggering a range of sociocultural conflicts and uncertainties in the transition pathway (Geels et al. 2016). These interpretive implications and sociocultural dimensions have been found to weaken both pro-environmental values initiatives and sustainability transitions policies (Jones et al. 2009; Van Tonder et al. 2023). This does not imply that governance of sustainability transitions and pro-environmental policies will be consensual, as different social groups and niche actors may have different sociocultural interest and meanings, however, it does imply that pro-environmental and sustainability concerns should be framed on broader societal examinations of social values, norms, interest and practices.

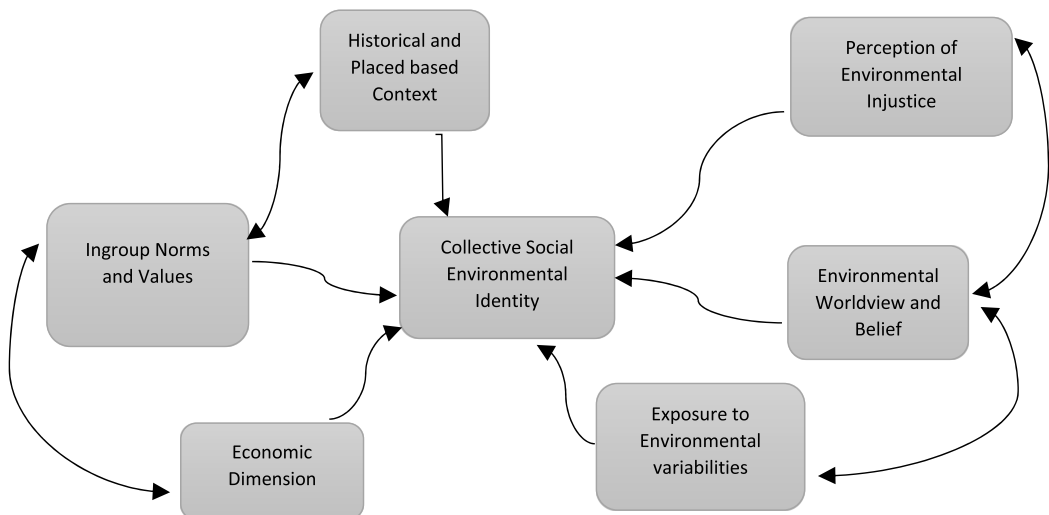


Figure 3. Conceptual social identification framework. Source: Own illustration.

2.5 Social identity effects on individual behaviour

Social identity is a learning and sharing activity, a process by which individuals develop knowledge about traditional values, norms and practices (Heredia et al. 2013). Research emphasis on how social identity can be defined theoretically and analysed empirically on environmental related issues (Ellemer, Kortekaas, and Ouwerkerk 1999; Huang, Ting, and Fei 2021).

Evidence suggests that when social norms are aligned to pro-environmental goals, they can strengthen long-term sustainability objectives (McDonald, Fielding, and Louis 2014, 2013). For instance, positive environmental group association predicts pro-environmental actions and sustainable behaviour (Park and Ha 2012). While it constructive to examine personal level environmental behaviour; by contrast group level behaviour affects both the individual and broader societal systems, moving beyond the individual into the public sphere (including multiple facets of social cultural meaning). Considering that social groups are disproportionately impacted by environmental harm and have different environmental norms and values (Kalof et al. 2002) (Figure 3), we suggest the need to examine how social identity correlate with environmental behaviour. As argued above, when social identity becomes salient, individual level of awareness, alignment in beliefs and social attachment to the social group increases and differences in interpersonal social interaction between ingroup and outgroup social members are accentuated. Seminal work by Bronfenbrenner suggests that the individual perception and belief on environmental issues is shaped by the complex interaction of sociodemographic variables such as cultural orientation, social norms, economic situation and expectations within the social context. Therefore, assimilating the components of group value-belief-norm variables in sustainability transitions studies could be used to predict the individual environmental and sustainability behaviour. We define ingroup social norms as the expected actions or behaviour of people in representing or safe guarding the values and interest of their family, community or ethnic group (Schultz et al. 2007). Studies by Eom, Kim, and Sherman (2018) confirmed that social group orientation, intention and interest motivate individual people to behave in a predefined way towards environmental issues.

3 Research method

The qualitative method using in-depth interviews was well suited to address the research questions including perceptions, preferences, practices and beliefs of the participants regarding environmental and sustainability issues without imposing constraints associated with quantitative study which often rely on predefined statements (Seymour 2001). This study uses social identity as lens to ask questions and engage in-depth analysis. The interview was guided by key questions (semi-structured). However, the development of the discussion was driven by the participants. The purpose of the interview was threefold: (a) chart the knowledge and attitude of the participants towards sustainability transitions and environmental beliefs; (b) explore how these perceptions are articulated among the social groups and (c) investigate how perception are accepted/ supported or contested/opposed by the other out groups members with a view to map shared barriers and commonality to sustainability transitions and environmental transformations.

The data was collected via 60 in-depth interviews using purposive sampling technique to represent the demographic profile of South Africa in terms of the four ethnic/social grouping. The participants were grouped according to their social group: Black, White, Indian and Coloured (Table 1 and Figure 2). The qualitative method allows a common framework to be used for all the participants across the social groups therefore providing a better understanding and knowledge of environmental decision-making and behaviour within the social identity context. The characteristics of the respondents are presented in Table 1.

Given the objective of this research, the primary analysis focused on the keen sense of social identification, behavioural intentions, sense making, perceptions, and the extent to which environmental beliefs and social factors predict support or opposition towards pro-sustainability activities.

Table 1. Demographic properties.

Socioeconomic variable		Social groups				Count N
		Black	White	Indian	Coloured	
Income of Respondent Per annum	Below R12,000	3	0	0	2	5
	R12,001 to R150,000	8	0	1	5	12
	R150,001 to R1,000,000	5	5	7	7	24
	R1,000,001 to R5,000,000	0	7	4	1	12
	above R5,000,000	0	4	1	0	5
Total N		16	16	13	15	60

We examined respondents' support, and relationship between the social groups for sustainability-friendly beliefs as an outcome (Figures 1 and 3). To test the moderating effects of the social identity hypothesis and how people interpret and find meaning to environmental issues, this study created a conceptual social identification framework to understand the potent determinant of individual behaviour and awareness to sustainability transitions based on social categorisation, sense of belonging and attitudinal positioning (Figures 1 and 3). The data was transcribed and then coded using Nvivo. V1.7.1 which helped in the thematic interpretation of the data. Thematic analysis provides a systematic strategy needed to improve the analysis of divergent set of data and enhance the quality of interpretation (Braun and Clarke 2006), Table 2 provides a summary of the themes and codes developed for this study.

4 Findings

Given that social class has been shown to impact behaviour towards sustainability, the classification used in this study included socioeconomic variables. The findings indicate that environmental concerns and behavioural intention towards the environment are influenced by increased levels of socioeconomic inequalities, high-economic-status individuals tend to display more pro-environmental attitudes and behaviours, compared with low economic individuals. The data show that 19% of the Black respondents earn below R12,000 per annum, while 50% earn below R150,000 per annum and 31.25% up to R1,000,000 per annum, with no Black participant earning above R5,000,000. In contrast, no White or Indian participants earned R12,000 per annum and only 1 Indian participant earned below R150,000 per annum. The minimum income per annum for the White participants was between R150,000 and R1,000,000 (31.25% of the White participants), 44% earned between R1,000,000 and R5,000,000 and 25% earn above R5,000,000. The data also showed that the Coloured participants' earnings were more aligned to the Blacks (13% below R12,000; 33% between R12,000 and R150,000, with 47% earning up to R1,000,000; 7% earning between R1,000,001 and none earning above R5,000,000). On the other hand, the Indians were closer to the Whites in earnings (none earning below R12,000; 8% earning between R12,000 and R150,000; 54% earning up to R1,000,000; 30% earning up to R5,000,000 and 8% above R5,000,000) (refer to Table 1).

As stated earlier, the focus of this study was on sense of social identification, behavioural intentions, sense making, perceptions, and the extent to which environmental beliefs and social factors predict support or opposition towards pro-sustainability activities. The questions were thus designed to explore the following:

Social identification: Participants were asked to identify the social group they belong to ("I identify with a Black, White, Indian, and Coloured social group") with follow-up questions.

Ingroup environmental norms: Participants were asked to choose options that suggest the position of their social group towards the environment and sustainability transitions. "I reflect the values and norms of my social group towards the environment", "I value pro-environmental values".

Pro-environmental and sustainability offering: Participants were asked if they would participate in local pro-environmental rallies or charities and spend time supporting environmental and sustainability awareness initiatives.

Table 2. Thematic quotes.

Theme	References	Direct quotes
Environmental behaviour	22*	<p>“The climate change issue and global environmental problems are caused by the developed world. We have not contributed to the global environmental issues. The polluters should be responsible for the issues, not us”. (Black Participant, 3)</p> <p>“The notion of developed countries dictating to poorer countries on how they should live their lives is unjust, immoral, and hypocritical. The rich countries own the multinational companies polluting the environment in Africa, they destroy our environment, leave us with nothing but a responsibility to clean up the pollution. This can't be right. We have been caring for our environment for generations”. (Coloured Participant, 15)</p> <p>“We have been asked to abandon our natural energy resources and transition to alternative energy sources in order to accommodate the lavish lifestyle of the western people. This is not fair and equitable”. (Black Participant, 22)</p> <p>“Pro-environmental behaviour entails taking actions to minimise the impact on the environment by individuals and communities through sustainable consumption. There is need to address impact on the environment caused by the extractive industries, industrialization, and urbanisation”. (White Participant, 7)</p> <p>“It is important to note that our indigenous activities encourage pro-environmental behaviour and hold unique traditional knowledge and belief system for the sustainable management of the environment, biodiversity, and natural resources”. (Black Participant, 42)</p> <p>“Global warming worsens the inequalities and deprived socioeconomic conditions already experienced by indigenous peoples and the practices that permeated colonisation and exploitation of our natural resources”. (Coloured Participant, 12)</p> <p>“Global environmental improvement is a collective responsibility requiring individuals and organisations to take action to preserve the environment”. (Indian Participant, 17)</p> <p>“Our global well-being is threatened by the growing tide of wastes generated by society. We must transition into a carbon-neutral future by stopping the extraction of fossil fuel and adopting sustainable lifestyle”. (White Participant, 45)</p> <p>“Industrialised countries are harming the environment in significant ways by their emissions. The focus should be on high polluting countries to reduce their emissions”. (Indian Participant, 31)</p> <p>“The possibility that the global environment may be destroyed if society doesn't take urgent action is predictable. Society can do a lot by promoting positive environmental values through awareness and education”. (White Participant, 27)</p>
Sustainability Behaviour	16*	<p>... renewable energies require large land space and causes disruptions to farms and animals. We certainly need more land space to grow our food and sustain our livelihoods. (Black Participant, 22)</p> <p>It is unfair to ask us to abandon our natural energy resources and adopt a new and costly energy systems for a problem that has nothing to do with us. Climate change is caused by western countries, they should be responsible for mitigating the effects not poor African countries. (Coloured Participant, 15)</p> <p>The solution to tackling the climate change crisis is to end our reliance on fossil fuels. We need to do this urgently. (White Participant, 20)</p> <p>We are blessed with abundant natural energy resources such as sun, wind and geothermal so transitioning should not be a problem. (Indian Participant, 11)</p>

*Number of references in the data.

Pro-environmental/ conservation behaviours: Participants were asked to peruse over a list of seven pro environmental actions they could do to improve the environment, such as “use of energy saver bulbs” “aggregate recycles items to a recycle bin” and how much they engage in these options (refer to Tables 2 and 3)

The findings of this study contribute to theoretical discussions based on the impact of group identity and cultural diversity on environmental concerns by exposing the dominant factors relevant

Table 3. Codes and themes.

Code	Definition	Responses
Environmental value	Participants noted the motivation, intentions, and benefits of environmental stewardship	I think of improving the sustainability of natural resources, restoring degraded habitats and conserving wildlife
Place attachment, place identity	Participants described affective link with their environment and sense of responsibility to protect and make it safe	“Participants report having strong place values and group-identities, and thus appear to shape their behaviour”
Group and subjective experiences about the environment	Participants described their experiences and relationship that underlie their personal and group environmental beliefs and behaviour	“I think of historic environmental activities and society-wide environmental action”
Knowledge and awareness	Participants described their competencies, understanding of environmental processes, interconnectedness of the local/ global ecosystem, human impact on the environment	“I reflect on how my activities impact the environment and things I can do to mitigate the impact”

to these relationships. Furthermore, the study notes that individuals react more sensitive to economic dynamics within the social groups and this construct, in turn, act as mediator of environmental behaviour. The result provides a basis for practitioners and policymakers to design interventions that addresses individuals and communities disproportionately impacted by socioeconomic conditions in order to promote sustainable environmental behaviours.

4.1 Discussion

This study found ambivalence in environmental beliefs across the four social groups (Black, White, Indian and Coloured). The study found that manifestations collectivistic cultural traits shape the individual behaviour on environmental issues. Two contextual themes are evidenced in the study in moderating socio-environmental behaviour: “environmentalism” and “extractivism”. This concept appears to both frame and reinforces individual and group practices, attitudes and power dynamics. The empirical practices of extractivist activities (historical and contemporary), including destructive capitalism in natural resource exploitation, distributional injustices and widening socioeconomic inequalities are measurable constructs that helps us to conceptualise the framing of environmental discourses within the Black and Coloured social groups. These findings emanate on the backdrop of empirical evidence that Africa’s emits less than 4% of global greenhouse gas emissions compared to the rest of the developed world (Ndubuisi, Kolawole Ayotunde, and Lukeman 2023). Furthermore, studies have shown huge economic and social imbalances in South Africa with cascading inequality in the Black and Coloured social groups compared to the White and Indian groups (who appear to have a strong economic base in the country) (Horwitz and Jain 2011).

Our results show that indigenous people and local communities hold valuable knowledge and practices for the sustainable stewardship of the environment and consideration should be given to local communities to developing participatory land-use and environmental well-being. The result notes that the involvement of local communities in environmental sustainability initiatives can lead to stronger society environment connectedness and therefore to more effective conservation strategies. Although this study did not delve into details on indigenous people conservative practices however, further studies has shown the social–ecological benefits of integrating local communities in managing protected areas (e.g. Davies et al. 2013; Qi et al. 2023; Tran, Ban, and Bhattacharyya 2020).

The consequence of climate change and environmental degradation is intensifying in South Africa and reflects the role played by human impact on the environment (Bekun 2024). The effects exacerbate the challenges already confronted by indigenous peoples including socio-political and economic marginalisation, deforestation, forest fragmentation and depletion of natural resources (Cho et al. 2013; Eberle et al. 2017).. The findings of this study further highlight the

intersectionality of social identity and other historical factors that increase the vulnerabilities to environmental harm. And an interesting element highlighted by the Black and Coloured social groups, as evoked by the lived environmental vulnerabilities/realities initiated by the colonisation of the atmosphere by predominately White and Asian countries in the Global North.

This causality link is evident given that higher proportions of Black and Coloured residents are disproportionately sited in poor areas compared to the White and Indian social groups and consequently, impacted by environmental and economic exposures. More generally, the behaviour of the Black and Coloured social groups towards the environment is framed from a psychological perspective arising from the concept of climate/ environmental justice, colonisation and socio-economic deprivation making environmental protection a secondary issue (Eriksen, Nightingale, and Eakin 2015; Nightingale 2017). The result of this study provides a theoretical framework for understanding the relationship between the Black and Coloured environmental behaviour and country-wide inequalities. We found that environmental behaviour is deeply intertwined with patterns of inequality on many levels such as economically powered and less privileged individuals in society, wealthy industrialised countries and poorer nations aligning with previous findings that the most vulnerable in society are disproportionately impacted by environmental pressures. We inferred that the environmental hierarchy of needs theory and sociological demographics suggest that people with lesser economic power are more likely to emphasise economic resources for survival rather than focus on environmental issues (Van Gambrel and Cianci 2003; Liere and Dunlap 1980; Medina et al. 2019; Mohai 1990; Sheppard 1995; Taylor 1989). This study is consistent with Maslow (1970) hierarchy of needs theory which demonstrated that the needy or marginalised people in society are more preoccupied with economic problems rather than environmental challenges. The demographic profile shows that the White and Indian social groups are wealthier than the Black and Coloured groups (Table 1). White and Indian groups are more likely to adopt a pro-environmental behaviour and more active in environmental activism while Black and Coloured pro-environmental behaviour and environmental activism stems from the need for climate justice. A key lesson is understanding that contextual economic perspective is entangled with environmental behaviour.

The differential socioeconomic dimensions, and degrees of exposure to climate variabilities of the social groups influence their environmental and sustainability transitions behaviour. In this sense, the Black and Coloured view mainstream environmental issues as a Western environmentalism philosophy, grounded in environmental racism (Adams 2005; Hershey and Hill 1977; Medina et al. 2019; Westra and Lawson 2001). The results of this study conceptualised environmental and ecological failures through a causal attribution of Westernised, Asianised and industrialised activities assigning specific actions of pollution and extractivism to the White and Indian social groups. As an example, extractivism and mining activities has continued to reshape the South Africa landscape at an unprecedented destructive pace and scale contributing to social displacement, deterioration of biodiversity and severe environmental damage. Against this backdrop, the damage caused by entrenched extractivism plays a key role in weakening pro-environmental values. This study proposes a deep transformational model in which environmental equity and climate justice are precursors of pro-environmental behaviour and action toward environmental conservation in a multicultural setting. These differences in sociocultural values inform the basis for collective environmental behaviour, resulting in misalignment of social group values/ interests and embedded social processes in determining divergent environmental action. Therefore, establishing a collective environmental identity is critical in fostering environmental transition.

In conclusion, we found evidence to suggest that ingroup factors have a significant impact on environmental identity and this condition of internal group cohesion means that individuals within the social group are likely to adopt the group environmental values. Therefore, the impact of ingroup cohesion on environmental issues could either foster or hinder environmental interventions.

5 Policy implications and future research

As discussed above, social group values have the potential to undermine positive environmental objectives. Furthermore, conflicts in intergroup relationship can reinforce barriers to sustainability transitions such that group members exhibit anti-environmental behaviour. When examined in this context, it is easy to forge inclusive policy strategies that encompasses all the social groups. It is often the case that individuals are more likely to act in a pro-environmental and sustainable manner when the norms of the social group are aligned with social/environmental justice and positive environmental values. The appropriate approach is to design environmental and sustainable policy interventions that places emphasis on collective ingroup environmental norms and intersectional justice. It is also imperative for policymakers and researchers to shift focus on frames and assign sustainable resource that appeal and align to the values and norms of the social group to stimulate positive responses towards environmental citizenship (Bain et al. 2012). This study highlights a unifying conceptual framework for understanding the relationship and influence of disproportionate socioeconomic power, “within-country social inequalities, western environmental worldview, environmental justice on environmental behaviour”.

Throughout this study, we highlighted pertinent questions that environmental and sustainability transition scholars could address to foster a more positive environmental behaviour. This study proffered a social identity approach in framing inclusive environmental policies and interventions that align to the various group values and norms. Thus far, psychological and sociotechnical studies in promoting pro-sustainability and environmental behaviour have focused on individual actions, however, there is need to place emphasis on the broader social processes and ingroup norms that shape individual and collective group behaviour. Forging an inclusive policy response through a multi-level perspective would promote social, environmental and institutional effects that are critical in shaping the broader pro-environment interactions. The findings suggest that environmental thought processes among the social groups are regulated by contrasting ideologies and holds great promise in extending future studies on environmental identities. These solutions propose that policies need to be formulated on a structural level: a deep transformational framework that addresses the socioeconomic vulnerabilities of Black-Coloured group for their environmental rights to be better safe-guarded from the impacts of environmental harm. And in response to their demands for climate and environmental justice.

6 Limitation of the study

While this study sought to address the gaps in previous studies which mainly focused on prescriptive assessment of environmental behaviour. Participants interviewed for this study linked local context, embedded intersectionality, worldviews, socioeconomic considerations to environment problems rather than on what descriptive norms or environmental behaviour the social group is engaged in. Likewise, it will be valuable for future studies to increase the sample size and complement the qualitative insights with quantitative data and analysis to help capture the sensitivity to nuanced variations across the social groups and spaces.

7 Conclusion

Previous studies explored the social antecedents of environmental and sustainability behaviour at the individual level. Therefore, it becomes critical to study the environmental norms, values, behaviours and beliefs of individuals from a cross-cultural perspective so that tailored actions and interventions can be adopted in country context toward environmental conservation and sustainable practices. This study adopts the theory of social identity to address intergroup relationship and social group identity processes. This study is also embodied with other theoretical framework of self-categorisation and collective representations to identify critical contextual factor that shapes

key construct in environmental and sustainability studies. These social processes trigger specific outcomes in improving pro environmental behaviours. With emphasis on multiculturalism and emergence of ethnic identities, we argue that it is important to examine environmental/sustainability transition views of the population. Although transition scholars advocate the importance in understanding the governance of sustainability transitions in multicultural environment; however, the underlying social processes have barely elaborated or conceptualised in Sub-Saharan Africa. This study uses social identity to explore how the distinct ethnic groups in South Africa construct their story and narrative about sustainability transition. The study identified a lock-in behaviour and divergent social and environmental perspectives, and motivations between the social groups in their collective formation on sustainability transition. Exploring how group dynamics affects individual perception and behaviour towards sustainability transitions will provide an understanding of the consequences that sustainability transitions have on the wider society. In doing so, this paper also provides an empirical insight about the challenges of the energy transition in a multiscalar context. The disposition of the individual to the social processes of the group may take a positive and negative position shaping the directionality of sustainability transition. This study highlights how social identity can be used to motivate sustainable behaviour in a diverse culture or what their relevance or feature could be in fostering sustainability transitions in a homogenous population. Given the complexity of sustainability transitions, this study bridged the gap in understanding the effects of social identity on sustainability transition thinking. We hope to motivate transition scholars to contribute to this field of studies by recognising the empirical outcomes on which this study build.

Note

1. Social identity has been revealed to have a much more predictive influence than once reasoned. If the social group propagates attitudes and views that are unsustainable, is likely to reinforce anti-environmental behaviour and further widen the gap between public attitude and policy action. For example the White Supremacists and climate deniers in that stream.

Disclosure statement

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