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THE PATHWAY TO REGENERATIVE CONSUMPTION: EVIDENCE FROM MINIMALISM ORIENTATION, SUSTAINABLE LIFESTYLE VALUES, AND ECOLOGICAL RESPONSIBILITY

Dr. Gul Ghutai[1], Dr. Neelam Akbar[2], Sumaira Rehman[3*]

[*1]*Assistant Professor, Department of Commerce, SBK Women's University, Quetta, Pakistan*
[2]*Assistant Professor (Marketing), Department of Management and Commerce, University of Swat, Pakistan*
[3]*Lecturer, Department of Home Economics Government College University Faisalabad, Pakistan*

[*1]gulghutai@sbkwu.edu.pk, [2]neelammarwat@uswat.edu.pk, [3]sumaira.rehman@gcuf.edu.pk

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Corresponding Author: * Sumaira Rehman

Abstract

As resource extraction, waste, and emissions continue to strain planetary systems, understanding what drives consumers toward regenerative rather than merely reductive consumption has become a pressing concern for marketing scholarship. While minimalism orientation and sustainable lifestyle values have each been linked separately to various pro-environmental outcomes, their combined influence on regenerative consumption—choices that actively restore ecological and social systems through repair, reuse, and locally sourced alternatives—remains empirically underexplored, particularly through a shared psychological mechanism. This study addresses that gap by testing a parallel-mediation structural model in which minimalism orientation and sustainable lifestyle values act as dual antecedents of regenerative consumption, with ecological responsibility serving as the connecting mediator. Survey data were collected from 400 adult consumers in the Khyber Pakhtunkhwa/Swat region of Pakistan and analyzed using structural equation modeling in AMOS, with confirmatory factor analysis validating the measurement model and bootstrapped estimates testing indirect effects. All seven hypothesized paths were supported. Sustainable lifestyle values emerged as the stronger predictor, exerting both a robust direct effect on regenerative consumption and a substantial indirect effect through ecological responsibility, while minimalism orientation contributed smaller but significant direct and indirect effects. Ecological responsibility proved the strongest single predictor of regenerative consumption overall, confirming its role as a partial mediating mechanism for both antecedents. These findings extend value-based environmental psychology beyond conventional green purchasing to a more demanding restorative behavioral outcome, offering marketers and policymakers in Pakistan and similar South Asian markets evidence-based guidance for designing responsibility-focused communication strategies.

1.INTRODUCTION

Humans are straining several planetary systems to their limits and thresholds, the extraction of resources, their production of waste and their emissions of carbon increase in tandem with growing demand for resources (Rockström et

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al., 2023). Various scholars and policymakers have also been pushing for the adoption of circular and regenerative economic approaches that aim to lessen environmental damage and repair and regenerate the ecological systems on which the economy depends (Morseletto, 2020b). In this transition, consumers are not just passive recipients of green products but active participants whose decisions about acquisition, use, and disposal make the difference between theory and practice in circular and regenerative visions (Shevchenko et al., 2023). According to Rabiu and Jaeger-Erben (2022) regenerative consumption extends sustainable and circular consumption; it focuses on consumption choices that restore natural, social, and material systems, for example, by preferring repair, reuse, upcycled, and locally sourced products to products made from virgin resources. Consequently, researching consumer motivation for such behaviour is important for consumer behaviour and marketing purposes. In developing and transitional countries, the pressure to answer this question is heightened by rising incomes, growing retail penetration, and rising consumption expectations, which are driving material flows at increasing rates, while environmental degradation, water scarcity, and waste management issues are escalating (Schandl et al., 2024). The research further suggests that sustainable consumption behaviour is limited, and the generation of sustainable consumption practices remains lagging in Pakistan, as in other South Asian contexts, because consumers' declared attitudes toward the environment do not align with their consumption and purchasing patterns (Fatima et al., 2024).

Research across Pakistani cities has revealed that, over time, consumers are becoming more aware of and accepting of environmental concerns and eco-labelled or green products. Still, this awareness does not necessarily translate into the ongoing behavioural change required to promote circular and/or regenerative consumption systems(Asif et al., 2023; Majeed et al., 2022). This attitude-behaviour gap indicates that environmental knowledge and/or general pro-environmental attitudes are not enough to explain the drivers of regenerative consumption; rather, specific psychological orientations and values, as well as the internal mechanisms through which they turn into behaviour, need to be identified and tested (Nabi Khan et al., 2025; Rasheed et al., 2024). Recently, consumer research has begun to examine minimalism as one of these orientations. Minimalism has been defined as a value that emphasizes the thoughtful acquisition of a limited number of carefully selected items rather than an abundance of them, and has been empirically correlated with lower materialism (Wilson & Bellezza, 2022), a greater inclination toward higher quality products and items with ethical concerns (Shukla et al., 2024), and an interest in rental and sharing and access-based consumption models. Consumers with a minimalist orientation tend to experience greater emotional well-being from having less (Kang et al., 2021). Recent evidence from structural equation modelling shows that having less leads to personal norms and environmental identity, which then lead to more ethically oriented and pro-environmental consumption choices (Gelibolu & Mouloudj, 2025). Another stream of research examines self-conscious emotions (e.g., guilt, pride) as a mechanism that motivates consumers to engage in access-based, low-impact consumption (e.g., renting instead of owning), which minimalism encourages (Mishra et al., 2024). Sustainable lifestyle values, the consumers' general values related to care for the environment and to intergenerational responsibility and simplicity of living have been correlated with a wide variety of pro-environmental intentions and behaviours in both Western and emerging market samples, ranging from energy conserving to green purchasing (Druică et al., 2023; Gao et al., 2023).

A parallel, closely related literature has solidified the psychological concept of ecological responsibility as a link between environmental values and behaviour (Akbar, Ahmad, et al., 2023). Consumers who feel a sense of ecological responsibility are more

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environmentally responsible in their behaviour, such as purchasing green products, reducing energy consumption, and reducing waste (Akbar, Yousafzai, et al., 2023), among others, as has been demonstrated in numerous studies that have followed the classic model of responsible environmental behaviour, which identified a sense of personal responsibility and obligation towards solving ecological problems as a central predictor of pro-environmental action across more than a hundred studies (Akbar & Ahmad, 2022). According to Trinh et al. (2025), environmental knowledge affects sustainable consumption behaviour indirectly, via the mediation of perceived environmental responsibility, rather than directly. Likewise, studies based on the value–identity–personal norm tradition demonstrate that values oriented towards the environment and personal identity influence behaviour mainly through internalised norms of responsibility and obligation (Ajibade & Boateng, 2021; Balundė & Perlaviciute, 2023; Carfora et al., 2024). The literature as a whole places ecological responsibility within the psychological sphere – that is, as a felt sense of obligation that can drive greater values and orientations towards practical action (Akbar et al., 2022). Although these advances have been made, the gaps remain there, such as the combined effect of minimalism and sustainable values on regenerative consumption has hardly been explored in empirical research, with very few studies focusing on a more specific type of pro-environmental actions, namely reduction-of-harm rather than restorative, system-replenishing behaviours that are more associated with the concept of regenerative consumption (Fu et al., 2024; Pangarkar et al., 2021).

Research on minimalist and low-consumption lifestyles has also explicitly called for empirical studies that go beyond documenting the existence of minimalist lifestyles to examining the psychological pathways that link this orientation to specific sustainable outcomes, as measured (Blackburn et al., 2024). Although ecological responsibility has already been accepted as a mediational factor between values and environmental behavior (Basti Tetteng, 2025), it has not often been applied as a connecting link between two different antecedents of values: an internally oriented one (minimalism orientation) and an externally oriented one (sustainable lifestyle values) in the same structural model. Existing research has often examined value or lifestyle orientations as antecedents of sustainable consumption outcomes, while fewer studies have directly compared their relative and combined explanatory contributions within an integrated structural model (Kang et al., 2021; Nguyen et al., 2025), which has called for research on sustainable behaviour to be extended beyond the under-represented contexts of developing countries where infrastructural, cultural and economic factors are notably different from those in which these models have been developed and validated (Fatima et al., 2024).

These limitations also extend to theoretical gaps. Value-behaviour models, such as value–belief–norm models and their value–identity–personal norm extension, have been designed mainly to account for small steps towards pro-environmental behaviour like recycling or green purchases, and tend to assume a single value position, in which identity and personal norms mediate between the values and the behaviour (Lee et al., 2023; Lima et al., 2024). In its current form, it is not well prepared to describe a more complex behavioural goal than "restorative consumption," defined as consumers making choices to cease harming and adopt alternatives (Akbar, Ghutai, et al., 2023). This study transforms the theoretical limitation by considering ecological responsibility as a mediator, not just personal norms, which can transmit the influence of two conceptually distinct variables, namely the minimalism orientation and the sustainable lifestyle values, towards a higher level of restorative behavioural outcome. The study further builds on the theoretical foundations of values-based environmental psychology by introducing the idea of consumption as a construct that, until now, has been considered more at the conceptual/policy level than as a behavioural outcome at the consumption level.

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Based on this reasoning, a minimalist orientation is expected to influence consumption in a regenerative way through two complementary paths. A minimalist consumption philosophy makes people more inclined to consume less, choose more durable products, and be more aware of what they choose, naturally making them more interested in restorative practices like repairing, reusing, and supporting local products (Kang et al., 2021). Additionally, minimalism, indirectly, improve consumers' ecological sense, as mindful consumption makes it easier to reflect on the socio-environmental consequences of a consumer's purchases and waste (Wilson & Bellezza, 2022).

Sustainable lifestyle values are also expected to affect regenerative consumption directly by guiding consumers' personal values toward adopting eco- and socially responsible practices, and indirectly by reinforcing a felt obligation to ecological responsibility (Gao et al., 2023). Ecological responsibility is suggested as a proximal psychological factor mediating the shift from broader orientations and values to a specific willingness to choose restorative over convenient consumption choices, as this construct has mediated other pro-environmental behaviour research (Akbar et al., 2022; Trinh et al., 2025). Thus, the present study investigates the direct and indirect impact of minimalism orientation and sustainable lifestyle values on regenerative consumption among Pakistani consumers, mediated by ecological responsibility. In particular, the study investigates whether minimalism orientation and sustainable lifestyle values have a positive direct impact on regenerative consumption, whether each has a positive direct impact on ecological responsibility, whether ecological responsibility, in turn, positively predicts regenerative consumption, and if ecological responsibility partially explains the relationship between each antecedent and regenerative consumption. The proposed model is tested using structural equation modelling in AMOS, based on survey findings from consumers in Pakistan. Confirmatory factor analysis is used to validate the measurement model, and indirect-effect estimates from bootstrapping test the mediation hypotheses.

This study makes several contributions. It represents an ecologically relevant application of the values-based approach to understanding pro-environmental behaviour, as it extends research to include a more challenging and specific behavioural outcome: regenerative consumption and places ecological responsibility as a psychological pathway through which minimalist orientation and sustainable lifestyle values can jointly contribute to this outcome, directly addressing the call for research that examines the behavioural pathways connecting minimalist orientations to measurable sustainability outcomes (Blackburn et al., 2024). Methodologically, the parallel dual-antecedent, single-mediator structural model enables the relative direct and indirect effects of an internally focused consumption philosophy and an externally oriented value system to be measured and compared in one consolidated model. From a marketing standpoint, the research builds on this strand of work. It contributes evidence for marketers, policymakers, and sustainability advocates in other emerging markets in South Asia, where the psychological drivers of regenerative and circular consumption have been comparatively under-investigated compared to markets in Western, East Asian, and Southeast Asian markets (Fatima et al., 2024). In practice, this research helps guide brand, retailer, and public communication campaigns in these markets by emphasizing simplicity, mindful consumption, and ecological responsibility to promote a transition to more restorative patterns of consumption.

2. LITERATURE REVIEW

2.1 Theoretical foundation

The most widely accepted theory for explaining environmentally relevant behaviour is Value–Belief–Norm (VBN) theory (Stern et al., 1999). It suggests a chain of causality that starts with relatively stable personal values, then progresses to an ecological worldview and a belief in the negative effects of environmental deterioration, which then leads to a felt sense of personal

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moral obligation, or personal norm, and finally to pro-Environmental behaviour (Negm, 2024).The theory has been tested in many pro-environmental areas (green purchasing, energy saving, and mode choice in sustainable transport), and has demonstrated that the internalisation of responsibility to act, known as personal norms, is the proximal cause of behavior (Stern, 2000) The Value – Identity – Personal Norm (VIP) perspective adds the self-identity stage to the chain between values and behaviour, arguing that people will be more likely to convert their values into personal norms, and then into behaviour, when they identify with them (Ateş, 2020). The research results of the empirical applications of the VIP model have confirmed that the strength of the environmental identity strengthens the relationship between values and personal norms, as well as between personal norms and pro-environmental and ethically oriented consumer behaviour (Balundė & Perlaviciute, 2023; Carfora et al., 2024). According to Gelibolu and Mouloudj (2025) minimalist values influence personal norms and environmental identity, in turn predicting ethically conscious consumption. Both systems, however, have caveats in their abilities to account for regenerative consumption in particular.

VBN and VIP mostly model one value orientation, mediated by one internalised mechanism (in this case, personal norms), towards one behavioural outcome (in this case, recycling or green purchasing behaviour), and are mostly designed to account for relatively low-effort, single-act pro-environmental behaviours (Gelibolu & Mouloudj, 2025). Both frameworks were not developed for two different antecedents, one internal (consumption philosophy – minimalism) and one external (value commitment – sustainable lifestyle values), to act simultaneously via the same mechanism (directing consumption) to an even more demanding behavioural outcome (sustainable lifestyle). Additionally, the personal-norm construct in both models is more limited than the broader concept of ecological responsibility that has been demonstrated to mediate the connection between environmental knowledge, identity, and values and pro-environmental behaviours in general and in more demanding environments that are more restorative (Hines et al., 1987; Trinh et al., 2025). Therefore, in this study, in addition to using personal norms as a mediating mechanism, the study also uses ecological responsibility as a mediating mechanism; this integrates and extends the VBN and VIP traditions and is appropriate for explaining the restoration outcome as regenerative consumption.

2.2 Minimalism Orientation, Ecological Responsibility and Regenerative Consumption

Minimalism orientation is the philosophy of consuming in a way that deliberately dispenses with superfluous items, rather than letting it happen by accident, through a sense of lack, or through deprivation (Wilson & Bellezza, 2022). Consumers with a minimalism orientation have been found to experience higher emotional benefits from owning fewer products due to the reduced burden of excess products (Kang et al., 2021) and to be less materialistic and more interested in ethically sourced products than their disposable alternatives (Shukla et al., 2024). Reviews of minimalist and other low-consumption lifestyles also define minimalism as deliberately reducing purchases and ownership in a manner grounded in values, rather than as poverty or being forced to be minimalist (Blackburn et al., 2024). Regenerative consumption, on the other hand, is a form of consumption designed to restore, renew, and strengthen the ecological and social systems negatively impacted by consumption (Triguero et al., 2022). The construct extends the concept of circularity, which is reductive and focuses on strategies to reduce and slow material loops (close the loop). At the same time, regeneration is restorative and focuses on strategies to replenish materials from which they are taken (slow the loop) (Morseletto, 2020a). furthermore, regenerative consumption is manifested in practices like repairing instead of replacing products, using upcycled or refurbished products instead of new ones,

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preferring durable, lasting consumption over disposable, resource-consuming consumption, and encouraging locally produced, resource-saving consumption over consumption from abroad and intensive resource use (Shams et al., 2025).

Given the relatively strong psychological and behavioural requirement of consumers for regenerative products compared to routine green products, recent conceptual studies have advocated for more focus on individual-level psychological motivations for engaging in regenerative behaviour, which has been discussed extensively at the conceptual, organisational, or policy level to date (Yunibandhu & Hallinger, 2025). Although they stem from different points, minimalism orientation and regenerative consumption are conceptually similar in their logic. Minimalism starts with an inward focus on the self, curated possessions, and mindful acquisition, whereas regenerative consumption begins with an outward focus on restoring ecological and social systems and involves both people and nature (Wilson & Bellezza, 2022; Yunibandhu & Hallinger, 2025). The two converge because having a mind to fewer things and favouring quality over quantity is a behavior that is similar to that of regenerative consumption, which is to choose fewer but longer-lasting products, repair instead of replacing when they break, and resist the cycle of routine disposal and repurchase that it aims to break (Pangarkar et al., 2021; Shams et al., 2025). Minimalism is a consumer preference for durability and multifunctionality over frequent replacement (Pangarkar et al., 2021). It is therefore a psychological and behavioural stepping-stone to regenerative practices, but not the other way round.

Through psychological ownership theory, multi-study research supports a relationship between consumer minimalism and alternative consumption behaviour that reduces the use of goods, such as furniture rentals, which directly contributes to the functioning of circular and regenerative consumption systems, such as ascribed environmental responsibility (Mishra et al., 2024). Supporting theory-of-planned-behaviour evidence from Vietnam also shows that minimalism can positively predict overall sustainable consumption behaviour, with this positive relationship enhanced when attitudes and subjective norms are favourable (Nguyen et al., 2025). In addition, minimalism is independently linked to consumers' low-carbon innovation behaviour, another restorative-adjacent outcome (Gao et al., 2023). Despite this, current research on minimalism orientation exclusively correlates this concept to specific outcomes, including intentions to rent, low-carbon innovation and ethical purchasing, and not to a single, coherent behavioural construct such as regenerative consumption, as is tested in the present study (Blackburn et al., 2024; Yunibandhu & Hallinger, 2025). Based on the previous literature, following hypotheses have been developed:

H1: *Minimalism Orientation has a positive effect on Regenerative Consumption.*

H2: *Minimalism Orientation has a positive effect on Ecological Responsibility.*

2.3 Sustainable Lifestyle Values, Ecological Responsibility, and Regenerative Consumption

Sustainable lifestyle values can be described as a person's more general value orientation towards sustainability, in this case towards the preservation of the environment, social responsibility, and intergenerational wellbeing, which is expressed as a lifestyle orientation rather than a single attitude towards one product category (Bergianti, 2025). Sustainable lifestyle values are a value orientation that can be seen as the upstream part of the sustainable lifestyle value chain, which includes environmental, social and material dimensions concern with resource conservation, fairness and responsibility towards others including future generations, and simplified, less consumption-intensive daily living (Bergianti, 2025; Stern, 2000). Sustainable lifestyle values influence a wide variety of pro-environmental intentions and behaviours, and adopting a more sustainable lifestyle can be successfully modelled using existing models of pro-environmental intentions and behaviours, such

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as the theory of planned behaviour (TPB) (Druică et al., 2023; Gao et al., 2023). Ecological responsibility means the internalization of the responsibility and accountability an individual feels toward protecting the natural environment and reducing ecological harm (Nzekwe, 2026). Inspired by the classic model of responsible environmental behaviours (Hines et al., 1987), which identified the sense of personal responsibility towards solving ecological problems as one of the strongest and most consistent predictors of pro-environmental action across over a hundred studies, the construct was developed. Moreover, ecological responsibility has been demonstrated to serve as a mediating mechanism between the constructs of environmental values, knowledge and identity, and the actual pro-environmental behaviour, implying that it does not directly determine the actual behaviour, but rather exists as a felt responsibility that is a psychological mechanism through which a broader value is "translated" into behaviour (Trinh et al., 2025).

In theory, sustainable lifestyle values are related to ecological responsibility via the causal logic that is outlined in value–belief–norm theory (VBN), which suggests that stable personal values lead to the development of an ecological worldview and beliefs about the negative outcomes of environmental degradation, which further lead to an increased sense of personal responsibility or moral obligation to act (Stern et al., 1999). In this scheme, sustainable lifestyle values act as a value commitment upstream. In contrast, ecological responsibility acts as a norm in the middle, an internalized norm that sets the stage for value activation. In this context, the stronger the sustainable lifestyle values, the stronger the sense of obligation to act on the values, because the value commitment itself is partly concerned with ecological and intergenerational outcomes (Ateş, 2020; Bergianti, 2025). Additionally, This pathway is well supported by recent empirical research on value-based consumer behaviours. Such as, Value–identity–personal-norm studies have confirmed that environmentally oriented values influence behaviour mostly through internalised values of responsibility and obligation rather than directly (Ateş, 2020), which is supported by the studies of environmental values, self-identity and personal norms in different relational and cultural contexts such as value transmission from parents to adolescents (Balundė & Perlaviciute, 2023). Sustainable, value-consistent lifestyle orientations have also been found to influence consumers' low-carbon innovation behaviour via reflective, meaning-based pathways, similar to an "activated sense of ecological responsibility" (Gao et al., 2023). Theory-of-planned-behaviour evidence shows that a sustainable lifestyle is an attitudinal and normative process similar to an "activated sense of ecological responsibility" (Druică et al., 2023). The preceding literature collectively establishes a solid empirical basis for the present study's findings that sustainable lifestyle values are important positive predictors of ecological responsibility, which leads to the following hypothesis:

H3: *Sustainable Lifestyle Values have a positive effect on Ecological Responsibility.*

H5: *Sustainable Lifestyle Values have a positive effect on Regenerative Consumption.*

3.4 Ecological Responsibility and Regenerative consumption

The concept of ecological responsibility as a motivational mechanism is proposed as a pathway between general concern for the environment and real, restorative behaviour. Prior research has found a felt sense of personal obligation to be the more proximal and behaviourally consequential motivator of pro-environmental action, compared with environmental concern alone (Hines et al., 1987). This motivational effect likely generalizes from typical pro-environmental actions to restorative and regenerative actions. The internalisation of responsibility for the repair, reuse, or upcycling of a product is more likely to be driven by a strong sense of obligation than by passing environmental concern or social pressure (Shams et al., 2025). Similarly, environmental responsibility is known to

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mediate the impact of environmental knowledge on sustainable consumption behaviour (Trinh et al., 2025), and responsibility has also been shown to mediate between environmental identity and value orientation and behaviourally demanding, restorative-adjacent outcomes like decreasing littering (Basti Tetteng, 2025). Eco-responsibility is the direct link between environmental concern and the more challenging and demanding choices required in the practice of regeneration. Regenerative measures, like the preference for locally sourced, resource-conscious products; the choice of a slightly less impactful product on the shelf; and the practice of repairing rather than replacing, usually require the buyer to make more effort, be more time consuming and create more inconvenience for them than they will find sustainable in the face of social pressure or momentary concern (Hines et al., 1987). As a result, ecological responsibility is not considered a behaviour itself, but a proximal psychological mechanism that facilitates the transformation of a more distal set of environmental values and orientations into a more specific form of regenerative and restorative consumer behaviour (Zhang et al., 2025). Accordingly. Following hypothesis has been developed:

H4: *Ecological Responsibility has a positive effect on Regenerative Consumption.*

2.5 Ecological Responsibility is a Mediating Role.

The above hypotheses outline two indirect paths by which minimalism orientation and sustainable lifestyle values are expected to influence Regenerative Consumption: Minimalism Orientation → Ecological Responsibility → Regenerative Consumption; and Sustainable Lifestyle Values → Ecological Responsibility → Regenerative Consumption. The mediating role of ecological responsibility is the core of the present study's theoretical contribution, as it places ecological responsibility not only as one out of multiple predictors, but also as the common psychological mechanism by which two conceptually distinct orientations, namely the internal consumption philosophy and the external value commitment are translated into restorative consumer behaviour. This dual-mediation model is in line with and extends the current evidence that suggests that ecological responsibility buffers and relates to the link between value/identity antecedents and pro-environmental behavioural outcomes. Results of value-identity-based models indicate that environmentally oriented values and/or self-identity influence pro-environmental and ethical behaviour mainly through internalised norms of responsibility (Ajibade & Boateng, 2021; Balundė & Perlaviciute, 2023; Carfora et al., 2024; Gelibolu & Mouloudj, 2025), and ecological responsibility has been shown to mediate the influence of environmental knowledge on sustainable consumption behaviour (Trinh et al., 2025).

Prior research has examined sustainable and green consumption, and the values, attitudes, and knowledge that motivate reductive or harm-minimising consumer behaviour are well known (Bergianti, 2025). Circular consumption research has taken this a step further by shaping understanding of concrete R-strategy behaviours, such as reusing, repairing, and preserving resources, and identifying the antecedents of specific circular behaviours among consumers (Shams et al., 2025; Zimmermann et al., 2024). Furthermore, regenerative consumption takes the focus to restoring outcomes that not only mitigate negative impacts but also proactively restore ecological and social systems, but this concept is still a newer and less-tested category in consumer psychology (Yunibandhu & Hallinger, 2025). Minimalism has been found to relate to various outcomes related to sustainability, such as intention to reduce consumption, ethical purchasing, low-carbon innovation behaviour, etc. (Gao et al., 2023; Gelibolu & Mouloudj, 2025; Shukla et al., 2024), with sustainable lifestyle values independently relating to pro-environmental attitudes and behaviours in similar contexts (Ateş, 2020; Druică et al., 2023).Ecological responsibility has been examined as a linkage

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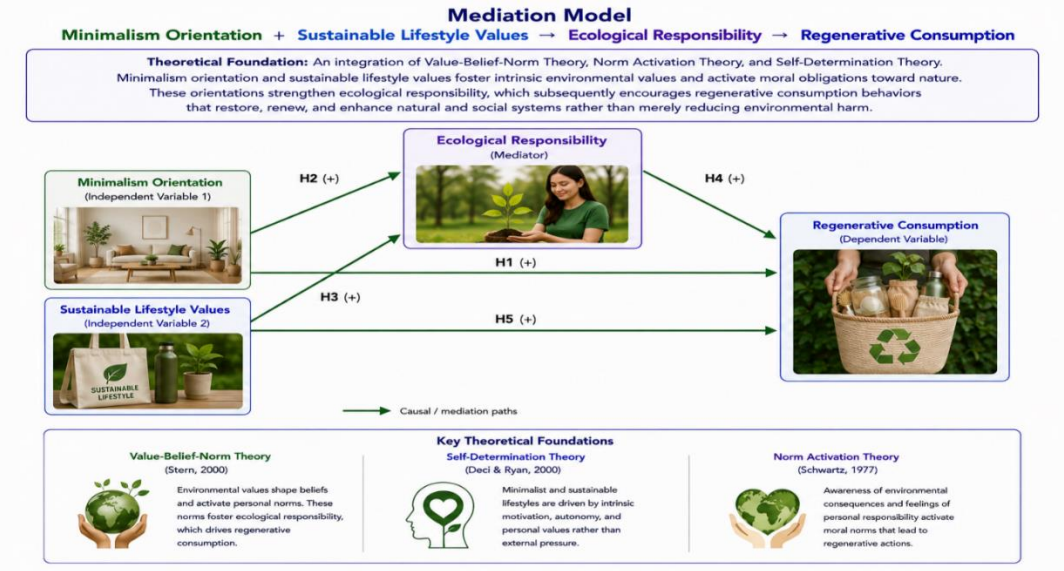
between environmental values, knowledge and identity, and pro-environmental behaviour, even in non-restorative, adjacent contexts like littering reduction (Hines et al., 1987). However, very few studies that combine both these lifestyle and value orientations, with ecological responsibility, in a single model to explain regenerative consumption, and the value-based models like VBN and VIP were not investigated to take both these antecedents into account, mediated by a value, and leading to a restorative outcome

This study aims to tackle this gap directly. It builds on previous research in the field of value-based pro-environmental behaviour, by including both value-driven pro-environmental behaviour and regenerative consumption as separate and more demanding behavioural outcomes; by positioning ecological responsibility as the psychological mechanism by which minimalism orientation and sustainable lifestyle values, two aspects of behaviour that have been studied separately, co-determine the outcome of regenerative consumption; and by testing both the direct and indirect pathways in the same structural model, which responds to an explicit call in the literature for examining the behavioural pathways between minimalism orientation and value and measurable restorative sustainability outcomes (Blackburn et al., 2024; Yunibandhu & Hallinger, 2025). To the best of the present research, no existing study has examined ecological responsibility as a mediator between two different antecedents (minimalism orientation and sustainable lifestyle values), and one restorative outcome (regenerative consumption). Based on this, it is postulated that:

H6: There is a mediating effect between the minimalism orientation and regenerative consumption.

H7: Sustainable lifestyle value has an indirect effect on regenerative consumption via the mediating role of ecological responsibility.

Figure 1: The proposed Theoretical Framework



3 METHODOLOGY

3.1 Research Design

This study uses a quantitative research design with a structural approach, a survey method, and a cross-sectional design. Given that the hypotheses drawn from the value-based theory (H1-H7) , this case calls for a positivist deductive approach. The data were gathered at a single point in time, similar to most previous structural equation modelling research on minimalism, sustainable values, and pro-environmental behavior (Gelibolu & Mouloudj, 2025; Shukla et al., 2024) Population and Sampling include adults in

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Pakistan who make their own decisions about buying and consuming products. Just as in the previous consumer-behaviour studies carried out in South Asian and other developing-economic settings (Fatima et al., 2024), the method of sampling is recommended as non-probability purposive/convenience sampling which is complemented with the application of quotas to protect other demographic parameters such as age, gender, and income range to ensure the sample represents the consuming population broadly and not only in a specific segment of the population. Screening criteria for eligibility are adopted from similar minimalism and sustainable-consumption surveys, namely, (a) being 18+ years old and (b) making at least one independent consumption or purchasing decision in the past six months.

A minimum sample size was calculated based on the widely applied rule of 10:10 (covariance-based structural equation modelling) and the more conservative rule of 200 cases (stable maximum-likelihood estimation in AMOS). A minimum sample of 350-400 usable responses is recommended for this target sample size, to ensure a sufficient cases-to-parameters ratio and to guarantee statistical power for the bootstrapped mediation tests, given four latent constructs with multi-item reflective indicators the seven hypothesized paths. Data were gathered using a structured, self-administered questionnaire in both paper and online (Google Forms) formats to ensure coverage of both urban and semi-urban respondents. The study is conducted in Pakistan, Khyber Pakhtunkhwa (KP)/Swat region, thereby maintaining the contextual consistency of the study with the researcher's other studies but with generalisability to similar consumer settings in South Asia (Fatima et al., 2024). The questionnaire was translated and back-translated according to standard translation–back translation procedures to ensure item equivalence across languages and was administered in English, with a professionally back-translated Urdu version for those who prefer to answer the survey in that language. The instrument is pre-tested in two phases: (a) content validity test by three to five experts who have the subject matter to check the face, relevance and clarity of the items, and (b) pilot test with about 40-50 respondents from the target population for preliminary reliability test (Cronbach's alpha).

The constructs are measured with previously validated multi-item scales adapted from the literature in psychology and marketing field. The measure of minimalism orientation was based on items adapted from the 12-item Minimalist Consumer Scale (Wilson & Bellezza, 2022), which captures three sub-dimensions: number of possessions (e.g., I restrict the number of things I own), sparse aesthetic (e.g., I prefer simplicity in design), and mindfully curated consumption (e.g., the selection of things I own has been carefully curated). The scale has been well validated internally (α = .90 to .92 across studies), and has been used in consumer sustainability studies (Shukla et al., 2024). Measures of sustainable lifestyle values were based on items developed in existing value-orientation and sustainable-lifestyle theory and measures based on value–belief–norm theory, which reflect the bio spheric and altruistic value components of respondents' value commitments, and thus are similar to the items used in previous value-based consumer research (De Groot & Steg, 2008; Stern, 2000). the operationalisation of the ecological responsibility was done in four items adapted from the responsibility items of (Stern, 2000) “My actions impact the health of the environment”; “I have the power to protect the environment”; “I can learn how to improve the environment”; “I will work to make my surrounding environment a better place”. The items of regenerative consumption were adapted from the (Yunibandhu & Hallinger, 2025). The study has employed SPSS and AMOS for data analysis.

4 RESULTS

4.1 Description of Respondents' Demographic Profile

As shown in table 1 Four hundred (400) valid responses were selected for analysis. The gender split was nearly equal, with male respondents slightly more numerous (52.0%, n = 208) than

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female respondents (48.0%, n = 192). In terms of age, respondents were fairly well distributed across the adult life span, with the largest group falling in the 18–24 bracket (24.8%, n = 99), followed by 25–34 (23.3%, n = 93), 35–44 (19.8%, n = 79), 55 and above (16.3%, n = 65), and 45–54 (16.0%, n = 64); taken together, respondents aged 34 and below made up just under half the sample (48.0%), while those aged 35 and above accounted for the remaining 52.0%. The sample was also highly educated, with 34.0% (n = 136) having a bachelor's (undergraduate) degree, 19.8% (n = 79) a master's degree, and 14.0% (n = 56) a doctoral degree; two-thirds of respondents had bachelor's (undergraduate) and/or a master's (graduate) degree or higher (67.8%) while 32.3% (n = 129) reported secondary education or less. Household income was fairly evenly spread across brackets, with the two middle-to-upper brackets, PKR 100,000–149,999 (25.8%, n = 103) and PKR 150,000–199,999 (26.0%, n = 104), together accounting for just over half the sample (51.8%), while 28.6% (n = 114) reported household income below PKR 100,000 and 19.8% (n = 79) reported income of PKR 200,000 or above. The overall demographic profile indicates that the sample is fairly balanced by gender, moderately younger, and more highly educated than the general adult consumer population sampled, and includes a wide range of income levels, lending to generalisability of the study's findings to the adult consumer population sampled.

Table 2 shows the bivariate Pearson correlation coefficients between the four study variables. All correlations were positive and significant at the .01 level, supporting the pattern of relationships proposed in the structural model. A moderate correlation existed between the Minimalism and Sustainable Lifestyle orientations ($r = .626$, $p < .01$), indicating that, although conceptually different, these orientations are likely to coexist among consumers in this sample. There was a moderate, positive correlation between minimalism orientation and regenerative consumption ($r = .469$, $p < .01$), and a weaker, but still significant, correlation with ecological responsibility ($r = .372$, $p < .01$). As shown in the comparatively higher structural path coefficients in hypothesis testing, values of sustainable lifestyle were more strongly related to both regenerative consumption ($r = .577$, $p < .01$) and ecological responsibility ($r = .444$, $p < .01$) than the minimalist orientation. The strongest correlation in the matrix was between ecological responsibility and regenerative consumption ($r = .627$, $p < .01$), supporting the hypothesis that ecological responsibility acts as the proximal psychological factor in the proposed model of regenerative consumption. No inter-construct correlations exceeded the threshold value usually considered the limit for the non-appearance of multicollinearity problems ($r > .85$), showing that the orientation towards minimalism, the sustainable lifestyle values, the ecological responsibility, and the regenerative consumption are empirically distinguishable constructs and can be simultaneously included in the structural model.

Table 1: of Respondents' Demographic Profile

Variable	Frequency	Percentage (%)
Gender		
Male	208	52.0
Female	192	48.0
Age (years)		
18–24	99	24.8

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Variable	Frequency	Percentage (%)
25–34	93	23.3
35–44	79	19.8
45–54	64	16.0
55 and above	65	16.3
Education		
Secondary or below	129	32.3
Bachelor's	136	34.0
Master's	79	19.8
PhD	56	14.0
Monthly Household Income (PKR)		
Less than 50,000	55	13.8
50,000–99,999	59	14.8
100,000–149,999	103	25.8
150,000–199,999	104	26.0
200,000 and above	79	19.8
Total	**400**	**100.0**

Table 2: Bivariate Correlations Among Study Variables (N = 400)

Variable	1	2	3	4	Cronbach alpha
1. Minimalism Orientation (MO)	—				0.948
2. Sustainable Lifestyle Values (SLV)	.626**	—			0.892
3. Regenerative Consumption (RC)	.469**	.577**	—		0.921
4. Ecological Responsibility (ER)	.372**	.444**	.627**	—	0.931

4.2 Measurement Model VIF, AVE, CR

Table 3 summarises the measurement model results for the four latent constructs. The loadings on every item exceeded the .50 convention and ranged from .57 (SLV6) to .90 (MO11), reflecting good reliability of each item

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in measuring the construct. Convergent validity was acceptable for all constructs, with average variance extracted (AVE) from .509 (sustainable lifestyle values) to .613 (minimalism orientation), each meeting the suggested minimum threshold of .50 and indicating that the constructs accounted for over half the variance in the indicators. These composite reliability (CR) indices were also high, ranging from .881 (ecological responsibility) to .946 (minimalism orientation), much higher than the .70 criterion that is considered to indicate good internal consistency, and similar to levels found on the source instruments reported by Wilson and Bellezza (2022) and Shams et al. (2025). The variance inflation factor (VIF) values for the exogenous constructs were minimalism orientation (1.675), sustainable lifestyle values (1.797), and ecological responsibility (1.269); all were below the conservative threshold of 3.0, suggesting that multicollinearity was not a problem in the structural model. Overall, these findings support the satisfactory reliability and convergent validity of the measurement model, providing sufficient grounds for testing the hypothesised structural relationships.

Table 3: Measurement Model VIF, AVE, CR

Construct	Item	Loading	VIF	AVE	CR
Minimalism Orientation (MO)	MO1	.85	1.675	.613	.946
	MO2	.75			
	MO3	.74			
	MO4	.74			
	MO5	.76			
	MO6	.86			
	MO7	.76			
	MO8	.73			
	MO9	.73			
	MO10	.77			
	MO11	.90			
Sustainable Lifestyle Values (SLV)	SLV1	.70	1.797	.509	.902
	SLV2	.69			
	SLV3	.85			
	SLV4	.80			
	SLV5	.75			
	SLV6	.57			

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Construct	Item	Loading	VIF	AVE	CR
Regenerative Consumption (RC)	SLV7	.73	1.890	.586	.895
	SLV8	.67			
	SLV9	.62			
	RC1	.80			
	RC2	.73			
	RC3	.79			
	RC4	.78			
	RC5	.74			
	RC6	.75			
Ecological Responsibility (ER)	ER1	.79	1.269	.598	.881
	ER2	.69			
	ER3	.76			
	ER4	.81			
	ER5	.81			

4.4 Discriminant Validity

Table 4 presents discriminant validity based on the Fornell-Larcker criterion, which compares the average variance extracted (AVE) of each construct along the diagonal with the correlations between constructs. In the case of three of the four constructs, discriminant validity was clearly supported, meaning that the constructs' correlations with all other constructs were exceeded by their correlation with the construct under examination: regenerative consumption (√AVE = .766); ecological responsibility (√AVE = .773); and minimalism orientation (√AVE = .783), exceeded correlations with sustainable lifestyle values (.724); with regenerative consumption (.518); and with ecological responsibility (.425), respectively. The values for sustainable lifestyle were a near tie with minimalism orientation, with a difference of only .011 in their √AVE (.713 vs .724). Although this is not as strict as the Fornell-Larcker parameters for support of SLV–MO, the two constructs are empirically distinguishable across all measurement model parameters, each loading very cleanly on its respective factor with adequate AVE and composite reliability, and the correlation (.724) was below the .85 threshold usually considered to indicate significant issues with discriminant validity. Because this result is so close, it is recommended to corroborate it with the heterotrait–monotrait (HTMT) ratio of correlations as a robustness check before concluding that minimalism orientation and sustainable lifestyle values are fully distinct in this sample. The overall pattern of correlations largely aligned with the study's conceptual distinction between an internally oriented consumption philosophy (minimalism orientation) and an externally oriented value commitment (sustainable lifestyle values). It was the strongest inter-construct association, as expected, between ecological responsibility and restorative consumption behaviour

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(regenerative consumption) (.725), reflecting its proposed role as the proximal driver of restorative consumption behaviour. Table 5 reports the heterotrait–monotrait (HTMT) ratio of correlations, which was found to be a better indicator of discriminant validity problems than the Fornell–Larcker criterion, especially when the constructs have only moderate conceptual separation (Henseler et al., 2015). All six HTMT values were well below the conservative .85 threshold, ranging from .425 (minimalism orientation–ecological responsibility) to .725 (regenerative consumption–ecological responsibility) and demonstrated the distinctness of each pair of constructs. Importantly, the HTMT ratio of minimalism orientation and sustainable lifestyle values, which had yielded a borderline result under the Fornell–Larcker criterion (√AVE of .713 for SLV vs .724 for the correlation), was .724, which was well within the .85 and .90 thresholds typically considered acceptable, and clearly below both the .85 and .90 thresholds. Together with the HTMT results, minimalism orientation and sustainable lifestyle can be considered two empirically separable constructs, as their conceptual difference is an internally focused consumption philosophy and an externally focused value orientation, respectively. The highest HTMT ratio in the structural model was between ecological responsibility and regenerative consumption (.725), indicating a similar level of relationship between these two constructs, but still within the acceptable range for treating them as separate constructs. In general, the HTMT results indicate that the measurement model achieved strong discriminant validity across the four constructs.

Table 4: Fornell-Larcker criterion

Construct	MO	SLV	RC	ER
Minimalism Orientation (MO)	**.783**			
Sustainable Lifestyle Values (SLV)	.724	**.713**		
Regenerative Consumption (RC)	.518	.703	**.766**	
Ecological Responsibility (ER)	.425	.532	.725	**.773**

Note. N = 400. Diagonal values (bold) are the square root of the average variance extracted (√AVE) for each construct, calculated from the AVE values reported in Table 3. Off-diagonal values are inter-construct correlations. Per the Fornell–Larcker criterion, discriminant validity is supported when a construct's √AVE exceeds its correlation with every other construct.

Table 5: Discriminant Validity: Heterotrait–Monotrait (HTMT) Ratio of Correlations

Construct	MO	SLV	RC	ER
Minimalism Orientation (MO)	–			
Sustainable Lifestyle Values (SLV)	.724	–		

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Construct	MO	SLV	RC	ER
Regenerative Consumption (RC)	.518	.703	—	
Ecological Responsibility (ER)	.425	.532	.725	—

Note. N = 400. Values are heterotrait–monotrait (HTMT) ratios of correlations between each pair of constructs. Diagonal cells are not applicable, as HTMT is defined only between construct pairs. Discriminant validity is supported when HTMT < .85 (conservative threshold) or, at minimum, < .90 (liberal threshold); values close to or exceeding 1.0 indicate a lack of discriminant validity (Henseler et al., 2015).

4.5 HYPOTHESES TESTING

The structural model results well support all seven hypothesized paths. The results confirmed that minimalism orientation significantly and directly affected regenerative consumption (β = .106, C.R. = 2.599, p = .009), supporting H1, and also significantly predicted ecological responsibility (β = .169, C.R. = 3.340, p < .001), supporting H2. Sustainable lifestyle values proved to be the stronger of the two antecedents, having a significant positive influence on ecological responsibility (β = .428, C.R. = 7.080, p < .001; H3), and also having a significant positive direct influence on regenerative consumption (β = .351, C.R. = 6.583, p < .001; H5). Ecological responsibility was next most important single predictor of regenerative consumption (β = .509, C.R. = 9.068, p < .001), supporting H4 and highlighting its role as a nearer determinant of restorative consumer behaviour. Coefficient indirect tests provided further support for H6 and H7 with the effect of minimalism orientation on regenerative consumption being significant with a relatively large size of .086, SE of .035, z of 2.457, and p of .014 for the bootstrapped indirect test; and the effect of sustainable lifestyle values on regenerative consumption through ecological responsibility being significant with a relatively large size of .218, SE of .042, z of 5.190, and p of < .001 for the bootstrapped indirect test. The direct effects of both minimalism orientation and sustainable lifestyle values on regenerative consumption were also present. These indirect effects were also significant, meaning that ecological responsibility is more of a partial mediator of both relationships than a complete mediator. A large portion of both antecedents' impacts on regenerative consumption are mediated by routes not included in this mechanism. Overall, these results suggest that, beyond being a stronger predictor of ecological responsibility, sustainable lifestyles values are a more significant predictor of regenerative consumption, and that both orientations play a significant role in explaining regenerative consumption in this sample, indirectly through the mediating variable of ecological responsibility.

Table 6: Hypotheses Testing

Hyp.	Path	Std. β	S.E. / C.R.	p	Result
H1	Minimalism Orientation → Regenerative Consumption	.106	C.R. = 2.599	.009	Supported
H2	Minimalism Orientation → Ecological Responsibility	.169	C.R. = 3.340	***	Supported

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H3	Sustainable Life Values → Ecological Responsibility	.428	C.R. = 7.080	***	Supported
H4	Ecological Responsibility → Regenerative Consumption	.509	C.R. = 9.068	***	Supported
H5	Sustainable Life Values → Regenerative Consumption	.351	C.R. = 6.583	***	Supported
H6	Ecological Responsibility mediates MO → RC	.086	SE = .035, z = 2.457	.014	Supported (partial mediation)
H7	Ecological Responsibility mediates SLV → RC	.218	SE = .042, z = 5.190	<.001	Supported (partial mediation)

N=400

5. DISCUSSIONS

Regenerative consumption was positively and directly influenced by minimalism orientation (β = .106, p = .009). This result is consistent with recent theory of planned behaviour studies in Vietnam, which find that minimalism positively affects sustainable consumption behaviour and that the effect strengthens when attitudes and subjective norms related to the behaviour are positive (Nguyen et al., 2025).This also aligns with evidence suggesting that minimalist consumers place higher value on ownership-reducing behaviours such as rental consumption (Shukla et al., 2024), which is similar to the behaviour measured in this study: restorative consumption. Also, minimalism-based brand engagement research has demonstrated that consumers who consume a brand with minimalism embrace buying strategies based on durability and multifunctionality instead of replacement, which is an approach that is consistent with the findings of the direct pathway to regenerative consumption (Pangarkar et al., 2021). Given the relatively small effect size for sustainable lifestyle values, we assume a direct behavioral pull toward regenerative practices. Still, it is not as strong as the indirect, responsibility-based route (H6). Additionally, the H2 of the study is accepted, which hypothesized the direct positive connection of minimalism orientation and ecological responsibility. The minimalism orientation was a significant predictor of ecological responsibility with a beta of .169 (p < .001). This finding aligns with recent cross-study findings that consumer minimalism is mediated, in part, by an ascription of responsibility toward the environment, as well as expected guilt related to alternative, ownership-limiting consumption behaviour (Mishra et al., 2024). This aligns with value–identity–personal norm research, which shows that low value imagery increases environmental identity and personal norms of responsibility, which in turn predict higher levels of ethical consumption (Gelibolu & Mouloudj, 2025). Similarly, minimalists have been found to experience greater psychological well-being from curated, intentional possession, which may lead to a broader obligation to the environment (Kang et al., 2021). In sum, these studies support the suggestion that minimalism is both a behavioural style and a psychological precursor that triggers a sense of ecological responsibility.

The findings support H3, which predicted positive impact of sustainable lifestyle values and ecological responsibility. According to the value–identity–personal-norm evidence, the path most strongly affecting ecological responsibility in the model was sustainable lifestyle values (β = .428, p < .001), suggesting

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that environmentally oriented values influence behaviour primarily through the internalisation of norms of responsibility and obligation. This finding also aligns with studies showing that personal norms of responsibility are closely tied to environmental values across various relational/cultural contexts, such as parent–adolescent value transmission (Balundė & Perlaviciute, 2023). Likewise, the findings also corroborate with evidence showing that minimalism and value-consistent lifestyle orientations influence low-carbon innovation behaviors through reflective, meaning-based mechanisms similar to an "activated" sense of ecological responsibility (Gao et al., 2023). This relatively high effect size for this pathway indicates the more ecologically motivating nature of the other-oriented broad value orientation compared with the narrower, internally focused minimalism orientation. The findings accept H4, which hypothesized the connection between ecological responsibility and regenerative consumption, (β = .509, p < .001) was the strongest single predictor of regenerative consumption in the model, confirming previous research that a sense of personal responsibility is one of the most consistent predictors of pro-environmental behavior (Hines et al., 1987). This finding also aligns with a recent study in Vietnam suggesting that environmental responsibility mediates the relationship between environmental knowledge and sustainable consumption behavior, representing an intermediate step that drives behavior rather than knowledge itself (Trinh et al., 2025). It also reflects findings from Indonesian students, where responsibility serves as the intermediary variable that affects littering behaviour, with responsibility as the more immediate triggering behavioural variable (Basti Tetteng, 2025). Even when compared with two different value-based antecedents, ecological responsibility proved to be the strongest pathway in the current model, supporting its role as the focal proximal mechanism between consumer values and orientations and restorative behaviour.

The findings approve H5, which hypothesized sustainable lifestyle values positive and significant relationship with regenerative consumption. Sustainable lifestyle values had a strong direct impact on regenerative consumption (β = .351, p < .001), in addition to the indirect impact via ecological responsibility. This aligns with the theory of planned behaviour, which suggests that attitudes toward a sustainable and minimalist lifestyle and subjective norms toward it relate directly to the intention to adopt the behaviour when they are favourable (Druică et al., 2023). This result converges with prior evidence showing that sustainable consumption behaviour aligned with minimalism is reinforced and amplified by favourable attitudes and norms, consistent with the psychology of values influencing consumption behaviour both directly and indirectly through downstream psychological effects (Nguyen et al., 2025). In addition, sustainable lifestyle values have been found to directly influence consumers' low-carbon innovation behaviour via reflective and meaning-based processes in addition to a discrete responsibility process (Gao et al., 2023). Taken together, these findings suggest that sustainable lifestyle values have a direct behavioural pathway to regenerative consumption, as well as an indirect pathway involving responsibility, as confirmed under H7.

The findings accept H6: Ecological Responsibility Mediates Minimalism Orientation → Regenerative Consumption. The direct path (H1) between minimalism orientation and regenerative consumption was significant (β = .086, z = 2.457, p = .014), as was the indirect path between minimalism orientation and regenerative consumption through ecological responsibility (indirect path: β = .060, z = 2.238, p = .026). Both the direct and indirect pathways align with multi-study findings that consumer minimalism influences rental and alternative consumer behaviour via mediating channels, including ascribed environmental responsibility and anticipated guilt, as well as more direct behavioural channels related to minimalist identity (Mishra et al., 2024). Further, it aligns with findings that self-conscious emotions. Likewise, value–

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identity–personal-norm research indicates that minimalist values influence ethical consumption both partially and through environmental identity and personal norms (Gelibolu & Mouloudj, 2025). Moreover, the findings accept H7: Ecological Responsibility Mediates Sustainable Lifestyle values and regenerative consumption. Ecological responsibility also partially mediated the effect of sustainable lifestyle values on regenerative consumption ($\beta = .218$, $z = 5.190$, $p < .001$); the equivalent pathway for minimalism was significantly smaller (H6). This is in line with the evidence that environmental responsibility lies between environmental knowledge and sustainable consumption behaviour (Trinh et al., 2025), as well as with evidence showing that responsibility accounts for part, but not all, of the link between environmental identity and value orientation and littering behaviour (Basti Tetteng, 2025). It is also compatible with value-identity studies that have established that, for the relationship between environmental values and pro-sustainable behaviors, Environmental self-identity and personal norms of responsibility contribute significantly (but not exclusively) to this relationship (Ajibade & Boateng, 2021). The larger indirect effect compared to the minimalism orientation was similar to the larger direct effects of sustainable lifestyle values in other hypotheses (H3 and H5), reinforcing sustainable lifestyle values as the more powerful of the two value orientations throughout the model.

6. Theoretical Contributions

This study makes three main theoretical contributions. First, it contributes to the extension of the value based pro-environmental behaviour research to focus on regenerative consumption, which is a more complex behaviour than the green purchasing and recycling behaviours that value–belief–norm and value–identity–personal-norm theory were originally developed to explain, directly addressing calls for research that maps the conceptual and empirical foundations for regeneration at the consumer level (Yunibandhu & Hallinger, 2025). Secondly, it has integrated ecological responsibility as a common psychological mechanism linking two conceptually distinct antecedents, an internally focused consumption philosophy (minimalism orientation) and an externally focused value system (sustainable lifestyle values) into a single parallel-mediation structural model, rather than testing these two antecedents and the corresponding psychological mechanisms separately, as most of the previous studies have done. Third, the study shows partial, rather than full, mediation for both indirect pathways and offers a clearer understanding of how ecological responsibility functions as one mechanism. Still, the study does not model additional mechanisms that need further investigation in future theory building, such as anticipated guilt and psychological ownership (Mishra et al., 2024).

7. Practical Contributions

The results indicate that material directly appeals to consumers' sense of ecological responsibility is the most important type of strategic concern to include in a marketing campaign if marketers and brand managers want to elicit regenerative consumption. In contrast, minimalist and sustainability-related appeals are less likely to do so on their own. Sustainable lifestyle values had the highest overall relationship with regenerative consumption, both directly and indirectly via ecological responsibility, suggesting that campaigns and loyalty programmes aimed at broadly values-driven consumers, such as focusing on intergenerational and community responsibility, may be expected to have the highest behavioural impact. However, the direct and indirect effects of minimalism orientation, though minimal, show that a messaging focused on simplicity, curation and mindful consumption is still a useful complementary strategy, especially for the rental, repair and refurbishment businesses targeting a psychographically different customer base (Shukla et al., 2024). The findings may be of interest to the policy makers in Pakistan and other similar markets in the South Asian region; the results indicate that the policy

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makers in Pakistan should explicitly convey a message of personal ecological responsibility, as this message has a more direct impact than either underlying value orientation, while at the same time creating a broader policy message about sustainable-lifestyles values that has a more upstream impact on these values of personal ecological responsibility.

8. Conclusion

The current study explored the direct and indirect effects of minimalism orientation and sustainable lifestyle values on regenerative consumption by modelling the mediating role of ecological responsibility. All seven hypothesised paths were supported. Sustainable lifestyle values proved the stronger of the two antecedents in their direct and indirect effects (with ecological responsibility acting as a mediating variable). At the same time, minimalism orientation contributed in smaller but significant amounts. Ecological responsibility was an important proximal factor in promoting regenerative consumption and a partial mediator of both antecedent relationships. The results also bring value-based environmental behaviour theory to the relatively under-researched notion of regenerative consumption, providing marketers and policy makers with empirical support to create action plans that stimulate ecological responsibility and consumers minimalist and sustainable values.

9. Future Research Directions

This model could be expanded in several ways in the future. Second, due to the partial mediation of both of the antecedent relationships, future research could investigate other mediating variables not included in this study that have been found in the minimalism literature to account for the direct relationships seen in this study, including those of anticipated guilt, psychological ownership, and meaning in life (Mishra et al., 2025; Gao et al., 2023). Second, a longitudinal or experimental design would strengthen these findings, as these designs can provide stronger evidence of causal direction, especially since the adoption of a minimalist and sustainable lifestyle can evolve (Nguyen et al., 2025). Third, future studies could include income level, environmental self-identity, or collectivist cultural orientation as boundary conditions, which have recently been found to influence the intensity of the relationship between minimalism and sustainable consumption (Nguyen et al., 2025). Finally, replicating this model in other contexts in South Asia and the Developing-Economy world outside Pakistan would help confirm the generalisability of the observed effects, especially given the relative lack of regenerative consumption research from other contexts in South Asia and the Developing-Economy world (Fatima et al., 2024).

10. Limitations

This study has several limitations. First, because of its cross-sectional design, it does not allow causal inferences; the relationships observed are theoretically sound but susceptible to reverse and/or reciprocal causality, especially in ecological responsibility and regenerative consumption. Second, all constructs were assessed using self-reported survey data from a single instrument, and they may have residual common method bias, despite the procedural and statistical protections implemented. Third, the non-probability sampling method aligned with similar consumer-behaviour studies in similar settings (Fatima et al., 2024), but it limited the generalisability of the results to the broader Pakistani consumer group. Fourth, the study included only two antecedents and one mediator; other mechanisms suggested in recent minimalism studies, such as expected guilt and psychological ownership, were not incorporated into the present model and could explain the direct effects not mediated in H1 and H5 (Mishra et al., 2024). Finally, findings can be applied to consumers in other cultural and economic settings only after further replications in other national contexts.

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