

Research Article

Sustainable Storytelling by Virtual Influencers: An Experimental Study on the Role of Lifestyle Congruence and Distinctiveness in Shaping Purchase Intentions

Sanal Etkileyiciler Aracılığıyla Sürdürülebilir Hikâye Anlatımı: Satın Alma Niyetini Şekillendirmede Yaşam Tarzı Uyumu ve Ayırt Ediciliğin Rolüne Dair Deneysel Bir Çalışma

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15.04.2026	11.06.2026

Abstract

This study examines how sustainable storytelling by virtual influencers (VIs) influences consumers' purchase intentions toward sustainable products. Drawing on narrative and lifestyle congruence perspectives, we propose an integrated model in which storytelling affects purchase intention directly and indirectly through perceived lifestyle congruence and product uniqueness, with VI distinctiveness as a moderator. A between-subjects experimental design was employed using storytelling versus non-narrative manipulations. Data were collected from 150 participants and analysed via SPSS and PROCESS Macro to test the proposed relationships. Results indicate that exposure to sustainable storytelling significantly increases purchase intention compared to non-narrative content. Storytelling also positively influences perceived lifestyle congruence, which in turn enhances perceived product uniqueness. However, product uniqueness does not directly predict purchase intention. Moderated mediation analyses further reveal that the indirect effect of storytelling on purchase intention via lifestyle congruence is significant at medium and high levels of VI distinctiveness, but not at low levels. The findings contribute theoretically by identifying lifestyle congruence as the key mechanism linking sustainable storytelling to purchase intention and by demonstrating that this effect depends on the distinctiveness of virtual influencers. By integrating sustainability, storytelling, and VI research within a moderated mediation framework, the study clarifies the conditions under which narrative persuasion is most effective. In practice, the results suggest that brands, VI designers, and content strategists should emphasise well-crafted sustainable lifestyle narratives and develop distinctive VI personas to strengthen persuasive impact.

Keywords: *Virtual influencer, storytelling, narrative transportation, lifestyle congruence, sustainable buying, distinctiveness*

Öz

Bu çalışma, sanal etkileyicilerin sürdürülebilir hikâye anlatımının, tüketicilerin sürdürülebilir ürünlere yönelik satın alma niyetlerini nasıl etkilediğini incelemektedir. Çalışma, anlatı aktarımı ve yaşam tarzı uyumu

Önerilen Atıf /Suggested Citation

Özer, M., 2026, Sustainable Storytelling by Virtual Influencers: An Experimental Study on the Role of Lifestyle Congruence and Distinctiveness in Shaping Purchase Intentions, *Üçüncü Sektör Sosyal Ekonomi Dergisi*, 61(2), 2551-2574.

perspektiflerinden yola çıkarak, hikâye anlatımının satın alma niyetini doğrudan ve dolaylı olarak (algılanan yaşam tarzı uyumu ve ürün benzersizliği aracılığıyla) etkilediğini, sanal etkileyicilerin ayırt edici özelliklerinin ise moderatör görevi gördüğünü önermektedir. Çalışmada, hikâye anlatımı ile anlatı içermeyen manipülasyonları karşılaştıran denekler arası bir deneysel tasarım kullanılmıştır. 150 katılımcıdan toplanan anket verisi, önerilen ilişkileri test etmek amacıyla SPSS yazılımı ve PROCESS Macro kullanılarak analiz edilmiştir. Sonuçlar, sürdürülebilir hikâye anlatımına maruz kalmanın, hikâye içermeyen içeriğe kıyasla satın alma niyetini anlamlı şekilde artırdığını göstermektedir. Hikâye anlatımı, algılanan yaşam tarzı uyumu üzerinde de olumlu bir etki yaratmakta ve bu da algılanan ürün benzersizliğini artırmaktadır. Ancak, ürün benzersizliği satın alma niyetini doğrudan etkilememektedir. Koşullu dolaylı etki analizi ayrıca, yaşam tarzı uyumu yoluyla hikâye anlatımının satın alma niyetine dolaylı etkisinin, sanal etkileyici ayırt ediciliğinin orta ve yüksek seviyelerinde anlamlı olduğunu, ancak düşük seviyelerde anlamlı olmadığını ortaya koymaktadır. Bulgular, yaşam tarzı uyumunu sürdürülebilir hikâye anlatımına bağlayan temel mekanizma olarak tanımlayarak ve bu etkinin sanal etkileyicilerin ayırt ediciliğine bağlı olduğunu göstererek teorik katkı sağlamaktadır. Sürdürülebilirlik, hikâye anlatımı ve sanal etkileyiciler konularını koşullu dolaylı etki çerçevesi içinde birleştiren bu çalışma, hikâye ile ikna yönteminin etkili olabileceği koşullara ilişkin içgörü sağlamaktadır. Sonuçlar markaların, sanal etkileyici tasarımcılarının ve içerik stratejistlerinin ikna edici etkiyi güçlendirmek için iyi hazırlanmış sürdürülebilir yaşam tarzı anlatılarına vurgu yapmaları ve ayırt edici sanal etkileyici kişilikleri geliştirmeleri gerektiğini göstermektedir.

Anahtar Kelimeler: Sanal etkileyici, hikâye anlatımı, anlatı aktarımı, yaşam tarzı uyumu, sürdürülebilir satın alma, ayırt edicilik

1. Introduction

With the acceleration of digitalisation, virtual influencers (VI) emerging in the social media ecosystem have attracted growing attention as new actors reshaping the nature of marketing communication (Jain et al., 2024). Although they do not represent real individuals, these digital characters are constructed around human-like identities and life narratives and largely establish their presence through storytelling (Lim & Lee, 2023; Jain et al., 2024). To connect with followers, they produce emotionally engaging and continuous narratives that mimic real life (Lim & Lee, 2023). This narrative-based structure enables followers to become mentally immersed in the VI's world and internalise the values embedded in the story, particularly through narrative transportation (Jain et al., 2024). For this reason, examining VIs from a storytelling perspective is essential. This perspective is especially relevant for abstract and often psychologically distant issues such as sustainability. Through visual storytelling and emotionally rich content, VIs can make environmental problems—such as plastic pollution, the climate crisis, or deforestation—more tangible and relatable in everyday contexts (Hoai Lan et al., 2025). Moreover, because content creators fully determine and manage a virtual influencer's identity, message, and aspirational lifestyle portrayals, sustainability messages can be delivered consistently and strategically, without the reputational risks that may arise with human influencers (Felnhofer et al., 2019; Moustakas et al., 2020; Mouritzen et al., 2024). Consequently, VIs offer strong potential as effective tools for sustainability communication.

Current research suggests that virtual influencers have a multidimensional influence on consumers (e.g., Lim & Lee, 2023; Jain et al., 2024; Kim et al., 2024). Previous studies show that VIs can generate engagement comparable to that of human influencers and may even exceed it due to their novelty and visual appeal (Lim and Lee, 2023). Followers are also found to form emotionally intense, one-sided parasocial relationships with VIs, which can reduce scepticism toward sponsored content (Jin & Ryu, 2020). Moreover, interaction with human-like VIs may positively influence both hedonic and meaning-oriented well-being (Jain et al., 2024). Despite these insights, important gaps remain at the intersection of VI, storytelling, and sustainability. Consumer responses to sustainability messages delivered by virtual influencers are still not well understood. In particular, the effectiveness of these influencers in promoting environmental issues and shaping consumer responses remains unclear (Hoai Lan et al., 2025).

From a narrative perspective, the congruence between consumers' lifestyles and the sustainable product being promoted (lifestyle congruence) plays a central role (Shao, 2026). When there is a similarity between the product's symbolic and lifestyle associations and consumers' self-concept, followers tend to perceive the offering as more authentic, trustworthy, and relatable (Shao, 2024). Lifestyle congruence facilitates smoother cognitive processing and fosters more positive emotional evaluations of the message

(Stein et al., 2024; Liu et al., 2025). In the context of sustainability, when a product represents an eco-friendly lifestyle that matches consumers' values and daily habits, its promotion can be perceived as a genuine extension of the self rather than merely an advertisement (Wan et al., 2025). Such alignment could help people see sustainability as both a social goal and a way of life they want to live (Shao, 2026). Overall, lifestyle congruence not only makes communication more effective but may also facilitate the adoption of sustainable consumption norms.

Beyond lifestyle alignment, storytelling may also shape how consumers evaluate the promoted product itself. Narrative-based communication can enhance perceptions of product uniqueness by embedding products within meaningful personal stories and distinctive lifestyle contexts (Kamleitner et al., 2019). Sustainable products are often positioned not only as environmentally responsible alternatives but also as expressions of individuality and identity (Kim and Kim, 2026; Lee et al., 2026). Lifestyle congruence reflects the perceived fit between consumers' lifestyles and the values represented by the product or brand (Nam et al., 2011), whereas perceived product uniqueness reflects the extent to which the product is viewed as distinctive and different from competing alternatives (Franke & Schreier, 2008). Both mechanisms may be particularly relevant in the sustainability context, where consumers often seek products aligned with their personal values and lifestyles and use them to express a distinctive and meaningful identity (Belk, 1988; Zahran & Aljuhmani, 2025). Consequently, examining both lifestyle congruence and perceived product uniqueness within the virtual influencer context provides a more comprehensive understanding of how sustainability-oriented narratives influence sustainable purchase intentions through both self-related and product-related evaluations.

The primary aim of this study is to examine the effect of storytelling among virtual influencers (VIs) on purchase intentions for sustainable products within an integrated model. Specifically, it tests the direct effect of storytelling on purchase intention and investigates how this relationship occurs through lifestyle congruence and perceived product uniqueness. In addition, the moderating role of VI distinctiveness is examined to determine whether digital character attributes shape the relationship between storytelling and consumers' perceptions of lifestyle congruence with the promoted sustainable product. The proposed relationships are tested using an experimental design to enable causal inferences.

This study advances both theory and practice by incorporating the sustainability context, which remains relatively underexplored in the virtual influencer literature, into a storytelling framework. In doing so, it addresses the limited understanding of how virtual influencers can promote sustainability-related outcomes and influence consumers' responses to sustainability messages. While the literature has focused on interaction and attitudinal outcomes, it has not sufficiently clarified the mechanisms through which sustainability messages become persuasive. By conceptualising storytelling as a value-internalisation process and positioning lifestyle congruence and perceived product uniqueness as mediating mechanisms, the study clarifies the perceptual and evaluative pathways underlying sustainable purchase intentions. Specifically, lifestyle congruence captures the self-related alignment between consumers and the promoted sustainable lifestyle, whereas perceived product uniqueness reflects product-related evaluations of distinctiveness, thereby providing a more comprehensive explanation of how storytelling translates into purchase intentions. Furthermore, by identifying VI distinctiveness as a boundary condition, the study clarifies when narrative-based effects are likely to be stronger. Finally, the use of an experimental design provides a causal empirical contribution to the emerging literature on virtual influencers and sustainability.

2. Theoretical Background and Conceptual Framework

2.1. Narrative Transportation Theory

Narrative transportation refers to a psychological state of mental immersion that occurs when individuals become absorbed in a story (Green & Brock, 2000). It involves the integrated activation of attention, imagination, and emotion, such that individuals mentally simulate narrative events, connect with characters, and experience a temporary detachment from their immediate physical environment (Jain et al., 2024). Narrative Transportation Theory primarily argues that stories possess a unique persuasive power compared to non-narrative, fact-based information (Green & Brock, 2000). Because individuals cognitively and emotionally enter the story world, they are more likely to internalise narrative-consistent beliefs, attitudes, and evaluations (Thomas & Grigsby, 2024). Importantly, this process reduces

counterarguing (Ma, 2020) because individuals devote their cognitive resources to following the storyline and mentally simulating events, rather than to critically evaluating the message's persuasive intent (Nielsen & Escalas, 2010; Grigsby et al., 2023). As a result, attitude and belief changes formed through transportation tend to be relatively durable (f & Richter, 2007).

In virtual influencer marketing, this theory explains how social media content influences consumer perceptions. Both human and virtual influencers do not merely present products; they construct ongoing life narratives (Jain et al., 2024). Virtual influencers, as fully designed digital characters (Kim et al., 2025), rely heavily on storytelling to establish a clear identity, convey purpose, and appear authentic (De Brito Silva et al., 2022). Their fictional nature may make it easier for followers to become immersed in their stories, as audiences tend to engage with them as narrative characters rather than as mere commercial endorsers (Kim et al., 2025). The mechanism underlying narrative effects operates through mental simulation and emotional engagement (Green & Brock, 2000; Van Laer et al., 2014). Immersed consumers identify with characters, adopt their viewpoints, and integrate presented lifestyles into their own cognitive schemas (Jain et al., 2024). Reduced counterarguing, emotional resonance, and perceived relational closeness collectively explain how narratives shape beliefs, attitudes, and perceptions of lifestyle within social media environments (Thomas & Grigsby, 2024).

2.2. Storytelling in Virtual Influencer Marketing

In the context of virtual influencers (VIs), storytelling refers to the construction of a comprehensive fictional life story and a human-like personality for a digital character (Thomas & Grigsby, 2024). Through a sequence of social media posts portraying daily routines, relationships, personal struggles, and engagement with social causes, the VI is positioned within a coherent narrative world rather than as a series of isolated promotional messages (Moustakas et al., 2020).

Storytelling is particularly important for VIs because their authenticity is constructed entirely through the content they share (Kim et al., 2025). Narrative construction, therefore, becomes the primary means of humanising the character and reducing the psychological distance between a technological artefact and a relatable persona (Moustakas et al., 2020). Over time, continuous storytelling fosters emotional attachment and encourages the development of para-social bonds (Van Laer et al., 2014; Tian et al., 2025). At the consumer level, storytelling shapes perception, emotion, and evaluation. It triggers narrative transportation, leading followers to become mentally immersed in the VI's story world. This immersion generates positive affect, offers temporary escape from real-world stress, and fulfils needs for social connectedness (Jain et al., 2024). In evaluative terms, followers tend to be less critical when engaging with fictional content (Green & Brock, 2000), which can increase engagement with the character and strengthen purchase intentions for endorsed brands (Zhang et al., 2025).

Sustainable storytelling differs from conventional product storytelling by embedding environmental values, responsible consumption practices, and pro-environmental identities into the narrative (Levstek et al., 2024; Blanco-Murcia & Moreno-Cruz, 2025). Rather than focusing solely on product attributes, sustainable storytelling illustrates how sustainability is integrated into everyday life, making environmental values more concrete, relatable, and relevant to consumers' identities.

3. Research hypotheses

3.1. Sustainable storytelling and purchase intention

Stories influence purchase intentions by fostering emotional connection and psychological closeness (Jiang et al., 2025). Through the storytelling, followers get cognitively and emotionally engaged in the VI's story world (Green & Brock, 2000; Van Laer et al., 2014). Thus, rather than viewing the recommendation as a separate commercial cue, consumers see it as part of a meaningful story (Kim et al., 2025).

Storytelling also turns on identity-based and relational processes. VIs stimulate normative social influence (Jiang et al., 2025) and self-expansion (Lee et al., 2026) by sharing relatable experiences and values, thereby motivating followers to perceive product adoption as congruent with social norms and personal development. Narrative self-disclosure enhances emotional intimacy (Kim and Kim, 2026). These mechanisms are also relevant to sustainable consumption (Hoai Lan et al., 2025). When environmental values are integrated into a VI's narrative identity, storytelling strengthens consumer

willingness to accept sustainable products (Kim and Kim, 2026; Lee et al., 2026). Thus, storytelling is expected to positively affect consumers' purchase intentions.

H1. Exposure to virtual influencer content featuring sustainable storytelling (vs. non-storytelling content) will result in higher purchase intention.

3.2. Sustainable storytelling and lifestyle congruence

Stories influence lifestyle perceptions by integrating products into consistent personal narratives and valuable contexts. When a VI shows daily routines, ethical responsibilities, and aspirational yet relatable practices, followers assess the promoted product not in isolation but within a comprehensive lifestyle context (Dessart & Standaert, 2023; Zahran & Aljuhmani, 2025). Lifestyle congruence refers to the extent to which consumers perceive a product, brand, or associated lifestyle as compatible with their own values, identity, and way of life (Nam et al., 2011). This enhances the perceived value congruence between the follower's self-concept and the identity presented by the VI (Shan & Xu, 2025). According to the S-O-R framework (Mehrabian & Russell, 1974), narrative content acts as a stimulus that triggers internal psychological states like affective and cognitive engagement (organism). This, in turn, drives evaluative responses, such as the perceived match between lifestyle and product image (Zahran & Aljuhmani, 2025). Emotional resonance strengthens this match by making the lifestyle presented in the narrative appealing and achievable (Yan et al., 2024). The same logic can be used for sustainable consumption. When environmental values are integrated into the VI's narrative identity, sustainable products become a norm in an eco-conscious lifestyle, enhancing the perceived similarity between individual values and supported brands (Zahran & Aljuhmani, 2025; Krsnik & Erjavec, 2026). Sustainable products are often evaluated based on their functional benefits as well as the values and lifestyles they represent (Hasudungan & Saragih, 2024). Consumers, therefore, assess whether the product aligns with their beliefs, values, and identities. By embedding sustainability into everyday routines and experiences, storytelling can make sustainable lifestyles more relatable and relevant (Ferraro et al., 2024; Jain et al., 2024). As a result, consumers may perceive a stronger congruence between their personal values and the lifestyle associated with the promoted product (Nam et al., 2011). Based on this rationale, we propose the following hypothesis:

H2. Exposure to virtual influencer content featuring sustainable storytelling (vs. non-storytelling content) will result in higher perceived lifestyle congruence.

3.3. Lifestyle congruence, product uniqueness, and purchase intention

Brands and consumption settings serve as symbolic expressions of these lifestyles, and the closer a brand image aligns with a consumer's personal way of life, the greater the satisfaction derived from the brand experience (Nam et al., 2011). Building on this view, perceived lifestyle congruence is expected to positively influence perceived product uniqueness when the lifestyle is identity-based and value-driven. Self-congruence theory suggests that consumers prefer brands reflecting their self-concept, strengthening identification and symbolic attachment (Sirgy, 1982). Although prior research indicates that congruence primarily enhances attitudes and authenticity perceptions (Japutra et al., 2019), uniqueness may arise when the aligned lifestyle signals moral or social differentiation. In sustainability contexts, alignment represents value expression rather than mere preference fit. When consumers perceive that a product reflects their lifestyle and personal values, they are more likely to regard it as an expression of their identity (Escalas & Bettman, 2005; Chernev et al., 2011). Such identity-relevant products often become differentiated from ordinary market offerings because they symbolise who consumers are and what they stand for (Berger & Heath, 2007). Consequently, lifestyle congruence may enhance perceptions of uniqueness by increasing the product's symbolic distinctiveness (Ekinici et al., 2013; Acar et al., 2024). Consistent with identity-signalling perspectives (Belk, 1988), products that embody salient values serve as symbolic markers of distinction, thereby increasing perceived uniqueness through identity-based differentiation rather than functional differences. These arguments lead to the following hypothesis:

H3. Perceived lifestyle congruence will positively influence perceived product uniqueness.

Perceived product uniqueness has been associated with higher perceived value, desirability, and purchase intention (Snyder & Fromkin, 1980; Lynn & Harris, 1997). Products perceived as unique are

often evaluated as more distinctive and desirable, thereby strengthening purchase intentions (Favier et al., 2025). This effect is rooted in a need for uniqueness, a primary motivation that drives individuals to differentiate themselves from others (Wu & Lee, 2016). Unique products help consumers express their identities and achieve ideal differentiation (Snyder & Fromkin, 1980; Franke & Schreier, 2008). Commodity theory posits that scarcity and exclusivity enhance desirability; consequently, products regarded as rare are valued more highly than their ordinary alternatives (Lynn, 1991; Wu & Lee, 2016). Uniqueness also helps people identify with a product, making them feel more connected to it and allowing them to express themselves (Franke & Schreier, 2008). Marketing cues such as limited availability enhance perceptions of uniqueness and value, thereby increasing purchase intentions (Wu & Lee, 2016). This logic may be particularly relevant in sustainable consumption contexts. Sustainable products are often purchased not only for their functional benefits but also for the symbolic meanings they convey regarding consumers' values and identities (Hasudungan & Saragih, 2024). When a sustainable product is perceived as unique, it may enable consumers to express their environmental commitments more distinctly (Eastman et al., 2021), thus increasing its attractiveness and purchase potential. Consequently, consumers may be more willing to purchase sustainable products that are perceived as unique. Thus, we propose the following hypothesis:

H4. Perceived product uniqueness will positively influence purchase intention towards sustainable products.

3.4. The moderating effect of the VI distinctiveness

Virtual influencer distinctiveness refers to the extent to which a virtual influencer is perceived as unique, recognisable, and different from other influencers in terms of appearance, personality, and overall identity (Volles et al., 2024; Wani & Nazir, 2026). Distinctive virtual influencers are more likely to attract attention, stand out in crowded digital environments, and leave a memorable impression on followers (Ferraro et al., 2024; Jain et al., 2024). It is anticipated that the distinctiveness of virtual influencers will influence the impact of sustainable storytelling on perceived lifestyle congruence, as distinctiveness affects the depth of followers' processing and engagement with the narrative. People see distinctive virtual influencers as new and different (Franke et al., 2023), which draws attention, boosts engagement, and makes the story more immersive (Jain et al., 2024). When people see distinctiveness as an excellent sign instead of considered odd, it makes them more likeable (Lou et al., 2023; Ferraro et al., 2024). Sustainable storytelling shows followers values, routines, and identity-relevant cues that help them compare their own lives to the influencer's. When there is greater distinctiveness, the sustainable narrative becomes more vivid, memorable, and relevant to identity, making it easier to make stronger inferences about shared or desired lifestyles (Ferraro et al., 2024; Jain et al., 2024). Studies indicate that positively evaluated uniqueness can reduce concerns regarding authenticity and enhance parasocial relationships, leading to more favourable responses (Dabiran et al., 2024; Volles et al., 2024). On the other hand, virtual influencers with low distinctiveness may not be able to get people's attention or differentiate themselves in crowded digital spaces, which would make the sustainable story less effective. Therefore, the positive effect of sustainable storytelling on perceived lifestyle congruence is expected to be stronger when virtual influencer distinctiveness is high.

H5. Virtual influencer distinctiveness moderates the effect of sustainable storytelling on perceived lifestyle congruence, such that the positive effect will be stronger at higher levels of VI distinctiveness.

3.5. The mediating role of lifestyle congruence

Exposure to virtual influencer content featuring sustainable storytelling (vs. non-narrative content) is expected to increase purchase intention indirectly through perceived lifestyle congruence because narrative formats activate stronger identity-based and relational mechanisms (Alim et al., 2026). Storytelling generates narrative transportation and deeper engagement than purely informational posts, enhancing identification and symbolic alignment with the influencer (Liu et al., 2024). When centred on sustainability, it highlights values and everyday practices that define a coherent lifestyle rather than merely presenting product attributes, encouraging followers to compare the influencer's lifestyle with their self-concept (Li et al., 2024). Previous studies indicate that self-congruity and perceived similarity mediate the effects of influencer characteristics on green purchase intentions and pro-environmental

behaviour (de Silva et al., 2025). When followers perceive a match between the influencer’s lifestyle and their own values, they feel more connected to the influencer, which makes them more likely to buy environmentally friendly products (Pereira et al., 2023; Diao et al., 2025). Thus, sustainable storytelling should indirectly enhance purchase intention through perceived lifestyle congruence. However, this effect likely depends on the perceived distinctiveness of the virtual influencer: if the influencer seems more distinctive, the lifestyle becomes more important and relevant to followers’ identities, which makes lifestyle congruence stronger. If the influencer seems less unique, these mechanisms may not work as well (Stein et al., 2024). Consequently, the indirect effect is anticipated to be stronger at higher levels of VI distinctiveness and less visible at lower levels. Building on this reasoning, the following hypothesis is proposed:

H6. The indirect effect of storytelling on purchase intention through perceived lifestyle congruence will vary depending on the level of VI distinctiveness, such that the effect will be stronger at higher levels of distinctiveness.

Figure 1 illustrates the proposed conceptual model, depicting the relationships among the core variables and clarifying how these variables interact within the study’s theoretical framework.

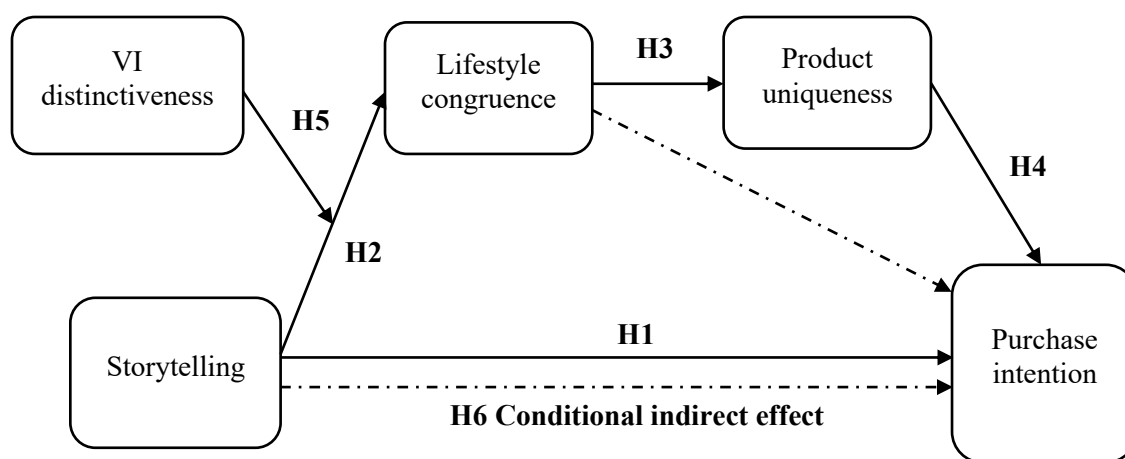


Figure 1. Research Model

Note: The dashed path from lifestyle congruence to purchase intention was estimated as part of the mediation analysis but was not formulated as a separate hypothesis. H6 represents the conditional indirect effect tested in the moderated mediation analysis and does not correspond to a separate structural path.

4. Methodology

This study used an experimental design to examine the causal effects of narrative-based posts by virtual influencers on consumer responses. A between-subjects experimental design was adopted. Participants were recruited through a professional market research company that maintains a consumer panel database. The survey invitation was distributed to panel members who were at least 18 years old and active social media users. Participants were assigned to one of the two survey versions (a narrative-based (story-containing) or a non-narrative (product benefits-focused) virtual influencer post) through the panel provider’s survey distribution process. The distribution of survey links was managed by the panel provider. To assess the comparability of the experimental groups, a series of demographic analyses was conducted. An independent-samples t-test indicated no significant difference in age between the story condition ($M = 38.01$, $SD = 11.25$) and the no-story condition ($M = 34.78$, $SD = 9.65$), $t(148) = -1.89$, $p = .061$. In addition, chi-square analyses revealed no significant differences between the groups in terms of gender, $\chi^2(1) = 2.15$, $p = .142$, education level, $\chi^2(4) = 7.98$, $p = .092$, or income level, $\chi^2(5)$

= 2.81, $p = .729$. These findings suggest that the two experimental groups were comparable with respect to their demographic characteristics.

Experimental stimuli were presented as Instagram posts to reflect a realistic social media context. Two versions of an Instagram post were developed featuring the same virtual influencer promoting the same product. The product used in the experiment was a bamboo toothbrush, selected because it represents a widely recognised sustainable alternative to conventional plastic toothbrushes (Ren et al., 2026). As a product commonly associated with environmentally responsible consumption, it was considered appropriate for examining sustainable purchase intentions. The visual design, influencer appearance, product image, and overall post layout were kept identical across conditions. The manipulation was implemented through the caption accompanying the post. In the storytelling condition, the caption included a personal narrative describing the virtual influencer's experiences, motivations, and personal connection to the product. In the non-storytelling condition, the caption focused solely on product-related information and promotional content without any narrative elements. The experimental stimuli used in both conditions are presented in Figure 2.

Ethical approval for the study was obtained from the ethical committee of the Social Sciences University of Ankara prior to data collection. Data were collected from participants aged 18 and over via an online survey method. After viewing the assigned stimulus, participants completed a structured questionnaire measuring their perceptions and evaluations of the virtual influencer and the endorsed product. Measurement items were adapted from established scales in the relevant literature, and 7-point Likert-type rating scales (1: Strongly disagree – 7: Strongly agree) were used.

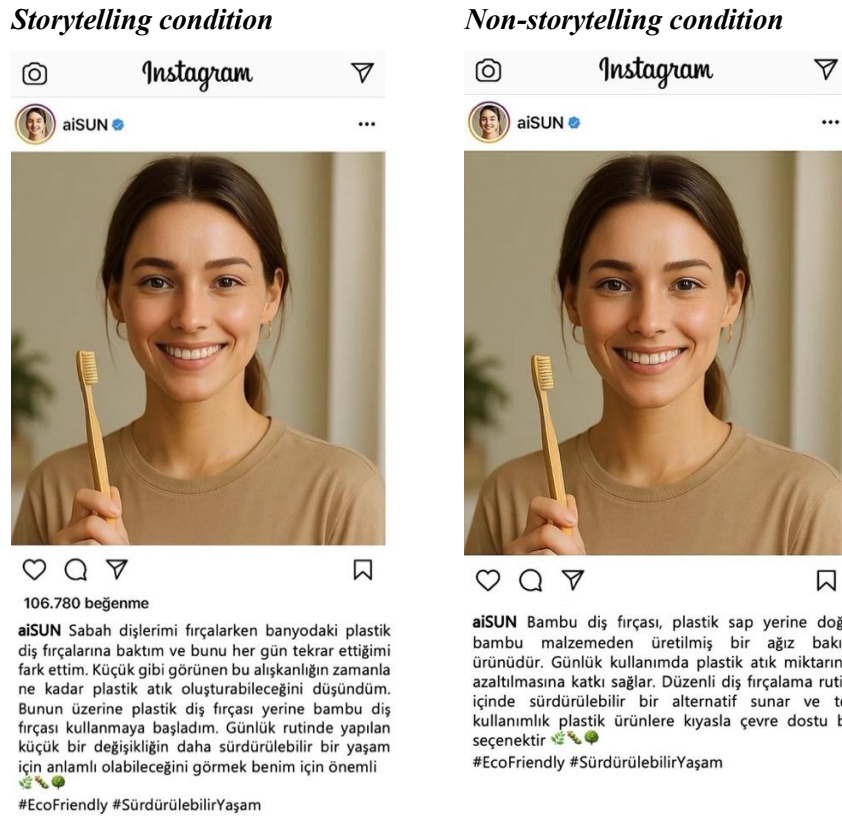


Figure 2. Experimental stimuli employed in the storytelling and non-storytelling conditions

To verify the effectiveness of the experimental manipulation, a content-based manipulation check assessed participants' perceptions of the post's core focus. Demographic information was collected at the end of the survey; participants were informed in advance that participation was voluntary and that responses would be evaluated anonymously.

4.1. Pilot study and manipulation check

A pilot study was conducted prior to the main study to evaluate whether the experimental stimuli were adequately understood by participants and to assess the effectiveness of the manipulation. Participants were exposed to one of two experimental conditions via separate survey links and viewed the corresponding Instagram post. The quality of the stimuli was assessed based on perceived realism, clarity, and the extent to which participants read and understood the content. The results indicate that participants generally read and understood the content ($M_{\text{story}} = 6.31, SD = 0.94; M_{\text{no-story}} = 6.47, SD = 0.74$), and perceived the posts as clear ($M_{\text{story}} = 6.20, SD = 1.26; M_{\text{no-story}} = 6.34, SD = 0.92$) and moderately realistic ($M_{\text{story}} = 4.32, SD = 1.83; M_{\text{no-story}} = 4.66, SD = 1.67$).

To assess manipulation effectiveness, participants were asked to indicate the primary focus of the post they viewed (storytelling or product benefits). The majority of participants correctly identified the intended focus: 82.8% of those in the story condition selected storytelling, whereas 80% of those in the non-story condition selected product benefits. A chi-square test of independence revealed a significant association between experimental condition and perceived post focus ($\chi^2(2) = 26.08, p < .001$), indicating that the manipulation functioned as intended.

4.2. Main study

Measurement instrument and data collection

The main study employed a between-subjects design in which participants were exposed to one of two versions of a virtual influencer post: a narrative-based (story-containing) post or a non-narrative post focusing on product benefits. A priori power analysis was conducted using the G*Power program to determine the minimum sample size required for an experimental design with two conditions (story vs. no story). The analysis was based on an independent-samples t-test (difference between two group means); a two-tailed test, $\alpha = 0.05$, power $(1 - \beta) = 0.80$, and a medium effect size (Cohen's $d = 0.50$) were used, as commonly assumed in similar experimental research. Under these parameters, the required minimum sample size was calculated as $N = 128$, corresponding to $n = 64$ participants for each experimental condition.

Participants were recruited via a private data collection company based in Ankara, which provided access to adult participants, and completed the survey through Google Forms. A total of 180 individuals aged 18 years or older responded to the survey. Thirty surveys were excluded from the analysis due to attention questions (22 surveys) and unanswered questions (8 surveys), resulting in a final sample of 150 participants ($n_{\text{story}} = 76, n_{\text{nostory}} = 74$).

The final sample consisted of 74 females (49.3%) and 76 males (50.7%), with a mean age of 36.42 years. Regarding education, 42.0% of the participants held a bachelor's degree, 31.3% had completed high school, 20.0% held an associate degree, 4.7% held a master's degree or PhD, and 2.0% had completed primary or secondary school education. In terms of monthly income, 38.0% reported earning between 0 and 20,000 TRY, followed by 32.0% earning between 20,001 and 40,000 TRY. Detailed demographic characteristics of the sample are presented in Table 1.

Table 1. Demographic Characteristics of the Sample

Characteristic	Category	n	%
Gender	Female	74	49.3
	Male	76	50.7
<i>Total</i>		<i>100</i>	<i>100.0</i>
Education	Primary/Secondary School	3	2.0
	High School	47	31.30
	Associate Degree	30	20.0
	Bachelor's Degree	63	42.0
	Master's/PhD	7	4.70
<i>Total</i>		<i>100</i>	<i>100.0</i>
Monthly Income (TRY)	0–20,000	57	38.0
	20,001–40,000	48	32.0

	40,001–60,000	23	15.30
	60,001–80,000	15	10.0
	80,001–100,000	6	4.0
	Above 100,000	1	0.7
<i>Total</i>		<i>100</i>	<i>100.0</i>
<i>Age</i>	Mean (SD)	36,42	—

The key variables in the study included lifestyle congruence, product uniqueness, purchase intention, and VI distinctiveness. Lifestyle congruence was measured using a three-item scale adapted from Nam et al. (2011) (e.g., “This product fits well with the type of life I strive for”). Product uniqueness was measured with a three-item scale based on Franke and Schreier (2008) (e.g., “This product stands out from other products in the same category”). Purchase intention was assessed using a three-item scale adapted from Kim and Kim (2021) (e.g., “When I need it, I am likely to choose this product”). The Cronbach’s alphas for lifestyle congruence, product uniqueness, and purchase intention were 0.88, 0.85, and 0.91, respectively. VI distinctiveness, the study’s moderator variable, was measured using a three-item scale developed by Wu and Lai (2025) (e.g., “This virtual influencer appears to have qualities that other influencers do not have”), with a Cronbach’s alpha of 0.79. Thus, VI distinctiveness was not experimentally manipulated but measured based on participants’ perceptions of the virtual influencer. Accordingly, it was treated as a measured moderating variable in the analyses. Control variables were included to account for potential confounding effects. Social media use and attitudes toward virtual influencers were each measured with three items (e.g., “I scroll aimlessly through my social media feed”; “Overall, I have a positive attitude toward virtual influencers”) and controlled for in the analyses. These variables were included because they are theoretically related to both exposure to and evaluations of virtual influencer content, and thus may influence key outcomes in the model independent of the experimental manipulation.

Manipulation check

To ensure that participants adequately processed the experimental stimulus, participants were asked to indicate the extent to which they examined and understood the visual and its content. The findings show that participants examined and understood the visual and textual content to a high degree in both experimental conditions ($M_{\text{story}} = 6.47$; $M_{\text{no-story}} = 6.31$). This result indicates that participants adequately processed the experimental stimuli. To assess manipulation effectiveness, participants were asked to identify the main emphasis of the Instagram post they had viewed. As part of this content-based check, they reported whether the post highlighted story or product-related information. A chi-square test of independence examining the relationship between participants’ choices and experimental conditions revealed a significant association between the experimental condition and the perceived content type ($\chi^2(2) = 54.05$, $p < .001$). The majority of participants in the story condition defined the content as a personal story related to the product (79%), whereas the majority of participants in the no-story condition evaluated the content as a post focusing on the product’s benefits (81.1%). These findings indicate that the experimental manipulation was effective.

Perceived realism and clarity were assessed using descriptive statistics across conditions. The mean score was 4.66 (SD = 1.67; $n = 76$) in the story condition and 4.32 (SD = 1.83; $n = 74$) in the no-story condition. Mean clarity scores were 6.34 (SD = 1.26; $n = 76$) in the story condition and 6.20 (SD = 0.92; $n = 74$) in the no-story condition. These results suggest that the stimulus was perceived as clear and understandable in both conditions.

Measurement validity and reliability

Prior to hypothesis testing, the measurement model’s reliability and validity were assessed using confirmatory factor analysis (CFA). The CFA results indicated an acceptable model fit ($\chi^2 = 105.70$, $df = 46$, $\chi^2/df = 2.30$, CFI = .945, IFI = .946, TLI = .922, SRMR = .059, RMSEA = .093). Standardised factor loadings ranged from .63 to .92 and exceeded the recommended minimum threshold of .60. Composite reliability (CR) values ranged from .75 to .91, while average variance extracted (AVE) values ranged from .50 to .78, indicating satisfactory internal consistency and convergent validity (Hair et al., 2018). Cronbach’s alpha coefficients ranged from .79 to .91. Discriminant validity was assessed

using the Heterotrait–Monotrait Ratio (HTMT), and all HTMT values were below the recommended threshold of .85 (Henseler et al., 2015).

Table 2. Reliability and Validity Assessment of the Measurement Model

	HTMT Ratios				CR	AVE	Alpha	Factor loadings
	1	2	3	4				
1.Lifestyle congruence					0.83	0.62	0.88	0.68 0.80 0.86
2. VI Distinctiveness	0.30				0.75	0.50	0.79	0.76 0.72 0.63
3.Product Uniqueness	0.63	0.81			0.86	0.68	0.85	0.84 0.90 0.73
4. Purchase Intention	0.80	0.16	0.39		0.91	0.78	0.91	0.91 0.92 0.82

Common method bias assessment

Common method bias was assessed using both Harman’s single-factor test and a single-factor confirmatory factor analysis (CFA). Harman’s test revealed that the first unrotated factor accounted for 44.29% of the total variance, which is below the recommended threshold of 50% (Podsakoff et al., 2003). In addition, a single-factor CFA exhibited poor model fit ($\chi^2 = 444.81$, $df = 52$, $\chi^2/df = 8.55$, CFI = .641, TLI = .544, IFI = .645, RMSEA = .225), indicating that a single latent factor could not adequately account for the covariance among the measurement items. Taken together, these findings suggest that common method bias is unlikely to pose a serious threat to the validity of the results.

Hypothesis Testing

Direct and indirect effects

H1 proposed a direct effect of storytelling on purchase intention toward sustainable products. This hypothesis was tested using an independent samples t-test. The results indicated a significant difference between the two conditions. Participants exposed to the storytelling condition reported higher purchase intention (M = 5.96, SD = 0.92, n = 76) than those in the non-story condition (M = 5.41, SD = 1.46, n = 74), $t(148) = 2.82$, $p = .006$, mean difference = 0.56, 95% CI [0.17, 0.95], supporting H1.

H2–H5 were tested using Hayes’ (2017) PROCESS macro (Model 83) with 5,000 bootstrap samples and 95% confidence intervals. Storytelling was specified as the independent variable, purchase intention as the dependent variable, lifestyle congruence as the mediator, and product uniqueness as a subsequent variable. VI distinctiveness was specified as a moderator of the relationship between storytelling and lifestyle congruence. Attitude towards the virtual influencer and social media usage intensity were included as covariates.

Supporting H2, storytelling had a significant positive effect on lifestyle congruence ($\beta = 0.771$, SE = 0.220, $t = 3.51$, $p = .001$, 95% CI [0.34, 1.20]), indicating that exposure to sustainable storytelling content increased consumers’ perceptions of lifestyle congruence compared to the no-story condition. Consistent with H3, lifestyle congruence positively influenced perceived product uniqueness ($\beta = 0.466$, SE = 0.067, $t = 6.97$, $p < .001$, 95% CI [0.33, 0.60]). However, H4 was not supported, as product uniqueness did not significantly predict purchase intention when lifestyle congruence and covariates

were included in the model ($\beta = 0.008$, $SE = 0.070$, $t = 0.11$, $p = .914$, 95% CI [-0.13, 0.15]). In contrast, lifestyle congruence emerged as a strong and positive predictor of purchase intention ($\beta = 0.607$, $SE = 0.065$, $t = 9.30$, $p < .001$, 95% CI [0.48, 0.74]).

Moderating effect of VI distinctiveness

VI distinctiveness was specified as a moderator of the relationship between storytelling and lifestyle congruence in Process Macro Model 83. The results further revealed a significant moderating role of VI distinctiveness in the relationship between storytelling and lifestyle congruence, supporting H5. Specifically, the interaction term was significant ($\beta = 0.497$, $p = .001$), indicating that the effect of storytelling on lifestyle congruence varies across levels of perceived distinctiveness. Simple slope analyses showed that storytelling did not significantly influence lifestyle congruence at low levels of distinctiveness, whereas the effect became significant and increasingly stronger at medium and high levels of distinctiveness. This interaction pattern is illustrated in Figure 3, which shows that lifestyle congruence increases sharply in response to storytelling when the virtual influencer is perceived as highly distinctive, but remains largely unaffected by storytelling under low distinctiveness conditions.

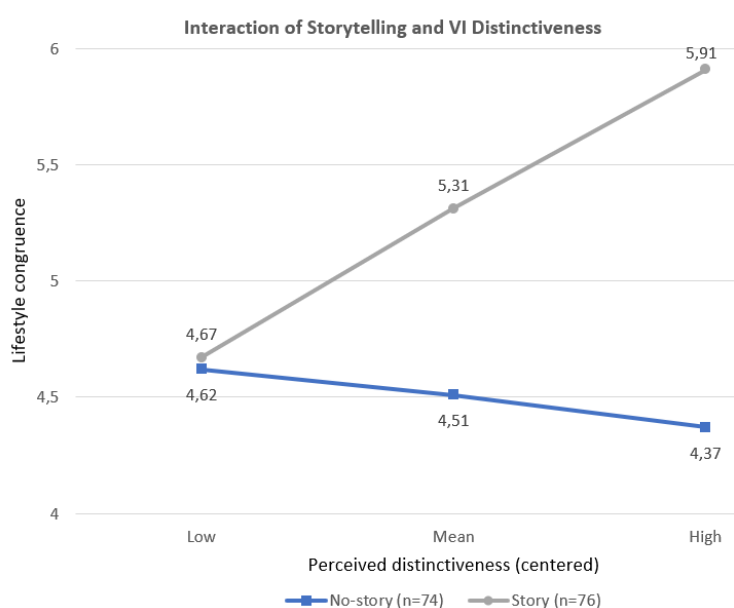


Figure 3. Moderating effect of virtual influencer distinctiveness

Moderated Mediation Analysis

Regarding conditional indirect effects, H6 predicted that the indirect effect of storytelling on purchase intention via lifestyle congruence would vary depending on the level of VI distinctiveness. The results of the moderated mediation analysis supported this hypothesis. Specifically, the indirect effect of storytelling on purchase intention via lifestyle congruence was significant at medium (effect = 0.488, $SE = 0.165$, 95% CI [0.20, 0.84]) and high levels of VI distinctiveness (effect = 0.940, $SE = 0.287$, 95% CI [0.43, 1.58]), but not at low levels of distinctiveness (effect = -0.029, $SE = 0.223$, 95% CI [-0.48, 0.40]). These findings indicate that the indirect effect was stronger among participants who perceived the virtual influencer as more distinctive. By contrast, the indirect effect via product uniqueness alone was not significant, nor was the serial indirect effect through lifestyle congruence and product uniqueness, as the corresponding confidence intervals included zero. All hypothesis testing results, including direct, indirect, and moderating effects, are presented in Table 3.

Table 3. Summary of Hypotheses Testing Results

Hypothesis	Proposed Relationship	Statistical Evidence	Result
H1	Storytelling → Purchase intention	Story: $M = 5.96$, $SD = 0.92$, $n = 76$; No-story: $M = 5.41$, $SD = 1.46$, $n = 74$; $t(148) = 2.82$, $p = .006$, Mean difference = 0.56 , 95% CI [0.17, 0.95]	Supported
H2	Storytelling → Lifestyle congruence	$\beta = 0.771$, $SE = 0.220$, $t = 3.51$, $p = .001$, 95% CI [0.34, 1.20]	Supported
H3	Lifestyle congruence → Product uniqueness	$\beta = 0.466$, $SE = 0.067$, $t = 6.97$, $p < .001$, 95% CI [0.33, 0.60]	Supported
H4	Product uniqueness → Purchase intention	$\beta = 0.008$, $SE = 0.070$, $t = 0.11$, $p = .914$, 95% CI [-0.13, 0.15]	Not supported
H5	Distinctiveness × Storytelling → Lifestyle congruence	Interaction term: $\beta = 0.497$, $SE = 0.152$, $p = .001$. Simple slopes significant at medium and high distinctiveness	Supported
H6	Storytelling → Lifestyle congruence → Purchase intention (indirect)	Conditional indirect effects: Low distinctiveness: effect = -0.029 , 95% CI [-0.48, 0.40] Medium distinctiveness: effect = 0.488 , 95% CI [0.20, 0.84] High distinctiveness: effect = 0.940 , 95% CI [0.43, 1.58]	Supported

5. General discussion

This study examined how sustainable storytelling by virtual influencers shapes purchase intentions through lifestyle congruence. Consistent with Narrative Transportation Theory (Green & Brock, 2000; Van Laer et al., 2014), exposure to sustainable storytelling increased purchase intention and enhanced perceived lifestyle congruence. These findings support previous research showing that narrative immersion strengthens persuasion in virtual influencer contexts (Ma, 2020; Thomas and Grigsby, 2024; Kim et al., 2025). In line with Jiang et al. (2025) and Lee et al. (2026), storytelling appears to activate relational and identity-based processes that make sustainability messages more compelling. Lifestyle congruence emerged as a central mechanism. As suggested by Shao (2024, 2026), a match between product image and self-concept enhances authenticity perceptions. The present results extend this logic to VI-based sustainability communication, providing evidence that lifestyle congruity may strengthen green purchase intentions (de Silva et al., 2025; Pereira et al., 2023; Diao et al., 2025). Although lifestyle congruence increased perceived product uniqueness, uniqueness did not directly predict purchase intention, suggesting that identity alignment may be more powerful than uniqueness alone in sustainable contexts. Finally, consistent with Jain et al. (2024) and Ferraro et al. (2024), the narrative effect was stronger among participants who perceived the virtual influencer as more distinctive, suggesting that perceived distinctiveness may enhance lifestyle-based persuasion.

5.1. Contributions to theory

This study makes four main theoretical contributions and clarifies their implications through its empirical findings. First, it advances Narrative Transportation Theory within virtual influencer research by demonstrating that storytelling operates as a value-internalisation mechanism in sustainability communication. While prior VI studies have emphasised engagement and parasocial outcomes (Jin and Ryu, 2020; Jain et al., 2024), the present findings show that narrative immersion translates into sustainable purchase intention specifically through perceived lifestyle congruence. Theoretically, this suggests that narrations in sustainable contexts serve not just as emotive absorption, but also as a self-centred alignment process that connects story, identity, and purchase-related intentions.

Building on this perspective, the study extends self-congruity theory (Sirgy, 1982) and lifestyle congruence research (Nam et al., 2011; Shao, 2024; 2026) by conceptualising lifestyle congruence as a dynamic, narrative-driven perception rather than a static brand-self fit. Empirically, storytelling increased lifestyle congruence, which in turn predicted purchase intention. This suggests that alignment

is actively constructed through narrative cues, offering a process-based explanation of how sustainability messages become personally meaningful and behaviourally relevant.

The findings also improve identity-signaling perspectives (Belk, 1988) and uniqueness research (Snyder and Fromkin, 1980; Franke and Schreier, 2008). Although lifestyle congruence increased perceived product uniqueness, uniqueness did not directly predict purchase intention. Theoretically, this implies that in value-driven domains such as sustainability, symbolic alignment may be more fundamental than differentiation cues alone; identity fit appears to precede and condition the persuasive impact of uniqueness. One possible explanation is that consumers of sustainable products may be motivated less by the desire to stand out and more by the desire to act consistently with their personal values and lifestyle. While uniqueness can enhance perceptions of distinctiveness (Franke & Schreier, 2008; Eastman et al., 2021; Favier et al., 2025), such differentiation may not translate into purchase intention unless it is meaningfully aligned with consumers' identities and sustainability-related values. Therefore, uniqueness may function as a secondary evaluative cue rather than a primary driver of sustainable purchase intentions.

Finally, the study contributes to emerging work on digital character attributes (Franke et al., 2023; Lou et al., 2023; Ferraro et al., 2024) by identifying VI distinctiveness as a boundary condition. The findings show that the effect of storytelling on lifestyle congruence was stronger among participants who perceived the virtual influencer as more distinctive, indicating that perceived uniqueness enhances narrative salience and identity processing. This integrates message format (storytelling) and source characteristics (distinctiveness) into a unified framework, advancing theory on how digital personas shape sustainable persuasion.

5.2. Implications for practice

The findings provide preliminary guidance for brands, influencer marketing practitioners, and designers of virtual influencers who aim to promote sustainable products effectively. First, brands should focus on telling lifestyle-based sustainability stories, not just presenting environmental claims. Rather than sharing a single promotional post highlighting an eco-friendly feature, virtual influencers should demonstrate how the product fits naturally into their everyday routines. For example, the influencer can show how they reduce waste, make mindful shopping choices, or integrate sustainable habits into daily life. The product should appear as a natural part of this broader lifestyle. This approach helps followers see sustainability as practical and personally relevant rather than abstract.

Practitioners should carefully design the virtual influencer's identity to match the target audience's values. They should analyse their audience's lifestyle preferences—such as minimalist living, plant-based consumption, or ethical fashion—and ensure that the influencer consistently reflects these themes in tone, visuals, and behaviour. Consistency across posts is essential to strengthen perceived lifestyle alignment. The findings further indicate that storytelling alone may not be sufficient; its effectiveness depends on whether the virtual influencer is perceived as distinctive. Without a clear and differentiated identity, lifestyle narratives may fail to activate meaningful identification processes.

Moreover, VI designers should invest in creating a distinctive yet positively perceived virtual character. The findings suggest that storytelling may be particularly effective when audiences perceive the virtual influencer as distinctive. A recognisable visual style, unique personality traits, and consistent sustainability positioning can make the influencer stand out in crowded feeds. However, distinctiveness should be appealing and credible. Pre-testing the character with the target audience can help avoid perceptions of artificiality or discomfort.

Practitioners should be cautious about relying primarily on positioning sustainable products as rare, exclusive, or distinctive, as perceived product uniqueness did not have a significant direct effect on purchase intention in this study. Instead, greater emphasis should be placed on fostering strong alignment between the virtual influencer's lifestyle and that of the target audience. The findings indicate that identity congruence, rather than perceived uniqueness, emerged as a stronger predictor of sustainable purchase intention in the present study.

5.3. Limitations and future research directions

This study has several limitations that provide avenues for future research. First, the research employed a controlled experimental design with a single virtual influencer and one type of sustainable product (i.e., a bamboo toothbrush). Although this approach strengthens internal validity and allows causal inference, it may limit generalisability. In addition, participants' familiarity with the product category was not directly measured and may have influenced their evaluations and purchase intentions. Future studies could test the proposed model across different product categories, cultural contexts, and types of sustainability issues, as well as examine whether product familiarity influences the effectiveness of virtual influencer storytelling and its impact on sustainable purchase intentions, to examine the robustness of the findings. Second, the study relied on self-reported purchase intention rather than actual behaviour. While purchase intention is a widely accepted proxy in sustainability research, future research could incorporate behavioural measures, such as simulated purchase tasks or field experiments, to strengthen ecological validity. Third, the role of product uniqueness did not emerge as a direct predictor of purchase intention. Future research may further explore under which conditions uniqueness becomes influential, for example, across different levels of consumer involvement or need for uniqueness. Finally, this study focused on lifestyle congruence as the primary psychological mechanism. Future research could examine additional mediators, such as perceived authenticity, moral elevation, or the development of long-term parasocial relationships, to yield a more comprehensive understanding of sustainable persuasion in virtual influencer contexts.

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Araştırma Makalesi

Sustainable Storytelling by Virtual Influencers: An Experimental Study on the Role of Lifestyle Congruence and Distinctiveness in Shaping Purchase Intentions

Sanal Etkileyiciler Aracılığıyla Sürdürülebilir Hikâye Anlatımı: Satın Alma Niyetini Şekillendirmede Yaşam Tarzı Uyumu ve Ayırt Ediciliğin Rolüne Dair Deneysel Bir Çalışma

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Genişletilmiş Özet

1. Giriş

Dijitalleşmenin hız kazanmasıyla birlikte sosyal medyada ortaya çıkan sanal etkileyiciler (virtual influencers – VI), pazarlama iletişimini yeniden şekillendiren yeni aktörler olarak giderek daha fazla ilgi görmektedir (Jain et al., 2024). Gerçek bireyleri temsil etmemelerine rağmen, bu dijital karakterler insan benzeri kimlikler ve yaşam anlatıları etrafında kurgulanmakta ve varlıklarını büyük ölçüde hikâye anlatımı (storytelling) aracılığıyla sürdürmektedir (Lim et al., 2023; Jain et al., 2024). Bu anlatı temelli yapı, takipçilerin sanal etkileyicilerin dünyasına zihinsel olarak dahil olmasını ve anlatı içinde sunulan değerleri içselleştirmesini mümkün kılmaktadır (Lim & Lee, 2023). Özellikle sürdürülebilirlik gibi soyut ve psikolojik olarak mesafeli konuların iletişimde, görsel ve duygusal açıdan zengin hikâyeler, çevresel sorunları daha somut ve günlük yaşamla ilişkili hale getirebilmektedir (Hoai Lan et al., 2025).

Mevcut literatür, sanal etkileyicilerin tüketiciler üzerinde çok boyutlu etkiler yarattığını göstermektedir (Lim and Lee, 2023; Jain et al., 2024; Kim et al., 2024). Bu aktörlerin yenilik ve görsel çekicilikleri sayesinde insan etkileyicilerle benzer, hatta daha yüksek etkileşim düzeyleri oluşturabildiği; ayrıca takipçilerle güçlü duygusal ilişkiler kurarak ikna süreçlerini etkileyebildiği ortaya konmuştur (Lim and Lee, 2023; Jin & Ryu, 2020). Bununla birlikte, sanal etkileyiciler aracılığıyla iletilen sürdürülebilirlik mesajlarının tüketici üzerindeki etkilerine ilişkin hâlâ önemli boşluklar bulunmaktadır. Özellikle bu mesajların nasıl algılandığı ve hangi mekanizmalar aracılığıyla satın alma niyetine dönüştüğü yeterince bilinmemektedir.

Bu noktada, tüketicilerin yaşam tarzları ile sunulan ürünün sembolik anlamları arasındaki uyumu ifade eden yaşam tarzı uyumu kritik bir rol oynamaktadır (Stein et al., 2024; Wan et al., 2025; Shao, 2026). Bu uyum, mesajın daha otantik, güvenilir ve ilişkilendirilebilir algılanmasını sağlamakta; aynı zamanda sürdürülebilir tüketim davranışlarının benimsenmesini kolaylaştırmaktadır. Bu çalışma, sanal etkileyicilerde hikâye anlatımının sürdürülebilir ürünlere yönelik satın alma niyeti üzerindeki etkisini, yaşam tarzı uyumu ve algılanan ürün benzersizliği aracılığıyla incelemeyi ve bu ilişkide sanal etkileyici ayırt ediciliğinin rolünü ortaya koymayı amaçlamaktadır.

2. Kuramsal Arka Plan ve Kavramsal Çerçeve

Anlatı Aktarımı Teorisi (Narrative Transportation Theory), bireylerin bir hikâyeye zihinsel olarak dahil olduğu ve dikkat, duygu ile hayal gücünün bütünleştiği bir süreci ifade eder (Green & Brock, 2000; Jain

et al., 2024). Bu süreçte bireyler anlatı dünyasına girerek karakterlerle özdeşleşir ve sunulan mesajları daha az eleştirel biçimde değerlendirir (Ma, 2020; Thomas & Grigsby, 2024). Bu durum, anlatı temelli içeriklerin ikna gücünü artırmakta ve anlatıyla tutarlı tutum ve inançların içselleştirilmesini kolaylaştırmaktadır. Sanal etkileyiciler bağlamında bu teori, sosyal medya içeriklerinin tüketici algılarını nasıl şekillendirdiğini açıklar. Sanal etkileyiciler yalnızca ürün sunmakla kalmayıp süreklilik gösteren yaşam anlatıları inşa ederek takipçilerin bilişsel ve duygusal katılımını artırmaktadır (Jain et al., 2024).

Sanal etkileyici pazarlamasında hikâye anlatımı, dijital karaktere bütüncül bir yaşam hikâyesi ve insan benzeri bir kimlik kazandırılması sürecidir (Thomas & Grigsby, 2024). Bu anlatılar, karakterin otantik ve ilişkilendirilebilir algılanmasını sağlarken duygusal bağların gelişimini destekler (Van Laer et al., 2014; Kim et al., 2025; Tian et al., 2025). Anlatı temelli içerikler, takipçilerin değerlendirme süreçlerinde daha az eleştirel olmalarına yol açarak markalara yönelik olumlu algıları güçlendirmektedir (Green & Brock, 2000; Zhang et al., 2025).

3. Araştırma Hipotezleri

3.1. Sürdürülebilir hikâye anlatımı ve satın alma niyeti

Hikâyeler, bireylerde duygusal bir yakınlık hissi oluşturarak satın alma isteğini güçlendirir (Jiang et al., 2025). Özellikle anlatı aktarımı süreci aracılığıyla tüketiciler, sanal etkileyicilerin hikâye dünyasına hem bilişsel hem de duygusal olarak dahil olur (Green & Brock, 2000; Van Laer et al., 2014). Bu güçlü zihinsel katılım, karşı argüman geliştirme eğilimini zayıflatırken mesajın daha ikna edici algılanmasına katkı sağlar (Ma, 2020; Kim et al., 2025; Thomas & Grigsby, 2024). Buna ek olarak, hikâye anlatımı kimlik temelli ve ilişkisel süreçleri harekete geçirerek sürdürülebilirlik mesajlarının bireyler açısından daha anlamlı ve kişisel hale gelmesini destekler (Lee et al., 2026; Hoai Lan et al., 2025).

H1. *Sürdürülebilir hikâye anlatımı içeren sanal etkileyici içeriğine maruz kalmak (anlatı içermeyen içeriğe kıyasla) daha yüksek satın alma niyetine yol açar.*

3.2. Sürdürülebilir hikâye anlatımı ve yaşam tarzı uyumu

Hikâye anlatımı, ürünleri tek başına sunmak yerine onları daha geniş bir yaşam tarzının parçası haline getirerek tüketicilerin değerlendirme biçimini dönüştürür (Dessart & Standaert, 2023). Bu süreçte, sanal etkileyiciler günlük rutinleri, tercihleri ve değerleri, tüketicilerin kendi yaşamlarıyla daha doğal karşılaştırmalar yapmasını kolaylaştırır (Shan & Xu, 2025). Bu dönüşüm, Uyarıcı – Organizma – Tepki modeli (S-O-R) çerçevesiyle de açıklanabilir; anlatı içerikleri bireylerin bilişsel ve duygusal tepkilerini harekete geçirirken, bu içsel süreçler nihai değerlendirmeleri şekillendirir (Mehrabian & Russell, 1974). Bu sayede sürdürülebilir ürünler yalnızca birer seçenek olmaktan çıkar ve bireylerin kendi değerleriyle örtüşen bir yaşam tarzının anlamlı bir parçası olarak algılanmaya başlar (Zahran & Aljuhmani, 2025).

H2. *Sürdürülebilir hikâye anlatımı içeren sanal etkileyici içeriğine maruz kalmak daha yüksek algılanan yaşam tarzı uyumuna yol açar.*

3.3. Yaşam tarzı uyumu, ürün benzersizliği ve satın alma niyeti

Yaşam tarzı uyumu, tüketicilerin ürünleri kendi kimliklerinin bir parçası olarak değerlendirmesine olanak tanır (Nam et al., 2011). Bu doğrultuda, benlik uyumu teorisi bireylerin kendileriyle örtüşen markalara yönelme eğiliminde olduğunu öne sürer (Sirgy, 1982). Sürdürülebilirlik bağlamında bu tür bir uyum, ürünlerin yalnızca işlevsel faydalar sunan seçenekler olmanın ötesine geçerek, sembolik bir farklılaşma aracı olarak algılanmasına katkı sağlar (Belk, 1988). Bu nedenle, yaşam tarzı uyumunun algılanan ürün benzersizliğini artırması beklenmektedir.

H3. *Algılanan yaşam tarzı uyumu, algılanan ürün benzersizliğini pozitif yönde etkiler.*

Tüketiciler, benzersiz ürünleri çoğu zaman daha değerli ve daha çekici olarak algılar (Snyder & Fromkin, 1980; Lynn & Harris, 1997). Bu durum, bireylerin diğerlerinden ayrışma isteğinden beslenen benzersizlik ihtiyacının önemli bir motivasyon kaynağı olmasından kaynaklanır (Wu & Lee, 2016). Özellikle nadirlik ve ayrıcalık algısı, ürünün algılanan değerini güçlendirirken (Lynn, 1991), aynı zamanda tüketicilere kendilerini ifade edebilecekleri sembolik bir alan da sunar (Franke & Schreier, 2008). Bu çerçevede, algılanan benzersizliğin satın alma niyetini artırması beklenir.

H4. *Algılanan ürün benzersizliği, sürdürülebilir ürünlere yönelik satın alma niyetini pozitif yönde etkiler.*

3.4. Sanal etkileycilerin ayırtediciliğinin düzenleyici etkisi

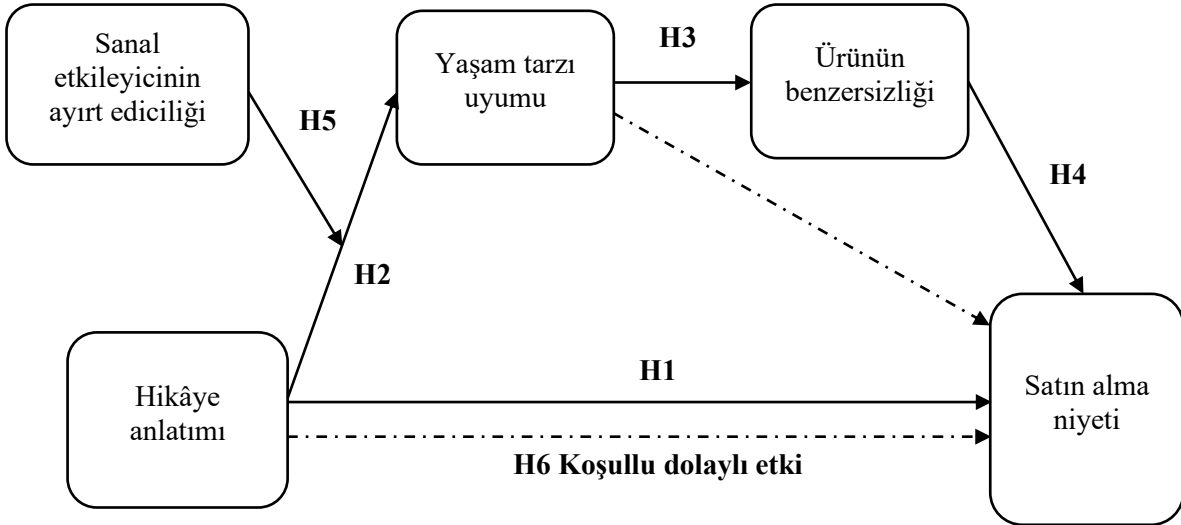
Sanal etkileycilerin ayırt ediciliği, anlatının nasıl algılandığını ve ne kadar derinlemesine işlendiğini önemli ölçüde şekillendirir. Ayırt edici karakterler, dikkat çekici özellikleri sayesinde daha yüksek düzeyde bilişsel katılım ve daha yoğun bir anlatı deneyimi ortaya çıkarır (Franke et al., 2023; Jain et al., 2024). Bu tür bir farklılık olumlu algılandığında ise hem beğenilirlik artar hem de duygusal bağlar daha güçlü hâle gelir (Lou et al., 2023; Ferraro et al., 2024). Bu doğrultuda ayırt edicilik, hikâye anlatımının yaşam tarzı uyumu üzerindeki etkisini güçlendirerek sürdürülebilirlik mesajlarının daha etkili biçimde içselleştirilmesine katkı sağlar.

H5. *Sanal etkileycilerin ayırtediciliği, sürdürülebilir hikâye anlatımının yaşam tarzı uyumu üzerindeki etkisini düzenler; bu etki, ayırtedicilik düzeyi arttıkça güçlenir.*

3.5. Yaşam tarzı uyumunun aracılık rolü

Hikâye anlatımı, kimlik temelli süreçleri harekete geçirerek bireylerin yaşam tarzı uyumu algısını güçlendirir ve bu etki nihayetinde satın alma niyetine yansır (Liu et al., 2024; Li et al., 2024). Nitekim önceki çalışmalar, benlik uyumu ve algılanan benzerliğin sürdürülebilir davranışlar üzerinde önemli bir aracılık rolü üstlendiğini ortaya koymaktadır (de Silva et al., 2025). Bununla birlikte, bu ilişkinin gücü sanal etkileycilerin ayırt ediciliğine bağlı olarak değişir; daha ayırt edici karakterler söz konusu olduğunda bu mekanizma daha belirgin ve etkili hâle gelir (Stein et al., 2024).

H6. *Hikâye anlatımının satın alma niyeti üzerindeki dolaylı etkisi (yaşam tarzı uyumu aracılığıyla), sanal etkileycilerin ayırtediciliğine bağlı olarak değişir ve ayırtedicilik arttıkça güçlenir.*



Şekil 1. Araştırma modeli

Not: Yaşam tarzı uyumu ile satın alma niyeti arasındaki kesikli yol, aracı etki analizinin bir parçası olarak tahmin edilmiş olup ayrı bir hipotez olarak formüle edilmemiştir. H6 ise moderatörlü aracılık analizinde test edilen koşullu dolaylı etkiyi temsil etmekte olup bağımsız bir yapısal yola karşılık gelmemektedir.

4. Yöntem

Bu çalışmada, sanal etkileycilerin hikaye temelli içeriklerinin tüketici tepkileri üzerindeki nedensel etkilerini incelemek amacıyla deneysel bir tasarım benimsenmiştir. Gruplar arası (between-subjects) tasarım çerçevesinde katılımcılar rastgele olarak iki farklı koşuldaki birine atanmıştır: hikâye anlatımına dayalı içerik ya da ürün faydalarına odaklanan içerik. Araştırmada kullanılan uyarıcılar Instagram gönderisi formatında sunulmuş, veriler ise 18 yaş ve üzeri katılımcılardan çevrimiçi anket aracılığıyla toplanmıştır. Tüm ölçümler 7'li Likert tipi ölçekler kullanılarak gerçekleştirilmiş ve manipülasyonun etkinliği içerik temelli kontrol soruları ile doğrulanmıştır.

4.1. Pilot çalışma ve manipülasyon kontrolü

Pilot çalışmada manipülasyon aracının anlaşılabilirliği ve başarısı test edilmiştir. Katılımcılar içerikleri yüksek düzeyde anladıklarını belirtmiş ($M \approx 6.3$) ve açık bulmuştur. Manipülasyonun etkinliğini test etmek için katılımcılardan izledikleri gönderinin temel odağını belirtmeleri istenmiştir. Katılımcıların büyük çoğunluğu ilgili koşulu doğru şekilde tanımlamıştır (hikâye koşulunda %82.8, hikâye olmayan koşulda %80). Ki-kare analizi, deneysel koşul ile algılanan içerik odağı arasında anlamlı bir ilişki olduğunu ortaya koymuş ve manipülasyonun başarılı olduğunu göstermiştir [$\chi^2(2) = 26.08, p < .001$].

4.2. Ana çalışma

i. Ölçüm ve veri toplama

G*Power analizi ($\alpha = 0.05, \text{güç} = 0.80, d = 0.50$) minimum örneklem büyüklüğünü $N = 128$ olarak belirlemiştir. Veri toplama Ankara merkezli bir araştırma şirketi aracılığıyla gerçekleştirilmiş; 180 katılımcıdan elde edilen verinin 30'u dikkat sorusu ve cevaplanmayan sorular nedeniyle elenmiş ve nihai örneklem 150 kişiden oluşmuştur ($n_{\text{hikaye}} = 76, n_{\text{hikayesiz}} = 74$). Çalışmada temel değişkenler yaşam tarzı uyumu, ürün benzersizliği, satın alma niyeti ve sanal etkileyicilerin ayırt ediciliğidir. Yaşam tarzı uyumu, Nam et al. (2011)'den uyarlanan 3 ifadeyle ($\alpha = 0.88$), ürün benzersizliği Franke ve Schreier (2008)'e dayalı 3 ifadeyle ($\alpha = 0.85$) ve satın alma niyeti Kim ve Kim (2021)'den uyarlanan 3 ifadeyle ($\alpha = 0.91$) ölçülmüştür. Araştırmanın düzenleyici değişkeni olan sanal etkileyici ayırt ediciliği ise Wu ve Lai (2025) tarafından geliştirilen 3 ifadeli ölçekle ölçülmüş ve güvenilirlik katsayısı 0,79 olarak bulunmuştur. Olası karıştırıcı etkileri kontrol etmek amacıyla sosyal medya kullanım düzeyi ve sanal etkileyicilere yönelik tutum değişkenleri de modele dâhil edilmiştir. Her iki değişken 3'er ifadeyle ölçülmüş ve analizlerde kontrol değişkeni olarak kullanılmıştır. Bu değişkenler, sanal etkileyicilerin içeriklerine maruz kalma ve bu içeriklerin değerlendirilmesiyle teorik olarak ilişkili oldukları için modele eklenmiştir.

ii. Manipülasyon kontrolü

Katılımcıların uyarıcıyı anlama düzeyi yüksek bulunmuştur ($M \approx 6.3$). İçerik türü algısı ile deneysel koşul arasında anlamlı ilişki saptanmış ($\chi^2(2) = 54.05, p < .001$); katılımcıların %79'u hikâye koşulunu anlatı, %81.1'i diğer koşulu ürün odaklı olarak değerlendirmiştir. Bu bulgu, araştırmada kullanılan manipülasyonun etkili bir şekilde işlediğini göstermektedir.

iii. Ölçüm güvenilirliği, geçerliği ve ortak yöntem varyansı

Çalışmada kullanılan ölçüm araçlarının güvenilirlik ve geçerlikleri doğrulayıcı faktör analizi (DFA) ile değerlendirilmiştir. DFA sonuçları ölçüm modelinin kabul edilebilir uyum değerlerine sahip olduğunu göstermiştir ($\chi^2/df = 2.30, CFI = 0.945, TLI = 0.922, SRMR = 0.059, RMSEA = 0.093$). Faktör yüklerinin 0,63 ile 0,92 arasında değiştiği belirlenmiştir. Cronbach alfa katsayıları 0.79 ile 0.91, bileşik güvenilirlik (CR) değerleri 0.75 ile 0.91 ve açıklanan ortalama varyans (AVE) değerleri 0.50 ile 0.78 arasında bulunmuştur. Bu sonuçlar ölçeklerin yeterli düzeyde iç tutarlılığa ve yakınsama geçerliğe sahip olduğunu göstermektedir. Ayrışma geçerliği, Heterotrait-Monotrait (HTMT) oranı kullanılarak değerlendirilmiş ve tüm HTMT değerlerinin önerilen eşik değerin altında olduğu görülmüştür.

Ortak yöntem varyansının olası etkisini değerlendirmek amacıyla Harman'ın tek faktör testi ve tek faktörlü doğrulayıcı faktör analizi uygulanmıştır. Harman testi sonucunda ilk faktörün toplam varyansın %44,29'unu açıkladığı belirlenmiştir. Ayrıca tek faktörlü modelin zayıf uyum değerleri sergilediği görülmüştür ($\chi^2/df = 8.55, CFI = 0.64, TLI = 0.54, RMSEA = 0.225$). Elde edilen bulgular, ortak yöntem varyansının araştırma sonuçları üzerinde ciddi bir tehdit oluşturmadığını göstermektedir.

iv. Hipotez testi

H1, bağımsız örneklem t-testi ile test edilmiş ve hikâye anlatımı koşulunun daha yüksek satın alma niyeti yarattığı bulunmuştur ($M = 5.96$ vs. $5.41; t(148) = 2.82, p = .006$), böylece H1 desteklenmiştir. H2–H5, Hayes PROCESS (Model 83) ile test edilmiştir. Bulgular, hikâye anlatımının yaşam tarzı uyumunu artırdığını göstermektedir ($\beta = 0.771, p = .001$). Böylece, H2 desteklenmiştir. Yaşam tarzı uyumu, ürün benzersizliğini pozitif yönde etkilemiştir ($\beta = 0.466, p < .001$) ve H3 de desteklenmiştir. Ancak ürün benzersizliğinin satın alma niyetinde anlamlı bir etkisi bulunmamıştır ($\beta =$

0.008, $p = .914$); bu nedenle H4 desteklenmemiştir. Buna karşılık, yaşam tarzı uyumu satın alma niyetinin güçlü bir belirleyicisidir ($\beta = 0.607$, $p < .001$).

v. VI ayırt ediciliğinin moderatör etkisi

VI ayırt ediciliği, hikâye anlatımı ile yaşam tarzı uyumu arasındaki ilişkide anlamlı bir düzenleyici rol oynamaktadır ($\beta = 0.497$, $p = .001$), böylece H5 desteklenmiştir. Bulgular, hikâye anlatımının yaşam tarzı uyumu üzerindeki etkisinin ayırt edicilik düzeyine bağlı olarak değiştiğini göstermektedir. Basit eğitim analizleri, bu etkinin düşük ayırt edicilikte anlamsız, orta ve yüksek düzeylerde ise giderek güçlendiğini ortaya koymaktadır. Özellikle yüksek ayırt edicilikte hikâye anlatımı yaşam tarzı uyumunu belirgin şekilde artırırken, düşük ayırt edicilikte bu etki sınırlı kalmaktadır.

vi. Koşullu dolaylı etki analizi

H6 kapsamında, hikâye anlatımının satın alma niyeti üzerindeki dolaylı etkisinin (yaşam tarzı uyumu aracılığıyla) VI ayırt ediciliğine bağlı olarak değiştiği öngörülmüş ve bu hipotez desteklenmiştir. Bulgular, dolaylı etkinin orta (etki = 0.488, %95 GA [0.20, 0.84]) ve yüksek ayırt edicilik düzeylerinde (etki = 0.940, %95 GA [0.43, 1.58]) anlamlı olduğunu, düşük düzeyde ise anlamlı olmadığını göstermektedir. Bu sonuçlar, ayırt edicilik arttıkça dolaylı etkinin güçlendiğine işaret etmektedir. Buna karşılık, yalnızca ürün benzersizliği üzerinden gerçekleşen dolaylı etki ve seri aracılık etkisi anlamlı bulunmamıştır.

5. Genel Tartışma, Katkılar ve Sonuçlar

Bu çalışma, sanal etkileyicilerin sürdürülebilir hikâye anlatımı yoluyla satın alma niyetini nasıl şekillendirdiğini incelemiştir. Bulgular, anlatı temelli içeriklerin hem satın alma niyetini artırdığını hem de algılanan yaşam tarzı uyumunu güçlendirdiğini göstermektedir. Anlatı aktarımı kuramıyla uyumlu olarak (Green & Brock, 2000; Van Laer et al., 2014), hikâye anlatımı tüketicilerin duygusal ve bilişsel katılımını artırarak sürdürülebilirlik mesajlarını daha ikna edici hale getirmektedir. Yaşam tarzı uyumu temel mekanizma olarak öne çıkmış; ürün ile bireyin yaşam tarzı algısı arasındaki uyum, sürdürülebilir satın alma niyetinin belirleyicisi olmuştur. Her ne kadar yaşam tarzı uyumu ürün benzersizliğini artırsa da, benzersizliğin satın alma niyeti üzerindeki doğrudan etkisi anlamlı bulunmamıştır.

Teorik olarak çalışma, anlatı taşınması kuramını sürdürülebilirlik bağlamında genişleterek hikâye anlatımının bir değer içselleştirme mekanizması olarak işlediğini göstermektedir. Ayrıca yaşam tarzı uyumunun statik bir uyumdan ziyade anlatı yoluyla inşa edilen dinamik bir süreç olduğunu ortaya koymaktadır. Bulgular, yaşam tarzı uyumunun ürün benzersizliğinden daha güçlü bir belirleyici olabileceğini ve VI farklılığının bu süreci güçlendiren bir sınır koşulu olduğunu göstermektedir.

Uygulamada, markaların sürdürülebilirliği ürün özelliği olarak sunmak yerine yaşam tarzı bağlamında anlatımları önerilmektedir. VI kimliğinin ve tanıtılan ürünlerin hedef kitlenin yaşam tarzı dikkate alınarak ve ayırt edici biçimde tasarlanması kritik önem taşımaktadır. Çalışma önemli sonuçlar sunmuş olsa da belirli kısıtlara sahiptir ve bunların gelecek çalışmalarda araştırılması kritik öneme sahiptir. Özellikle, çalışmanın deneysel tasarımı ve tek bağlamla sınırlı olması genellenebilirliği sınırlamakta; gelecekte davranışsal ölçümler ve farklı bağlamlarla yapılacak çalışmalar önerilmektedir.