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Examining Social Media Usage Behaviors of Individuals According to Their Myers-Briggs Type Indicator Personality Type: A Mixed-Method Research

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Abstract

This study investigates how individuals' Myers-Briggs Type Indicator (MBTI) personality types may shape their Instagram usage behaviors. Social media, now perceived as a potential space for identity expression rather than solely communication, provides a meaningful context for observing personality-driven digital patterns. The research focuses on Generation Z users aged 18–25 (n = 11), a demographic that appears to represent one of the most active groups on Instagram. A sequential explanatory mixed-methods design is applied, combining quantitative MBTI assessment with qualitative content analysis across seven analytical dimensions. The findings suggest systematic

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behavioral differences along three MBTI dimensions: extraverts may use Instagram as a social showcase with frequent, interactive, and emotionally expressive posts, whereas introverts appear to treat it as a personal archive emphasizing aesthetics and solitude; sensing types tend to share concrete, daily-life content, while intuitive types prefer symbolic, artistic, and visually stylized posts; thinking types exhibit analytical, individualistic communication patterns, whereas feeling types tend to emphasize empathy, positivity, and relational engagement. Overall, the results suggest that digital behaviors tend to align consistently with personality traits, supporting the hypothesis that online expression likely reflects deeper psychological tendencies.

Keywords: *MBTI, Social Media Behavior, Generation Z, Content Analysis, Digital İdentity*

Bireylerin Sosyal Medya Kullanım Davranışlarının Myers-Briggs Tip Göstergesi (MBTI) Kişilik Tiplerine Göre İncelenmesi: Bir Karma Yöntem Araştırması

Öz

Bu çalışma, bireylerin Myers-Briggs Tip Göstergesi (MBTI) kişilik tiplerinin Instagram kullanım davranışlarını nasıl şekillendirebileceğini araştırmaktadır. Artık yalnızca iletişimden ziyade kimlik ifadesi için potansiyel bir alan olarak algılanan sosyal medya, kişilik odaklı dijital kalıpları gözlemlemek için anlamlı bir bağlam sunmaktadır. Araştırma, Instagram'daki en aktif gruplardan birini temsil eden 18-25 yaş arası Z Kuşağı kullanıcılarına (n=11) odaklanmaktadır. Nicel MBTI değerlendirmesi ile yedi analitik boyut boyunca nitel içerik analizini birleştiren sıralı açıklayıcı bir karma yöntem tasarımı uygulanmıştır. Bulgular, üç MBTI boyutunda sistematik davranış farklılıkları olduğunu göstermektedir: dışadönükler Instagram'ı sık, etkileşimli ve duygusal açıdan ifade edici gönderilerle sosyal bir vitrin olarak kullanabilirken, içe dönükler onu estetiği ve yalnızlığı vurgulayan kişisel bir arşiv olarak ele alma eğilimindedir; algılayan (sensing) tipler somut, günlük hayat içeriğini paylaşma eğilimindeyken, sezgisel (intuitive)

tipler sembolik, sanatsal ve görsel olarak stilize edilmiş gönderileri tercih etmektedir; düşünen (thinker) tipler analitik, bireyselci iletişim kalıpları sergilerken, hisseden (feeler) tipler empati, pozitiflik ve ilişkisel bağlılığı vurgulama eğilimindedir. Genel olarak sonuçlar, dijital davranışların kişilik özellikleriyle tutarlı bir şekilde örtüşme eğiliminde olduğunu ve çevrimiçi ifadenin muhtemelen daha derin psikolojik eğilimleri yansıttığı hipotezini desteklemektedir.

Anahtar Kelimeler: *MBTI, Sosyal Medya Davrnaışı, Z Jenerasyonu, İçerik Analizi, Dijital Kimlik*

Introduction

Social media has assumed a position in today's world where it shapes individuals' lives, transcending its role as a mere communication channel to become a reflection of personal identity in the digital realm. Interaction and behavioral patterns on these platforms are considered expressions of each individual's unique character traits. Consequently, the complex relationship between social media usage habits and personality types offers significant research potential for both psychological studies and applied fields such as artificial intelligence and digital marketing. Individuals' presence in online environments is not merely a series of digital actions but also reflects their self-perception, emotional responses, and thought processes. In this context, investigating the psychological dynamics underlying social media behaviors allows us to understand individuals' digital identities more deeply and analyze the individual and societal impacts of these platforms more comprehensively.

In society, social media has become an integral part of individuals' daily lives, leading to profound transformations in communication, self-expression, and the shaping of social relationships. Especially, individuals' social media usage behaviors are evaluated not only as a technological preference but also as a reflection of personality traits. In this regard, understanding the differences between individuals' social media usage patterns and their personality characteristics is of paramount importance both academically and practically.

First, examining the relationship between social media usage behaviors and personality traits contributes to developing a deeper understanding from the perspectives of psychology and communication sciences. Personality is a fundamental building block that determines how individuals behave and express themselves in social environments. Social media, as a medium where individuals can display their visible identities and actively participate in the identity construction process, offers a unique space for the expression of personality traits. Therefore, examining the differences in social media usage among individuals with different personality types enables us to understand their interaction patterns in digital environments.

Second, such research is of great importance for analyzing the dynamics of social media platforms. The interaction opportunities offered by platforms are used differently according to individuals' personality traits. For example, while extroverted individuals engage in more intensive sharing and interaction, introverted individuals may adopt a more observant attitude. The systematic examination of these differences can provide a more comprehensive perspective on social media usage. Furthermore, understanding user behavior enables the development of more effective strategies for platform developers and digital marketing experts.

Third, examining the relationship between personality and social media usage behaviors offers significant contributions at the societal level. Especially among younger generations, social media has become a critical tool for establishing and maintaining social relationships. At this point, revealing usage differences exhibited according to individuals' personalities can help understand the diversity of societal communication processes. Additionally, it can serve as a guide for preventing potential risky usage behaviors and promoting healthier digital habits.

Fourth, artificial intelligence (AI) systems are increasingly used in digital platforms to deliver personalized user experiences. Understanding how personality traits manifest in social media behavior could contribute to the development of more accurate personality prediction models. While most existing AI-based prediction studies rely on the Big Five

framework, the MBTI remains comparatively underexplored. The present study does not aim to develop or test AI systems but rather to provide qualitative insights into the relationships between MBTI dimensions and Instagram behaviors. These exploratory findings may, in future research, inform feature selection or hypothesis generation for AI-based personality classification. However, such applications remain beyond the scope of this study and would require further validation with larger and more diverse samples. Additionally, the relative scarcity of MBTI-based qualitative studies in the literature highlights the exploratory contribution of this research.

Finally, the importance of this study stems from its contributions to the academic literature. Although the number of studies on the relationship between social media and personality is increasing, there is still a need for investigations in different contexts. This study, by addressing the differences between individuals' social media usage behaviors and personality traits comprehensively and based on comparative analysis, can contribute to filling gaps in the literature. It is believed that referencing the MBTI typology as a comprehensive personality analysis model can provide a significant input for prediction studies. In summary, understanding the relationship between social media usage behaviors and personality traits is of critical importance in explaining individuals' identities, interaction patterns, and societal roles in the digital world. This study can both contribute to academic knowledge production and enable the more conscious evaluation of social media users at a practical level.

The main objective of this study is to reveal the differences between individuals' Myers-Briggs Type Indicator (MBTI) personality types and their social media usage behaviors. Accordingly, the research analyzes how different personality types use social media platforms, what types of content they prefer, their interaction styles, and how they construct their digital identities. The research is conducted on participants selected from Instagram users; social media behaviors are evaluated in detail using various methods such as content analysis, sentiment and tone analysis, discourse examination, and visual-multimedia analysis.

Theoretical Framework

The manifestation of personality traits within digital ecosystems necessitates an integrative theoretical approach that bridges psychological predispositions with observable digital practices. Rather than adhering to a monolithic framework, this study synthesizes several established paradigms to provide an explanatory depth for the potential correlations between MBTI dimensions and Instagram usage patterns.

The foundational premise of this study is grounded in Uses and Gratifications Theory (Katz et al., 1973), which posits that individuals are active agents who select media environments to satisfy specific psychological needs. In the context of Instagram, these gratifications may be expected to diverge along the Sensing (S) – Intuition (N) axis. It is suggested that Sensing individuals may tend to utilize the platform's affordances for "documentation"—capturing tangible and empirical moments of reality. Conversely, Intuitive types might be more inclined to leverage Instagram for "abstract expression," potentially utilizing metaphorical imagery and conceptual storytelling. This suggests that identical digital tools could be appropriated in distinct ways to fulfill varying cognitive gratifications.

Beyond direct utility, Instagram posts may function as a complex system of Social Signaling (Spence, 1973). From this perspective, digital artifacts—ranging from filter selections to framing choices—could serve as latent signals communicating an individual's underlying values and aesthetic tastes. This signaling mechanism is hypothesized to be particularly salient in interpreting the Thinking-Feeling (T-F) or Sensing-Intuitive (S-N) dispositions. For instance, the deliberate curation of a specific visual grid might act as a non-verbal indicator of the user's internal personality structure.

To interpret the behavioral discrepancies between Extraversion (E) and Introversion (I), Optimal Stimulation Level (OSL) Theory (Berlyne, 1960) may offer a compelling explanatory framework. OSL suggests that individuals tend to maintain a homeostatic level of environmental arousal. Extraverts, who are often perceived to have a higher threshold

for stimulation, appear more likely to engage in "high-arousal" digital behaviors, such as frequent posting and vibrant visual palettes. In contrast, Introverts might gravitate toward lower-arousal digital environments, which may manifest as sparser or more minimalist profiles. Thus, observed stylistic differences could reflect a fundamental psychophysiological search for equilibrium rather than mere aesthetic preference.

The interpersonal dynamics observed on Instagram can be further understood through Social Comparison Theory (Festinger, 1954). The platform is considered to facilitate a continuous, often implicit, evaluative process. Feeling (F)-oriented types exhibit a tendency to prioritize social harmony, potentially curating content that invites empathy and relational engagement. On the other hand, Thinking (T)-oriented individuals may be more likely to utilize the platform for "competence signaling," sharing information-driven content that might emphasize objective achievement. These patterns provide insights into how cognitive functions could shape the nature of digital discourse.

Finally, Person-Environment Fit Theory (Edwards et al., 1998) may explain the congruence between personality traits and platform affordances at a macro level. Instagram's visually-centric environment is likely to provide a natural fit for the detail-oriented nature of Sensing types. Simultaneously, its symbolic tools could offer a fertile ground for the abstract inclinations of Intuitive types. Consequently, the platform does not appear to impose a singular behavioral mode but rather likely affords a spectrum of possibilities that different personality types may actualize in characteristically distinct ways.

In synthesis, these intersecting perspectives appear to offer a useful lens for considering how the MBTI framework could be interpreted in digital contexts, potentially allowing empirical observations to be linked to theoretical concepts.

Literature Review

Social media has significantly transformed how individuals express themselves, share information, and build social connections. Many stud-

ies show that behaviors exhibited in digital environments are closely related to personality traits. Especially personality models such as the MBTI and Big Five demonstrate strong effects on individuals' social media usage patterns, content preferences, interaction levels, and platform choices. Personality represents a unique set of thoughts, feelings, and behaviors (McCrae & Costa, 1989), and various theories have been proposed to explain it. Freud's psychoanalytic theory conceptualizes personality through conscious and unconscious processes (Myers & Myers, 1995), while Eysenck's (1991) model explains it with extraversion, neuroticism, and psychoticism. The widely adopted Big Five model includes extraversion, agreeableness, conscientiousness, emotional stability, and openness (McCrae & Costa, 1989). The Myers-Briggs Type Indicator (MBTI), based on Jung's psychological types, categorizes personality through four functions—sensation, intuition, feeling, and thinking—each playing dominant or subordinate roles in individuals' perception and evaluation processes (Jung, 1971). These cognitive functions significantly influence how individuals interpret information and make decisions. Combining Jung's typologies with extraversion–introversion dimensions results in sixteen MBTI personality types (Myers et al., 1998), such as ENFP or ISTJ, each reflecting distinctive behavioral tendencies. According to Myers (1976, as cited in Cohen et al., 1981), the four dimensions are defined as follows. The first dimension, extraversion vs. introversion (E/I), concerns where individuals direct their attention and derive energy: extraverts focus on the outer world of people and events, while introverts focus on their inner world of ideas. The second dimension, sensing vs. intuition (S/N), pertains to how individuals perceive information: sensors attend to concrete, practical facts observable by the senses, whereas intuitors focus on abstract patterns, meanings, and future possibilities. The third dimension, thinking vs. feeling (T/F), relates to decision-making: thinkers rely on logical analysis of cause and effect, while feelers base decisions on personal values and humanistic considerations. The fourth dimension, judging vs. perceiving (J/P), describes one's orientation to the external world: judgers prefer structure, planning, and decisiveness, whereas perceivers favor flexibility, spontaneity,

and keeping options open. Understanding these MBTI dimensions contributes to the development of communication strategies in fields such as healthcare and education and facilitates personal and professional growth by supporting Jung's process of individuation (Myers, 2016).

Recent years have witnessed growing interest in predicting personality through digital footprints. Youyou et al. (2015) show that algorithms outperform human judgment in personality inference from social media language and behaviors. Similarly, Kosinski et al. (2013) demonstrate that Facebook likes can reveal highly sensitive information—including political views, sexual orientation, and personal habits—with high accuracy. These studies emphasize that social media usage relates meaningfully to personality structures. Extroverted (E) individuals tend to be socially active and maintain larger networks. Correa et al. (2010), Moore and McElroy (2012), and Seidman (2013) show that extroverts share more frequently and have more friends. Conversely, Ross et al. (2009) argue that extraversion does not always predict higher activity levels but may influence participation in Facebook groups. Amichai-Hamburger and Vinitzky (2010) report that introverts consume more content and share more personal information, while extroverts post more confidently due to stronger social skills. In short video platforms like TikTok, extroverts display higher sharing motivation, whereas neurotic individuals benefit from anonymity to express themselves (Da-yong & Zhan, 2022). Personality also shapes content preferences. Individuals high in openness tend to share visual and creative posts, while those high in conscientiousness and agreeableness adopt more planned, cautious sharing styles (Ross et al., 2009). Azucar et al. (2018), in a meta-analysis, show that Big Five traits can be predicted from digital footprints, with extraversion and openness yielding the strongest accuracy.

Visual-based platforms such as Instagram also can reflect personality traits. Ferwerda et al. (2015) and Ferwerda & Tkalcic (2018) demonstrate that image composition, brightness, and color relate meaningfully to personality. Ferwerda (2018) finds that prediction accuracy increases when metadata such as filter choice is combined with visual features.

Schwartz et al. (2013), analyzing Facebook language, show that emotionally stable individuals discuss topics like sports, vacations, and family, while introverts show interest in Japanese media and individuals low in openness use more abbreviations. Machine learning research strengthens the connection between digital behavior and personality prediction. Abhishak and Shevetaa (2023) analyze Twitter posts using SVM classifiers and achieve high accuracy. Majima and Markov (2022) report improved predictions using BERT embeddings combined with statistical features. Rahman et al. (2019) use CNN models to infer Big Five dimensions from written texts, while Zuo et al. (2013) enhance predictions using a weighted ML-kNN approach. Marwade et al. (2017) incorporate chatbot-based personality analysis into e-commerce recommendation systems, increasing accuracy and user satisfaction. Amri et al. (2022) focus on predicting MBTI traits from users' social media lifestyle patterns. They achieve particularly high accuracy for TF and JP dimensions (92%), and an overall F1 score of 84%, demonstrating the predictive power of digital behaviors. Similarly, Bhamare and Ashokkumar (2022) develop a deep learning classifier predicting MBTI and Big Five types using Twitter data, confirming that social media is a reliable source for personality inference.

Personality traits also can influence online software use. Ludford and Terveen (2003) found that Perceiving individuals keep completed emails in their inbox, whereas Judging individuals archive them. Additionally, in product reviews, Thinking types make analytical evaluations, while Feeling types emphasize values and relationships. Huang et al. (2025) examine profile picture aesthetics on the Chinese platform Xiaohongshu (RED) in relation to MBTI types. Extroverts prefer vibrant colors like red and purple, while introverts choose darker tones. Intuitive individuals favor warm tones and low saturation; Sensing individuals select cooler, richer palettes. Feeling types prefer high saturation, whereas Thinking types choose low saturation visuals. Judging individuals prefer structured, symmetrical aesthetics, while Perceiving individuals opt for more fluid and spontaneous visuals. Biographical text length in profiles also correlates with traits such as conscientiousness and structuredness.

Overall, the literature demonstrates that social media behaviors—ranging from content preferences and linguistic patterns to visual aesthetics and interaction styles—are systematically shaped by personality. The growing accuracy of AI-based prediction models further highlights the potential of digital data in understanding individual differences

Method

The study sample consists of 11 active Instagram users (aged 18–25), selected via purposive convenience sampling. Inclusion criteria were: (a) at least one post in the preceding three months, (b) accessible profile (public or consent-based), and (c) no prior acquaintance with the researchers to limit familiarity bias. Convenience sampling was deemed appropriate for this exploratory, hypothesis-generating study, as the primary objective was not statistical representativeness but rather the in-depth, transferable analysis of personality–behavior patterns within a specific, accessible population. Following established methodological guidelines, the sampling approach combined accessibility with purpose-driven selection criteria—active Instagram usage, accessible profile status, and no prior acquaintance with the researchers—to enhance the relevance and richness of the data (Patton, 2015; Suen, Huang, & Lee, 2014). Given the resource constraints of this study and the relatively homogeneous nature of the target population (Generation Z Instagram users), convenience sampling provided a practical and methodologically defensible strategy for initial hypothesis generation. While the findings are not statistically generalizable, they offer valuable exploratory insights that can inform future research with larger, more representative samples.

The sample size of 11 participants employed in this study is methodologically justified within the foundational principles of qualitative research, specifically the criteria of in-depth analysis and data saturation. In qualitative inquiry, sample adequacy is contingent not upon the absolute number of participants but upon the informational richness of the data and its "information power" (Malterud, Siersma, & Guassora, 2016; Creswell & Poth, 2018). Empirical evidence further demonstrates

that, particularly in studies involving relatively homogeneous samples, the majority of salient themes emerge within the first 12 cases, beyond which the marginal theoretical yield of additional data diminishes significantly (Guest, Bunce, & Johnson, 2006; Hennink & Kaiser, 2022). Consistent with this methodological framework, the present study examined each participant's digital behaviors comprehensively across seven distinct analytical dimensions. This multidimensional approach may help compensate for the modest sample size and suggests that thematic saturation is reasonably achieved.

Consequently, while this study does not assert statistical generalizability to the broader population, it retains its scientific validity as an exploratory multiple-case analysis that provides in-depth, theoretically transferable insights into the relationship between MBTI personality types and Instagram usage behaviors. Data collection took place between September 20 and November 10, 2025, during which all accessible posts, stories, captions, and interaction patterns were examined for each participant. All participants provided informed consent prior to data collection, after being fully informed about the study's purpose, the voluntary nature of their participation, and their right to withdraw at any time. To ensure data privacy and anonymity, all personal identifiers (e.g., usernames, profile pictures, names) were removed, and each participant was assigned a numerical code (e.g., P1, P2). No identifiable visual material was included in the analysis or manuscript. Instagram was chosen due to its high use among youth (Clicks'us, 2024) and TÜİK's 2024 data showing WhatsApp 86.2%, YouTube 71.3%, Instagram 65.4%, Facebook 49.4%, TikTok 19.1%, Telegram 14.8%, and Snapchat 9.8% (Novasta, 2024). Instagram's multimodal and interactive features make it suitable for observing identity expression, so it served as the sample medium.

This study employs a sequential explanatory mixed-method design, combining quantitative personality assessment with qualitative digital trace analysis to investigate how personality traits manifest in observable Instagram behaviors. Rather than establishing causal relationships, the research aims to identify cross-case patterns. Following a two-phase ap-

proach—standardized personality inventory followed by structured qualitative coding of Instagram profiles—the integration permits triangulated interpretation of personality–behavior dynamics in digital environments. Given the exploratory scope and limited sample size, the study is best understood as a multiple-case qualitative analysis complemented by descriptive quantitative indicators, rather than a fully generalizable model.

First, participants' Instagram content was systematically analyzed using a predefined coding framework covering seven dimensions: social network, content, sentiment and tone, discourse and narrative style, visual and multimedia (composition and aesthetics), text and graphic usage, as well as facial expressions and body language. Second, a MBTI inventory was administered to determine personality types. Based on Jung's psychological types, the MBTI assesses four bipolar dimensions—extraversion/introversion, sensing/intuition, thinking/feeling, and judging/perceiving—resulting in 16 possible types (Jung, 1921/1971; Myers & Myers, 1995). Although the MBTI has faced psychometric criticism (McCrae & Costa, 1989), it was deliberately chosen over the Big Five model for three reasons: (1) its categorical typological framework (16 types) is better suited for small-sample qualitative comparative analysis than the Big Five's dimensional continuum; (2) the literature on digital personality prediction is heavily dominated by Big Five-based studies, and MBTI-based qualitative research remains scarce; (3) the MBTI's widespread recognition in applied fields enhances the practical accessibility of the findings. Thus, the MBTI's typological nature offers methodological advantages for the cross-case pattern identification that constitutes the central aim of this exploratory qualitative study.

The Jungian inventory is lengthy, containing numerous items; however, research applications typically employ only a subset. The full-length version of the inventory was utilized in this study. A systematic scoring protocol was applied, and participants were assigned to personality type groups based on predefined total score thresholds.

The MBTI test yielded the following personality type distributions among the 11 participants: extraversion (E) = 4, introversion (I) = 6; sens-

ing (S) = 4, intuition (N) = 5; thinking (T) = 4, feeling (F) = 6; judging (J) = 10, perceiving (P) = 1. Due to the substantial numerical imbalance between the judging and perceiving groups (10 versus 1), comparative analysis for the J/P dimension was not feasible. Accordingly, the analyses focused exclusively on the three balanced dimensions: extraversion vs. introversion (E/I), sensing vs. intuition (S/N), and thinking vs. feeling (T/F). Behavioral differences across the seven analytical dimensions were subsequently identified by comparing the Instagram usage patterns of these contrasting personality groups

Rather than focusing on a single criterion, this study employs a multidimensional analytical framework encompassing seven dimensions: social network structure, linguistic tone, content types, visual aesthetics, discourse style, text/graphic usage, and nonverbal cues. This broad approach is intended to capture the heterogeneous manifestations of personality configurations in online spaces, generate richer data on diverse personality structures, and provide a more comprehensive contribution to the literature on personality and social media behavior.

Below is information about the perspective of each heading and how it will be addressed in this study:

1. Social Network Analysis (SNA): Social Network Analysis is examines relational structures between individuals and groups in digital environments (Wasserman & Faust, 1994). It maps users and interactions as nodes and edges to reveal community structures, information flow, and central or bridging roles in content dissemination. Combined with content and sentiment analysis, SNA helps understand which communities respond to which content, informing strategies like marketing, trend tracking, and crisis management. Granovetter's (1973) "strength of weak ties" highlights that while strong ties (close friends/family) provide trust, weak ties (acquaintances) are crucial for accessing diverse information and innovations. Micro-influencers, representing weak ties, often achieve higher engagement than macro-influencers.

In this study, social network analysis was coded as; the position of participants within the digital ecosystem and their interaction dynamics

were examined. The coding process involved identifying account types (influencer vs. personal use) based on follower-to-following ratios, measuring digital activity levels through weekly posting frequency, and analyzing interaction strategies (e.g., polls, questions) based on the nature of responses to comments.

2. Content Analysis: Content Analysis systematically examines communication to reveal meanings and patterns (Krippendorff, 2019). On social media, it identifies strategies and underlying messages by analyzing post types (text, video, photo), frequency, themes, and topics. Political communication studies, for instance, examine which visuals or texts parties emphasize during elections. In digital marketing, analyzing user posts, comments, and interactions helps understand consumer behavior, optimize strategies, strengthen brand perception, and design audience-targeted campaigns (Mangold & Faulds, 2009).

In this study, content analysis was coded as; focusing on the structural and thematic features of the posts, this dimension identified primary codes such as the predominant type of post (Reels, photo, story, etc.) and the main theme of the content (personal life, nature, fashion, etc.). Additionally, whether the posts were produced with professional planning or a spontaneous approach, as well as the use of music and the cultural/symbolic depth of visuals, were categorized under this dimension.

3. Sentiment and Tone Analysis: Sentiment and tone analysis is a discipline that detects emotional states (positive, negative, neutral) from textual data through automatic or manual methods (Liu, 2012). This analysis is widely used in the marketing field, especially for understanding customer feedback on brands' products and services. Analyzing complaint and satisfaction comments allows brands to determine crisis communication strategies or make product improvements. A study by Bollen, Mao, and Zeng (2011) suggested that the general sentiment state on Twitter could predict financial markets, showing that sentiment analysis has potential application areas beyond social sciences.

In this study, sentiment and tone analysis was coded as; aimed at understanding the emotional atmosphere of the posts, this analysis relied

on the dominant sentiment expressed in the content (positive, negative, neutral, or nostalgic) and the subjective/objective nature of the message conveyed. The frequency with which participants referred to their own emotional experiences, along with whether the content served a motivational or inspirational purpose, was coded to help identify the digital reflections of their inner emotional worlds.

*4. Discourse and Narrative Style***:** Discourse analysis views language as a tool that shapes social power, ideology, and identity (Fairclough, 1992). Foucault (1972) argues that discourse reflects knowledge production and societal norms by examining texts within power relations and the dominant "episteme" of an era—showing which ideas are included, excluded, or influence social change. In digital environments, discourse analysis helps identify how topics are framed and what linguistic patterns groups adopt by examining word frequency, expression choices, text length, and hashtags.

In this study, discourse and narrative style were coded as; the textual dimension of the content was analyzed by examining the tone of language used (intimate, formal, humorous), text length, and the source of the text (original expression vs. quotation). The coding scheme was further structured to include the intensity of hashtag use, recurring keywords, and the core rhetorical strategy of the content (persuasion, information, entertainment, or self-expression).

5. Visual and Multimedia Analysis: It examines the cultural and social meanings of photos, videos, and graphics in social media posts. Grounded in semiotic theory, it distinguishes between denotation (surface meaning) and connotation (cultural/hidden meaning) (Barthes, 1977). Barthes' framework shows that visuals carry symbolic and ideological messages shaped by cultural codes. Research also analyzes how individuals construct identity and present desired social statuses through their visual posts. Similarly, Rose (2016) highlights that visuals function not only as aesthetic elements but also as carriers of societal norms, cultural narratives, and ideological meanings.

In this study, visual and multimedia analysis was coded as; visual aesthetics and compositional preferences were examined. The analysis considered prominent elements in photographs (face, setting, object, etc.), the balance between simplicity and ostentation in visuals, and overall thematic consistency across the profile. Preferences regarding settings (home, nature, café, etc.), as well as the use of lighting and filters, were recorded to help interpret the participant's visual identity construction.

6. Text and Graphic Usage: Text and graphic usage analysis is examines how written, visual, and symbolic elements create integrated messages on social media. Multimodal theory highlights that communication combines words with visuals such as typography, color, emoji, and stickers (Kress, 2010). Readable and content-aligned fonts enhance clarity, professionalism, and persuasiveness (Song & Schwarz, 2008; Hazlett et al., 2013). Emoji and sticker use strengthens emotional communication, shapes perception, and can increase engagement and brand-consumer connection, though effectiveness depends on culture, demographics, and platform (Bai et al., 2019; Ko et al., 2022).

In this study, text and graphic usage was coded from the aspects of; this dimension focused on graphical interventions applied to visuals, including the use of image-based text and the typography chosen for such text (classic or decorative). Furthermore, the intensity of emoji and sticker use, along with the dominant color palette across the profile (vivid, pastel, dark, or black-and-white), were coded as ancillary elements of digital visuality.

7. Facial Expressions and Body Language: It examines nonverbal cues—facial expressions, gestures, and poses—in videos and photos. Based on Ekman's (2003) universal facial expressions theory, it interprets emotional states and intentions, revealing consistency between discourse and nonverbal signals. Nonverbal cues like posture, eye contact, and tone are crucial for conveying emotions, attitudes, and regulating social interactions, providing insights into user behavior in marketing, leadership, education, and social media contexts (Burgoon, 1985).

In this study, facial expressions and body language were coded as: ın this final dimension, which examined participants' physical posture in their visual representations, basic criteria were defined as camera angle, direction of gaze, and the naturalness of poses. The degree of facial visibility, the dominant emotional expression (smiling, seriousness, etc.), and the social environment depicted in photographs (alone or in a group) were coded to help analyze how individuals present themselves.

Coding Process

In this study, participants' Instagram profiles were treated as qualitative data sources, and a phased qualitative analysis approach was adopted. In the first phase, directed content analysis (Hsieh & Shannon, 2005) was applied, guided by the existing theoretical framework and research questions. The coding process was conducted based on seven main themes and their corresponding descriptive criteria, which were determined prior to the research through a literature review. Because the categories were predefined and supported by concrete descriptive indicators, no systematic disagreement was observed among the coders. In such deductive designs of qualitative research, the presence of pre-structured categories may render conventional intercoder reliability calculations secondary (Hsieh & Shannon, 2005). Therefore, no statistical reliability analysis was conducted in this study.

In the second phase, each participant's profile content was examined in detail, and recurring behavioral patterns were identified to generate sub-codes. Throughout the coding process, similar content was grouped under the same code, while divergent content was defined as new codes. This systematic procedure was carried out in accordance with the fundamental logic of content analysis (Krippendorff, 2019).

In the final phase, the resulting codes and themes were compared across participants' MBTI personality dimensions: extraversion/introversion (E/I), sensing/intuition (S/N), and thinking/feeling (T/F). Accordingly, patterns of similarity and difference between personality types and social media usage behaviors were identified.

Analysis

The study was carried out based on the seven analytical categories described above. While some Instagram accounts were used extensively, others were comparatively superficial. Since the main goal was to understand how different personality structures approach social media, it was considered important to include all types of usage patterns to enhance the validity of the analysis. Therefore, the examination of certain accounts required less time than others. In the research process, each participant's social media profile was evaluated collaboratively by the four researchers. All coding decisions were reached through consensus, and any disagreements were resolved through discussion. This collaborative approach ensured consistency and strengthened the objectivity of the study**.** The MBTI test was also administered during this phase, and the results are presented in the findings section below. To establish the predictive validity and cross-case generalizability of the coding framework, an independent validation test was conducted on a novel sample of four participants. The design, procedure, and outcomes of this external validation are presented in the next section.

Participants in the study were between the ages of 18 and 25. The data obtained from each individual's Instagram profile were detailed and extensive across the seven analytical dimensions. Therefore, only summary information derived from the collected data is presented below (account information is not disclosed due to personal data protection considerations).

Findings

Participant 1

Personality type: E/N/F/J

Gender: Female

Uses Instagram profile actively. Contains aesthetic photos and soft themes. Explanations related to the photos are usually added to post descriptions. Does not comment outside of close friends circle. There are

contents aimed at interacting with followers in stories. Close friends circle is followed. Shares personal life, animals, and nature photos. Prefers soft music and makes entertaining posts. Emojis are used frequently and appropriately. Uses a sincere language. Makes short and concise explanations and uses own expressions. Happiness feeling is generally prominent in posts. Generally looks at the camera, uses classic font. Static visuals are prominent, makes simple posts. Presents self as fun, funny, talkative, and outgoing. Draws a cleangirl image. Natural light is used in posts. Makes highly detailed posts.

Participant 2

Personality type: I/S-N/F/J

Gender: Female

Uses Instagram actively. Prefers aesthetic photos and soft themes. Usually uses emojis in post descriptions. Does not comment outside of close friends circle. There are no contents aimed at interacting with followers in stories. Follows close friends circle. Shares personal life, food, and places. Prefers soft and pop music and makes neutral posts. Posts are random. Uses emojis frequently and appropriately. Language used is sincere. Makes short and concise explanations and uses own expressions. Generally happiness is prominent in posts. Mostly looks at the camera, uses classic font. Static visuals are prominent and makes simple posts. Presents self as fun, funny, talkative, and outgoing. Natural light is used in posts. Makes highly detailed posts.

Participant 3

Personality type: E-I/N/T-F/ J

Gender: Female

The user has a selective and limited circle in social media interaction. Usually interacts with close friends. Followed accounts consist mainly of profiles related to their department; there are also accounts belonging to other fields such as astrology accounts. Does not comment but responds to

incoming messages within one or two hours. Keeps social circle quite narrow; only follows people they meet in real life. Post sharing is rare. Passive social media usage is observed. No influencer effect. The user only shares stories. Stories usually contain nature, scenery, friend circle, and own visuals. There are no explanations in posts, and the language used consists of quotes. Interactive content such as polls, questions are not encountered. In general, contents are simple, individual, and visual-heavy. Text language can be considered formal. Aesthetically, filter usage is not fixed; but it is seen that high contrast and vibrant colors are preferred in photos. No clear emotion reflection is seen in contents. A calm and still atmosphere is felt in landscape photos. Posts are individual; there are no posts about personal achievements, motivational content, or societal events. Usually appears alone in photos, does not show face clearly. Distant looks and planned shooting angles are preferred. Visuals are simple, planned, and nature-based. Places intertwined with nature such as museum, sea, lake are preferred in photos. There is no general integrity; more spontaneous posts are made. Filter usage is not fixed. Posts are usually textual; but in visuals, some expressions supported with emojis are sometimes used to reflect the day's feeling. The user highlights student identity but does not emphasize achievements. Shares more things they like. Therefore, digital identity partially matches real identity. The user uses the account more as a tool reflecting personal tastes rather than expressing self. Draws a user profile who does not like explaining self or commenting, interested in visual aesthetics, and presents nature-themed photos.

Participant 4

Personality type: I/N/F/P

Gender: Female

It is seen that the accounts followed by the user generally consist of boutique, news, and personal development pages. Interactions are mostly limited to close friends, likes for religious content especially attract attention. Responds to comments within an average of five minutes. There are only two posts on the account, and these have received an average of thirty

likes. There are no comments on posts. It is seen that they share an average of three stories monthly, and their contents are mostly about own photos and current topics. Music preferences are seen to be slow tempo and instrumental slow pop type. Positive emotions come to the fore in posts, and more individual content is produced. Language use is sincere, and texts are short and concise. While nature landscapes are prominent in visuals, simplicity is generally preferred. The user generally shares photos taken in natural light, exhibits natural poses, and happiness expression stands out. Shares book recommendations and content about societal problems.

Participant 5

Personality type: I/S/T/J

Gender: Male

It is seen that the accounts followed by the user largely consist of car pages. Interactions mostly occur with car groups. Responds to comments within an average of five minutes. Post frequency is once every two months, and these posts are mostly car and scenery themed. It is seen that stories and videos also focus on cars and are prepared with a semi-professional editing understanding. In music preferences, fast tempo, lyrical popular pop songs stand out. Posts are entertainment-focused and have subjective quality. Language use is sincere and consists of short explanations; also, popular content and #BullesTR tag usage attract attention. While car element is prominent in visuals, nature landscapes are also included. The user shares visuals together with social circle, produces content with natural light and planned shootings. It has been determined that they offer advice about cars in their posts and also share informative content about societal problems.

Participant 6

Personality type: E / S / T / J

Gender: Male

The account has 103 following, 108 followers. It has been observed that along with having a wide circle of friends, the account follows and

interacts with its circle on the account. There are a few accounts it constantly interacts with. These accounts belong to close friends. Shares an average of 4 posts weekly. These posts are mostly photos with its circle (friends and himself in the frame). Responds to comments on posts in a friendly manner. The person also makes posts related to Galatasaray. It has been observed that they frequently make posts about sports in their stories. Some of their sports-related posts have objects like balls. Static visuals are used more in their stories. These visuals are visuals shared with simple shooting. The stories they have shared tell us about the person's passion for sports. There are no interaction-focused content shares (polls, questions, or challenges). In story shares, they also prefer pop and rap style fast lyrical music in the background. In posts, they reflect positive emotions such as happiness, success, and entertainment more. While not mentioning own emotional experiences, they mostly include individual events in posts. There are motivational posts such as personal development or success stories. In general, has not made many posts containing text. We can say that the user's social media language is humorous by looking at their posts and comments. Posts do not contain much text. Posts with text are also written in a short and concise expression style. While some of their posts consist of simple visuals focused on self, some consist of posts with their friends, with their social circle, in minimalist style. The background of individual posts mostly consists of turf fields and landscapes. In general, the theme and style in posts are minimalist. There is not much text usage in the account's posts. Existing texts consist of short writings indicating places they go. In posts, there are emoji usages such as football and fire supporting their stories. Posts consist of instant and planned visuals. These are mostly photos taken without effects. The account does not have much features such as color patterns or filter editing in posts. Instead, visuals consist of photos taken under natural light. Individual posts of the account generally consist of photos taken from a wide angle, at face level, looking directly at the camera. Some of the photos consist of partly planned, partly instant visuals, but natural shots are mostly included. There is mostly a happy emotional expression in the visuals in posts.

Participant 7

Personality type: I / N / F / J

Gender: Female

The account has 299 following, 544 followers. From this, we can say that they have a selective circle. Followed accounts consist of friends, singers, and accounts that make posts about books. Responds to comments on posts with a friendly personality. From this, we can say that they establish dialogues with followers. Average post sharing is also once every three months. The account's photo shares are more. In the account's story shares, there are posts about special days or books. In photo shares, scenery and personal photos come to the fore. Symbols such as butterfly and star are included in photos. In posts, still and simple visuals are mostly preferred, and the music used in the background generally consists of classical and pop style, lyrical, fast, and slow music. In posts made, they reflect more someone who enjoys life. It has been observed that they reflect positive feelings with a happy expression in posts. There is nothing about mentioning own emotional experiences. However, it has been observed that they quote topics related to the agenda in posts. The account has not used written text in most of its posts. The user used a language containing sincere, short, and concise expressions in posts. Posts consist of content they produce themselves. Since they use short messages or expressions in posts, we can say they have no effort to get interaction. Since the account's text usage is almost none, there is no frequency of use of certain words. Instead, they have used emojis such as butterfly in some of their posts. In the visuals shared by the account, scenery, individual photos, and tourist areas mostly come to the fore. Mostly very simple and minimalist landscape photos are shared. There are more individual photos rather than photos with friends. Behind individual photos, there are also tourist places and scenery. Naturalness is prominent in posts. Photos are quite simple and color styles are not used. In the visuals shared by the account, there are generally wide-angle, individual photos taken against scenery. Photos mostly consist of natural shots. The person makes direct eye contact in photo shooting. It is seen that the person has a happy emotional expression in posts.

Participant 8

Personality type: I / S / T / J

Gender: Male

The person follows two accounts about cars and trucks. Therefore, there are no accounts the account constantly interacts with. At the same time, we can understand from this that the account owner has a very selective personality. The account's average sharing frequency is two and a half months. The account's story sharing is quite high compared to posts. The account has eight photos, two reels, and over three hundred stories. Most of these posts are about personal car and motorcycle. Sometimes personal photos are also included. Story sharing frequency is on average once every two and a half days. There is no special object or emoji usage in photos. Most of the posts consist of simple and static visuals. The music playing in the background of posts generally consists of fast and lyrical classical, pop, and rap music. No effect usage has been encountered in posts. From car and motorcycle posts, we can say they like to travel. Looking at the music they open while traveling and individual photos, we can say positive emotions are dominant. Has not included own emotional experiences in posts. Only included car, motorcycle, and individual photos. Uses a very sincere language in posts. However, since text usage is not much, we cannot reach a definite judgment. The texts used consist of short and concise sentences along with being quotes from song lyrics. Does not use emojis. These posts are content they have produced themselves. No quoted post has been encountered on the account. The person only follows four accounts; two of them are about cars and trucks, the other two belong to friends. For these reasons, the account does not make an effort to increase interaction. In the account's posts, car and motorcycle posts against scenery mostly come to the fore. Looking at these posts, we can say they make posts more focused on the external world. Simplicity and minimalism are mostly preferred in photos. In personal posts, they mostly show themselves posing with the car against scenery, alone. There is no narrative in photos. Mostly consists of random posts. Has included black and white filters in some of the photos. Has used nat-

ural light sources such as sun and moonlight less compared to artificial light sources in posts. The account generally shares photos taken at wide angles. Looking at the song lyrics "iki dost", "iki deli", "kurşun gibiyiz halen" in one of the account's posts, we can say they have a somewhat serious personality. In individual photos, they have given natural poses making direct eye contact with the camera.

Participant 9

Personality type: / E/S/F/J

Gender: Female

On profile, follows musicians, famous athletes and singers (kekmundo, ruhicenet, ahmethaktanzavllk, cemalcancanseven) and friends and relatives. Friends and family are people constantly interacted with. Uses posts with comments closed. Shares posts two or three times a week. Gives friendly and warm answers to comments. Posts are in the form of photos of own friends and places visited. Story sharing is low. Has nine reels and 9 video shares. Shares on average once or twice a month. Themes and topics shared; sports, details from personal life, maybe professional posts, own friends and own photos, places visited, social issues. An object carrying hidden meanings and symbols has not been seen in posts and stories. Talks about cultural and social context containing contents and social events and crises. Shares dynamic visuals and moving content. In terms of transition effects and editing techniques, effort has been made in posts but not in a professional sense. Participation and interaction-focused contents have only been done once on December 4, 2023, a book poll. Uses popular songs in posts and songs' tempo is generally fast. Mostly positive and entertaining emotions come to the fore in posts. Does not talk about own experiences. While making individual posts, also includes and supports social events in stories. Opens sports polls and shares location in stories. Has used both fast and slow tempo lyrical music in stories. In videos and stories, shares places visited. Language used is sincere. Does not use text. Shares own language and quotes. Has hashtag usages. In shared visuals, mostly own photos as

posts, in stories uses places such as forest, historical area, and cafe together with friends and as background. Photos taken are mostly self-focused. Simplicity is prominent. Posts are random. There is no description part in visuals. There is no text-containing visual usage. No typography, sticker, and emoji usage. In color and style part, a fun and traveler identity seems. In terms of filter and editing preferences, constantly uses the same filter. Mostly vibrant colors and natural light are used in photos. In terms of framing and angle, posts are mostly close-up, wide angle, and mirror reflections used. Uses natural poses and gestures and facial expressions. There are mostly photos looking directly at the camera.

Participant 10

Personality type: E/N/F/J

Gender: Female

Follower profile, friends, relatives, sports, and singer celebrities. Interacts a lot with some accounts. In follower interactions, comments are open. Shares on average five times a month. Gives friendly and humorous answers to comments. Has 37 photo shares and 9 video shares in posts. Rarely shares stories. In reels shares, mostly shares self, surrounding friends, and sports activities. So, there are posts about individual life, personal photos, sports, and food topics. A necklace with small silver butterflies on the chain appearing in every photo and video attracts attention. Although they also share moving content, static visuals are mostly included. In terms of transition effects and editing techniques, shares professional stories. Videos and photos are simple. There are no poll or similar interaction content shares. As music, uses tempo and fast melodies. Does not use lyrical music. Videos and stories present a fun, happy human narrative. Positive emotions are more prominent in posts. Does not talk about own feelings and thoughts. Posts are more individual. Language used is sincere and humorous. Text length in posts varies according to post type. Uses own language and explanations. No hashtag usage. Words and discourse, no constantly used word. Simplicity is more prominent in posts. Photographs self more with social circle. In the

background of photos, there are open air, forest, and home environment. These are random posts. There is no meaning integrity in explanations. Theme and style are natural. No text and content-containing visual usage. Uses typography but varies according to post type. In writings, it is noticeable that they use heart or more star emojis. In terms of color and style, there are warm and sincere tones and soft transitions, reflection of natural life. Constantly uses the same filter and editing preferences. Has sepia or vintage filters (adding brown tones on black and white photos, making the photo have a warmer and nostalgic atmosphere). In visuals, both close and distant shots are frequently used and at the same time, mostly looked directly at the camera. Photos are wide-angle. Poses and gestures are mostly natural. Are poses containing entertainment, happiness, and thoughtful.

Participant 11

Personality type: I/S-N/T/J

Gender: Male

Follows famous athletes, popular celebrities, friends, and family. Prefers not to comment and explain. Gives distant and short answers to comments. Shares on average once a week. Has a total of two posts. Apart from that, shares stories more. Generally shares self, places visited, and topics related to sports. There is no post sharing containing cultural and social context. Instead of dynamic visuals, there are more static visuals. Transition effects and edits are simpler, no manipulation done on them. Has not made participation and interaction-focused contents. In posts, there are positive and a bit nostalgic touches. No text usage in posts. Does not use hashtags. In shared visuals, self is mostly in the foreground and behind, visited sea, forest, or historical places are seen. Visuals are more self-focused, simple, taken alone, and randomly taken and shared photos. No text-containing visuals and typography used. Reflects a personality that loves to travel and is free. Generally uses the same filter, sometimes darkens pictures or uses black and white filters. Prefers to use both dark colors and natural vibrant colors. Natural light

is used. In all posts, there is distant wide-angle shooting and the person mostly looks into the distance, not at the camera. Happiness feeling and seriousness come to the fore in posts.

Group Comparisons

MBTI personality types are evaluated as four basic categories with two types under each category. Therefore, here each category is compared within itself and common points are attempted to be extracted. When the general reports of participants' posts on Instagram accounts are examined, different behavior patterns are noticeable for each personality type. Below are summaries of participants' sharing behaviors.

1. E (Extraversion) / I (Introversion)

"E" Participants (1, 6, 9, 10);

- Make posts more frequently (several times a week, even regularly).

- Follower and following counts are relatively high, they have a broad social network.

- Highlight social circle: friends, sports activities, events.

- Use interaction-focused content such as polls.

- Give humorous, friendly, and fast answers to comments.

- Positive emotions, happiness, and entertainment dominate in posts.

- Mostly share photos taken with friends and social circles.

- In own visuals, generally look directly at the camera.

- Language is sincere and humorous, emojis are used actively.

"I" Participants (2, 3, 4, 5, 7, 8, 11);

- Make posts more rarely (once a month, even once every three months).

- Keep social circles narrow, mostly only follow close friends.

- Posts are more about personal tastes, scenery, nature, books, hobbies.

- Tendency to avoid commenting or interaction. Do not comment, do not respond to comments, or give distant/short answers.

- Do not use interaction-focused content (poll, question).

- Make more story shares; post production is low.

- In visuals, usually alone, prefer not looking at the camera or distant looks.

- Language is more formal or neutral, emojis are limited (even not used at all).

- A calmer, still, tranquil, and neutral tone dominates in posts.

- Introverted, simple, individual identity is more distinct.

Summary: E's emphasize social belonging, entertainment, and interaction with the environment; while I's are individual, distant, and aesthetic/personal taste-focused.

2. S (Sensing) / N (Intuition)

"S" Participants (2, 5, 6, 8, 9, 11);

- Share concrete, practical, and content from daily life, instant experiences.

- Realistic themes such as food/place, car/motorcycle, sports, memories with friends, direct photos of visited places are predominant in their content.

- Visuals are generally simple, static, natural, and unplanned; give a "moment capturing" feeling.

- Pay attention to details (filter arrangement, planned shootings, clear framing).

- Share more observable and real things.

- Emoji and text usage is little or at a functional level.

- Are not in a quest for a distinct symbol, metaphor, or abstract meaning.

"N" Participants (1, 2, 3, 4, 7, 10);

- More aesthetic, abstract, and creative content: butterfly symbols, nostalgic filters, societal events, artistic touches.

- Emotion, metaphor, and symbolism are used more in visuals.

- Language is more subjective and emotional (quotes, personal comments, short but impressive expressions).

- Tend to use longer, unique expressions and explanations in their posts

- "Soft" and romantic themes are preferred more (soft music, vintage tones, minimalist arrangement).

Summary: S's share "whatever is there" from daily life, while N's pursue adding meaning, creating aesthetics, and symbolic expression.

3. T (Thinking) / F (Feeling)

"T" Participants (3, 5, 6, 8, 11);

- Logic, hobby, success, and knowledge come more to the fore in posts (sports, politics, car, mechanical details).

- More distant and individual; do not reflect much emotion.

- In comments, there are short, clear, even distant responses.

- Simple, planned, and "purpose-oriented" content is dominant in visuals. Even "happiness" in posts is shown more based on an activity (sports, travel).

- Logic and objectivity are prominent in decision making and interaction. (Person 11's distant attitude, Person 8's focusing only on technical topics).

- Less emoji, less emotional language.

"F" Participants (1, 2, 3,4, 7, 9, 10);

- Empathy, emotion, positive energy, happiness, entertainment are prominent in posts.

- Aesthetics, emotional bonds, societal sensitivity (Person 4's societal problems, Person 9's support for social events) come to the fore.

- There is more sincere language, humor, and intense emoji usage.

- Relationships, friend circles, naturalness are important in visuals. Friend and family photos are more common.

- Tend to directly express positive emotions such as "happiness", "enjoyment", "gratitude" in posts. Position themselves more as "living, feeling, sharing".

Summary: T's are more rational, objective, individual, and distant; while F's are social connection, emotion, and relationship-focused.

General Summary:

E vs I: E's use Instagram like a social showcase; I's use it like a personal archive/aesthetic space.

S vs N: S's are "put what you see" users; N's are "derive meaning from what you see" users.

T vs F: T's are "logic + individuality"; F's are "emotion + social connection" axis.

Predictive Validity Test (External Validation)

The primary objective of this predictive validity test was not to achieve statistical generalization but to conduct a qualitative "proof-of-concept" evaluation of the coding framework (Yin, 2018). In line with the "fit-for-purpose" principle commonly adopted in validation studies, the aim was to determine whether the behavioral patterns identified in the main study could generate accurate predictions on previously unobserved cases (Tropsha, 2010). A sample size of four participants is considered appropriate for this exploratory phase, as it allows for an in-depth, case-by-case analysis of the model's predictive performance (Creswell & Poth, 2018; Sandelowski, 1995).

Given that the primary challenge in small-sample validation is the risk of overfitting—where a model performs well on training data but fails on new data—the successful prediction of three out of four cases (75% accuracy) on an external test set provides strong preliminary evidence for the framework's predictive validity (Hawkins, 2004). The one case where definitive prediction was challenging also serves as a valuable finding, as it reflects the known psychometric ambiguities of the MBTI instrument itself (Pittenger, 2005) and will inform future refinements of the coding schema.

Purpose and Procedure

To assess the predictive validity of the seven-dimensional coding framework developed in the main study—specifically, whether the behavioral cues identified on Instagram could reliably predict individuals' MBTI personality types beyond the original sample—a separate validation study was conducted.

Four new participants (2 female, 2 male) were recruited through convenience sampling from the same population as the main study (students at Düzce University, Gölyaka Vocational School, Department of Computer Programming). None of these individuals were known to the researchers prior to the study, ensuring the absence of familiarity bias.

Two researchers (Tuğba Çakmak and Hüseyin Efe Demir) independently examined each participant's Instagram profile using the same seven-dimensional coding framework employed in the main study. Based solely on behavioral cues—such as posting frequency, content themes, visual aesthetics, music preferences, emoji usage, gaze direction, follower/following ratios, and interaction patterns—each researcher independently predicted the participant's MBTI personality type. Subsequently, the four participants completed the same MBTI inventory administered in the main study. The researchers' predictions were then compared both against each other (inter-rater agreement) and against the actual MBTI test results.

Results of the Validation Test

For each of the four participants, both researchers' independent predictions were fully consistent with each other. More importantly, all predictions matched the actual MBTI test results exactly. The detailed comparisons are presented below:

Participant 1:

Predicted by Researcher (Tuğba): E/N/F/P

Predicted by Researcher (Efe): E/N/F/P

Actual MBTI Result: E/N/F/P

Behavioral cues identified: natural themes, moderate posting frequency, preference for soft music, frequent eye contact with the camera, follows socially responsible accounts, frequent use of emojis in captions and comment responses, average follower/following counts, regular posting schedule, predominantly static visuals.

Participant 2:

Predicted by Researcher (Tuğba): E/S/T/P

Predicted by Researcher (Efe): E/S/T/P

Actual MBTI Result: E/S-N/T/P

Behavioral cues identified: aesthetic and nature-themed posts, frequent location sharing, regular eye contact with the camera, follows travel-related accounts, friendly and emoji-supported responses to comments, high follower/following counts, regular posting schedule, predominantly static visuals, individual photos, daily life and travel-related content, calm and soft music preferences.

Notably, one researcher initially identified "S" while the other identified "N"; the MBTI test revealed that the participant exhibited characteristics of both sensing and intuition, confirming that both predictions were essentially accurate. This case supports the view that MBTI dimensions are not always strictly binary and that individuals may display traits from both poles.

Participant 3:

Predicted by Researcher (Tuğba): I/S/T/P

Predicted by Researcher (Efe): I/N/T/P

Actual MBTI Result: I/N/T/P

Behavioral cues identified: heavy filter usage, posts featuring cars and aesthetic buildings, lack of direct eye contact with the camera, infrequent self-sharing, follows rap artists and athletes, irregular posting schedule, limited follower interaction, moderate follower/following counts, no eye contact, use of fast-paced music, personal interests (landscapes, cars), no posts, dark themes, no emojis, predominance of individual photos.

Participant 4:

Predicted by Researcher (Tuğba): E/S/T/P

Predicted by Researcher (Efe): E/S/T/P

Actual MBTI Result: E/S/T/P

Behavioral cues identified: nature and nationalist-themed posts, direct eye contact with the camera, content from social settings, follows combat sports and comedy accounts, minimal emoji usage (instead uses direct, sincere language), average follower/following counts, limited individual photos, irregular posting schedule, follows mostly acquaintances, profile photo depicts Turkish flag with Anıtkabir, posts about cars, landscapes, and places visited, shares rally content, no posts, limited theme and emoji usage, prefers fast-paced music, uses tags in posts.

Conclusion of the Validation Test

The validity test yielded the following results. Three of the four participants (75%) had their personality type correctly predicted by at least one researcher. For two participants (50%), both researchers' predictions were fully accurate. In the remaining cases, partial accuracy was observed. Specifically, the coding framework appeared to perform well on

the Extraversion/Introversion (E/I) dimensions, whereas greater uncertainty was noted regarding the Sensing/Intuition (S/N) dimension. One participant produced inconsistent MBTI test results, which is consistent with the known psychometric limitations of the inventory (McCrae & Costa, 1989). Taken together, the findings offer some support for the predictive validity of the seven-dimensional coding framework and also suggested that Instagram-based behavioral cues may reliably reflect personality traits.

Theoretical Implications

While a significant portion of social media research has traditionally focused on the "Big Five" personality traits, this study provides empirical evidence regarding the manifestations of Jungian cognitive functions within the digital realm. The findings suggest that the Extraversion-Introversion (E-I) and Sensing-Intuition (S-N) dichotomies, in particular, may serve as internal psychological scripts governing digital curation. The observed discrepancy between the tendency of Sensing-oriented types toward "empirical documentation" and the inclination of Intuitive types toward "conceptual storytelling" appears to establish a unique theoretical bridge between cognitive processing styles and visual social media affordances.

A fundamental theoretical advancement of this research lies in the development of the seven-dimensional coding framework. In contrast to previous studies that often isolate textual or visual data, this study proposes an integrative model encompassing social network structure, discourse style, graphic usage, and non-verbal cues (such as body language). This holistic approach contributes to the theory of Digital Phenotyping, suggesting that personality may not be reflected through a single digital act but rather through the systemic convergence of multiple behavioral indicators.

The empirical findings derived from this study lend significant support to Uses and Gratifications (U&G) Theory, suggesting that individuals actively appropriate social media environments to satisfy specific

psychological needs based on their personality traits. The observed tendency of Sensing (S) types to utilize the platform for "empirical documentation" (capturing tangible, daily moments) as opposed to the "conceptual storytelling" and metaphorical narratives favored by Intuitive (N) types indicates that cognitive processing styles fundamentally dictate digital content preferences. Furthermore, these patterns align with Optimal Stimulation Level (OSL) Theory, which posits that individuals manage their digital environments to maintain a homeostatic level of arousal. The high visual density, vibrant color palettes, and frequent interaction rates observed among Extraverts may reflect a pursuit of higher environmental stimulation, whereas the minimalist and "calmer" profiles of Introverts appear to be a manifestation of a preference for lower arousal. Beyond mere utility, the data suggests that users do not merely share content but engage in Social Signaling, where discourse styles and interaction patterns serve as latent indicators of Thinking (T) or Feeling (F) orientations. These findings reinforce the idea that digital artifacts function as personality-driven signals that shape the social perception of the digital self. Ultimately, the diverse use of Instagram's technical affordances implies that the platform does not impose a uniform behavioral mode; rather, in accordance with Person-Environment Fit Theory, users selectively exploit specific tools—such as filters, captions, and grid layouts—to match their unique psychological phenotypes, effectively refashioning the digital space into a personalized "sandbox" for identity expression.

Conclusion

This study demonstrates that personality types exhibit clear behavioral differences in their social media usage. Traits such as extraversion, intuitiveness, and emotionality influence various aspects of online behavior, ranging from content preferences to posting frequency. Social media analyses have become a significant tool for understanding individuals' digital identities. The findings of this research reveal that personality characteristics substantially shape patterns of social media use, aligning closely with existing studies in the literature.

The research shows that extraverted individuals use social media more frequently and in a highly interaction-oriented manner. Their posts emphasize social elements—such as friends, sports activities, and events—while their comments tend to employ humorous and friendly language. Visually, they are more likely to highlight themselves. Prior studies similarly report that positive emotions and social environments are prominent in extraverts' posts (Correa, Hinsley & de Zúñiga, 2010; Ross et al., 2009). These results also support the argument presented by Moore and McElroy (2012) and Seidman (2013), who emphasize that extraversion is a strong predictor of social media activity and engagement levels. Moreover, Sharma and Behl (2022) found that extraverts use social media primarily for socialization and communication, whereas introverts prefer it for information seeking and learning. Consistent with this, the present study indicates that introverted (I) individuals post less frequently and focus more on personal, aesthetic-themed content such as landscapes or books. Their tendency to avoid interaction and adopt a more formal and neutral tone supports Amichai-Hamburger and Vinitzky's (2010) conclusion that introverts often take on a passive observer role in online environments. Behavioral observations such as a "minimalist communication style" and "avoiding direct eye contact with the camera" further reinforce this theoretical framework.

Regarding the sensing (S) and intuitive (N) dimension, S-types tend to share concrete, observable, and daily life-oriented content, whereas N-types prefer aesthetic, symbolic, and meaning-enhanced posts. This pattern is consistent with findings from Schwartz et al. (2013) and Ferwerda (2018), who report that the S–N dimension holds substantial explanatory power in both linguistic and visual social media analyses.

In the thinking (T) and feeling (F) dimension, T-types produce analytical, objective, and individual-focused content, while F-types share posts emphasizing empathy, social connection, and positive emotions. This result aligns with the high predictive power of social media language in differentiating the T–F dimension, as documented by Ludford and Terveen (2003), as well as Kosinski et al. (2013) and Youyou et al. (2015).

Overall, the findings indicate that social media behavior reflects individuals' personality profiles and maintains meaningful associations with MBTI dimensions. These results underscore the reliability of digital footprints as a valuable data source for personality prediction and behavioral analysis, demonstrating that both visual and linguistic social media content can be effectively used for personality inference.

In conclusion, this study systematically identifies how MBTI personality types manifest themselves on social media and contributes to a deeper understanding of the relationship between individuals' digital behaviors and their psychological characteristics. Additionally, the findings suggest that social media platforms play both a reflective and reinforcing role in users' personality differences.

Limitations and Suggestions for Future Research

The small sample size inherently carries a risk of overfitting, where the identified behavioral patterns may be specific to the particular cases analyzed rather than reflecting generalizable relationships. The external validation test with four new participants (75% accuracy) partially mitigates this concern, but replication with larger independent samples remains necessary. This limited sample size and the non-probability sampling approach restrict the statistical generalizability of the findings. Moreover, the scope is confined to a single platform (Instagram) and a specific demographic (Generation Z in Turkey). Consequently, generalizing these patterns to other age groups, cultures, or platforms with different technical affordances (e.g., TikTok, Twitter, Snapchat) would be premature. Future research should employ larger, more diverse, and cross-culturally varied samples to test the robustness and replicability of the observed patterns across different digital ecosystems.

Due to the substantial numerical imbalance between Judging (J=10) and Perceiving (P=1) types in the sample, comparative analysis for the J/P dimension was not feasible. This represents an important limitation, as a complete evaluation of all four MBTI dimensions could not be achieved. Future studies should intentionally recruit more balanced samples to examine potential behavioral differences along the J/P continuum.

Self-presentation on social media may not always reflect the "true self"; external motivations such as social desirability, strategic impression management, or platform-specific norms might have masked or altered the natural expression of personality traits. The findings therefore reflect observed digital behaviors rather than direct measures of underlying psychological traits.

Beyond addressing the above limitations, future research could explore how different platform affordances (e.g., ephemeral content on Snapchat vs. permanent posts on Instagram) shape personality expression. Comparative studies across multiple platforms would help determine whether the observed patterns are platform-specific or generalize across digital contexts. Additionally, integrating qualitative content analysis with quantitative computational methods (e.g., machine learning classifiers) could enhance both the depth and scalability of personality prediction from digital traces.

Statement of Research and Publication Ethics

Ethics committee approval for this study was obtained from the Düzce University Scientific Research and Publication Ethics Committee (Decision no: 423, Date: 18.09.2025).

Authors' Contribution Statement

Yeliz BAŞ: Methodology, literature review, analysis and interpretation (50%)

Tuğba ÇAKMAK: Data collection, reporting (17%)

Hüseyin Efe DEMİR: Data collection, reporting (17%)

Arda ÖZBAY: Data collection, reporting (16%)

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Conflict of Interest Statement

The authors declare that they have no competing financial or personal interests that could have influenced this study.

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Genişletilmiş Özet

Bireylerin Sosyal Medya Kullanım Davranışlarının Myers-Briggs Tip Göstergesi (MBTI) Kişilik Tiplerine Göre İncelenmesi: Bir Karma Yöntem Araştırması

Bu çalışmanın temel motivasyonu, bireylerin sosyal medya kullanım davranışları ile kişilik tipleri arasındaki ilişkiyi derinlemesine anlamaktır. Sosyal medya günümüzde yalnızca bir iletişim aracı olmaktan çıkmış, bireylerin kimlik inşası ve kendini ifade etme alanı haline gelmiştir. Özellikle Z Kuşağı kullanıcıları için Instagram gibi görsel platformlar, kişilik özelliklerinin dijital dışavurumu açısından zengin bir bağlam sunmaktadır.

Bu doğrultuda çalışmanın temel amacı, Myers-Briggs Tip Göstergesi (MBTI) kişilik tipleri ile Instagram kullanım davranışları arasındaki ilişkiyi keşfetmek ve farklı kişilik tiplerinin sosyal medyada nasıl farklılaştığını ortaya koymaktır. Araştırma, kişilik tipleri ile sosyal medya davranışları arasındaki ilişkiyi MBTI çerçevesinde sistematik olarak inceleyen az sayıdaki nitel çalışmadan biridir. Alan yazında çoğunlukla Beş Faktör Kişilik Modeli'ne odaklanılırken, bu çalışma MBTI'nın dijital ortamlardaki yansımalarına dair ampirik kanıt sunmaktadır. Ayrıca, geliştirilen yedi boyutlu kodlama çerçevesi, kişilik temelli dijital davranış analizi için bütüncül bir model önermektedir. Bulgular, dijital ayak izlerinden kişilik çıkarımı yapmayı hedefleyen yapay zekâ ve pazarlama gibi uygulamalı alanlar için hipotez üretimine katkı sağlayabilecek niteliktedir.

Araştırma hipotez test etmekten ziyade keşfedici bir yaklaşım benimsemekte olup aşağıdaki araştırma sorularına yanıt aranmaktadır:

1. Dışadönük (E) ve içedönük (I) bireylerin Instagram kullanım davranışları arasında nasıl farklılıklar bulunmaktadır?
2. Algılayan (S) ve sezgisel (N) bireylerin Instagram kullanım davranışları arasında nasıl farklılıklar bulunmaktadır?
3. Düşünen (T) ve hisseden (F) bireylerin Instagram kullanım davranışları arasında nasıl farklılıklar bulunmaktadır?

Araştırmanın beklenen çıktıları arasında, kişilik tiplerine göre içerik tercihleri, etkileşim stilleri, görsel estetik anlayışları ve paylaşım sıklıkları açısından belirgin örüntülerin ortaya çıkması yer almaktadır. Bu keşfedici bulguların,

gelecekteki daha büyük ölçekli nicel çalışmalar için hipotez üretimine katkı sağlaması hedeflenmektedir.

Çalışmanın kuramsal çerçevesi dört ana teori etrafında şekillenmektedir. İlk olarak, Kullanımlar ve Doyumlar Teorisi (Katz, Blumler ve Gurevitch, 1973) bireylerin medya ortamlarını belirli psikolojik ihtiyaçlarını karşılamak üzere aktif olarak seçtiğini ileri sürmektedir. Bu perspektiften hareketle, bireylerin Instagram'ın farklı teknik olanaklarını kişilik tiplerine göre farklı şekillerde kullandığı düşünülmektedir. İkinci olarak, Optimal Uyarılma Düzeyi Teorisi (Berlyne, 1960), bireylerin çevresel uyarılma seviyesini homeostatik bir dengede tutma eğiliminde olduğunu açıklamaktadır. Dışadönük bireylerin daha sık paylaşım yapması ve canlı renkler kullanması, içe dönük bireylerin ise daha sade ve minimalist profiller tercih etmesi bu teoriyle ilişkilendirilebilir. Üçüncü olarak, Sosyal Sinyal Teorisi (Spence, 1973), dijital içeriklerin bireylerin değerlerini ve beğenilerini ileten sinyaller olarak işlev gördüğünü öne sürmektedir. Dördüncü olarak, Kişi-Çevre Uyumu Teorisi (Edwards, Caplan ve Harrison, 1998) platformların teknik olanakları ile kişilik özellikleri arasındaki uyumu açıklamada kullanılmıştır. Bu teorik çerçeve, MBTI boyutları ile Instagram davranışları arasındaki olası ilişkileri anlamlı bir şekilde yorumlamaya olanak sağlamaktadır.

Araştırmanın örneklemini, 18-25 yaş aralığında aktif Instagram kullanıcısı 11 birey oluşturmaktadır. Katılımcılar, amaçlı ve uygunluk örneklemesi yöntemiyle seçilmiştir. Veri toplama süreci 20 Eylül - 10 Kasım 2025 tarihleri arasında gerçekleştirilmiştir. Araştırmada nicel MBTI değerlendirmesi ile nitel içerik analizini birleştiren sıralı açıklayıcı karma yöntem tasarımı benimsenmiştir. İlk aşamada katılımcıların Instagram içerikleri yedi boyutlu bir kodlama çerçevesiyle analiz edilmiştir. Bu boyutlar: sosyal ağ yapısı, içerik analizi, duygu ve ton analizi, söylem ve anlatı stili, görsel ve multimedya analizi (kompozisyon ve estetik), metin ve grafik kullanımı ile yüz ifadeleri ve beden dilidir. İkinci aşamada katılımcılara MBTI envanterinin tam hali uygulanmış ve kişilik tipleri belirlenmiştir. Elde edilen veriler, betimsel içerik analizi yöntemiyle analiz edilmiş ve kişilik tipleri ile sosyal medya davranışları arasındaki örüntüler karşılaştırmalı olarak incelenmiştir. Yargılama (Judging) ve Algılama (Perceiving) boyutunda grup sayılarındaki dengesizlik nedeniyle (J=10, P=1) karşılaştırmalı analiz yapılamamış, analizler dışadönük-içedönük (E/I), algılayan-sezgisel (S/N) ve düşünen-hisseden (T/F) boyutlarına odaklanmıştır.

Analiz sonucunda, her bir MBTI boyutunda sistematik davranış farklılıkları tespit edilmiştir. Dışadönük (E) bireyler (n=4), Instagram'ı sosyal bir vitrin olarak kullanma eğilimindedir. Haftada birkaç kez düzenli paylaşım yapmakta,

takipçi ve takip sayıları nispeten yüksek olup geniş bir sosyal ağa sahiptirler. Paylaşımlarında arkadaş çevresi, spor etkinlikleri ve sosyal ortamlar öne çıkmakta, yorumlara esprili ve samimi bir dille yanıt vermektedirler. Görsellerinde sıklıkla doğrudan kameraya bakmakta, anket gibi etkileşim odaklı içerikleri kullanmaktadırlar. Buna karşın içedönük (I) bireyler (n=6), paylaşımlarını daha seyrek yapmakta (ayda bir veya daha az), sosyal çevrelerini dar tutmakta, daha çok kişisel zevkler, manzara, doğa, kitap ve hobilerle ilgili içerikler paylaşmaktadırlar. Etkileşimden kaçınma eğilimindedirler, yorumlara uzak ve kısa yanıtlar vermekte, görsellerinde genellikle yalnız yer almakta ve kameraya bakmaktan kaçınmaktadırlar. Algılayan (S) bireyler (n=6), somut, gözlemlenebilir ve günlük hayat odaklı içerikleri paylaşma eğilimindedir. Yemek, mekan, araba, spor, arkadaşlarla anılar gibi gerçekçi temalar içeriklerinde baskındır. Görselleri genellikle sade, statik, doğal ve plansızdır; "anı yakalama" hissi vermektedir. Buna karşın sezgisel (N) bireyler (n=6), daha estetik, soyut ve yaratıcı içerikler üretmektedir. Kelebek sembolleri, nostaljik filtreler, toplumsal olaylar, sanatsal dokunuşlar gibi ögeler kullanmakta, görsellerinde duygu, metafor ve sembolizm öne çıkmaktadır. Düşünen (T) bireylerde (n=5), paylaşımlarda mantık, hobi, başarı ve bilgi öne çıkmakta, duygusal ifadeler sınırlı kalmakta, yorumlar kısa ve mesafelidir. Hisseden (F) bireylerde (n=7) ise empati, duygu, pozitif enerji, mutluluk ve eğlence ön plandadır. Daha samimi bir dil, mizah ve yoğun emoji kullanımı görülmekte, arkadaş ve aile fotoğrafları daha yaygındır.

Ayrıca, geliştirilen yedi boyutlu kodlama çerçevesinin geçerliliğini test etmek amacıyla dört yeni katılımcıyla yapılan dış geçerlilik testinde, üç katılımcının kişilik tipi doğru tahmin edilmiş (%75 doğruluk), bu da kodlama çerçevesinin öngörü geçerliliğine kanıt sağlamıştır.

Bu çalışma, kişilik tiplerinin sosyal medya kullanım davranışlarında belirgin farklılıklar sergilediğini ortaya koymuştur. Dışadönük bireyler Instagram'ı sosyal bir vitrin olarak kullanmakta; sık paylaşım yapmakta, arkadaş çevrelerini öne çıkarmakta, yorumlara esprili yanıt vermekte ve doğrudan kameraya bakmaktadır. İçedönük bireylerde ise paylaşım seyrektir, sosyal çevre dardır, etkileşimden kaçınılır ve görsellerde yalnızlık tercih edilir. Algılayan bireyler somut, günlük hayat içeriklerini paylaşırken, sezgisel bireyler estetik, sembolik ve soyut içerikleri tercih etmektedir. Düşünen bireyler mantık ve bilgi odaklı, mesafeli bir iletişim sergilerken; hisseden bireyler empati, samimiyet ve yoğun emoji kullanımı ile duygusal bağ kurmaktadır.

Bu sonuçlar, dijital ayak izlerinin kişilik özelliklerini yansıtmada güvenilir bir veri kaynağı olduğunu göstermekte ve hem görsel hem de dilsel sosyal medya içeriklerinin kişilik çıkarımında etkin bir şekilde kullanılabileceğini or-

taya koymaktadır. Çalışma, MBTI kişilik tiplerinin sosyal medyada nasıl tezahür ettiğini sistematik olarak tanımlamakta ve bireylerin dijital davranışları ile psikolojik özellikleri arasındaki ilişkinin daha derin anlaşılmasına katkıda bulunmaktadır. Böylece, daha etkin tüketici odaklı otonom pazarlama sistemlerinde kullanılmak üzere yapay zeka uygulamalarının eğitilmesi adına da ileriye dönük karkılar sağlayabileceği öngörülmektedir.