

Article

The Effects of Informational vs. Entertaining Instagram Video Content on Higher Education Brand Personality: An Experimental Study

Ceyda Taghanli  and Clemens Koob * 

Department of Healthcare and Nursing, Catholic University of Applied Sciences Munich, Preysingstraße 95, 81667 Munich, Germany

* Correspondence: clemens.koob@ksh-m.de

Abstract

Brand personality is a strategic lever for higher education institutions facing intense competition. Although institutions commonly use social media video content to reach students, evidence on how content design affects brand personality perceptions is scarce. This study examines whether informational and entertaining Instagram videos differentially influence enrolled students' brand personality perceptions and whether attitude toward the post mediates these effects. A between-subjects online experiment was conducted with enrolled students ($N = 184$) in Germany, a mature higher education system. Participants were randomly assigned to view a professionally produced video for a fictitious institution, either informational or entertaining. They then evaluated the post and the institution's brand personality, measured with the University Brand Personality Scale and analyzed as vertical (prestige, sincerity, conscientiousness) and horizontal (appeal, liveliness, cosmopolitanism) facets. Effects were tested using simple mediation analyses. Informational content produced more favorable post attitudes than entertaining content. It had a large positive direct effect on vertical brand personality, complemented by a positive indirect effect via post attitude. For the horizontal facet, only the indirect effect was significant. The study provides the first experimental evidence on content-type effects on higher education brand personality in a mature system, guiding institutions' social media communication.

Keywords: higher education marketing; university brand; brand personality; social media; Instagram; digital content marketing; experimental study; mediation

1. Introduction

In light of intense competition among higher education institutions and modest student enrolment projections for mature higher education systems (Times Higher Education, 2025), systematically building, maintaining, and leveraging strong brands has become pivotal for higher education institutions (Le et al., 2025; S. Liu & Ghasemy, 2025; Xiao et al., 2023). A higher education brand refers to a manifestation of an institution's features that distinguish it from others, reflect its capacity to satisfy students' needs, engender trust, and support enrolment decisions (Bennett & Ali-Choudhury, 2009). Recent reviews have highlighted that higher education brands play an important role in attracting prospective students and influencing enrolled students' satisfaction, identification, and loyalty (Le et al., 2025; S. Liu & Ghasemy, 2025; Xiao et al., 2023). Strong brands further affect post-enrolment behaviors (Balaji et al., 2016; Casidy, 2013), alumni loyalty (Maulana et al., 2024; Stephenson



Received: 26 May 2026

Revised: 28 June 2026

Accepted: 1 July 2026

Published: 3 July 2026

Copyright: © 2026 by the authors.

Licensee MDPI, Basel, Switzerland.

This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license.

& Yerger, 2014), attraction of academic talent (Abell & Becker, 2021; Brosi & Welp, 2015), stakeholder support (García-Rodríguez & Gutiérrez-Taño, 2024), and resource acquisition (Amado Mateus & Juárez Acosta, 2022).

Over the past two decades, brand anthropomorphism, which refers to viewing a brand as a human-like entity and attributing human characteristics to it, has emerged as a prominent theoretical lens in branding research generally (Radler, 2018; Sharma & Rahman, 2022) and in the higher education context specifically (Le et al., 2025; O'Sullivan et al., 2024; Xiao et al., 2023). Within this perspective, brand personality—defined as “the set of human characteristics associated with a brand” (Aaker, 1997, p. 347)—has become a central construct for explaining how stakeholders form perceptions of and develop relationships with brands (Jun & Lee, 2025; Keller, 1993; Sung & Yang, 2008). In the higher education context, Rauschnabel et al. (2016) developed a validated six-dimensional brand personality framework comprising prestige, sincerity, appeal, liveliness, conscientiousness, and cosmopolitanism. A substantial body of work has documented that brand personality affects affective, cognitive, relational, and behavioral outcomes across contexts (Calderón-Fajardo et al., 2023; Eisend & Stokburger-Sauer, 2013; Jun & Lee, 2025; Radler, 2018; Saeed et al., 2022), including students' enrolment intentions (Simiyu et al., 2020), identification (Naheen & Elsharnouby, 2024), attitudes (Sung & Yang, 2008), and loyalty (Kaushal & Ali, 2020) in higher education. How higher education institutions can actively influence brand personality perceptions is thus of strategic importance.

Brand personality research has identified a range of antecedents through which brands can influence personality perceptions, including design elements, brand interactions, and marketing communications (Eisend & Stokburger-Sauer, 2013; Jun & Lee, 2025; Radler, 2018; Saeed et al., 2022; Sharma & Rahman, 2022). In higher education specifically, institutions can develop brand personalities through elements such as logos and architecture (Melewar & Aker, 2005; Watkins & Gonzenbach, 2013), interactions with faculty and staff (Sampaio et al., 2012), and marketing communications via websites (Guimarães & Estima, 2022), prospectuses (Rutter et al., 2017), and social media (Simiyu et al., 2020).

A growing body of empirical work has examined the role of social media in higher education branding (Le et al., 2025; Orgilés-Amorós, 2026; Pawar, 2024, 2025). This research has documented positive relationships between students' exposure to universities' social media content and outcomes such as brand equity, credibility, image, and loyalty (A. A. Ibrahim et al., 2025; Kethüda & Bilgin, 2025; Perera et al., 2023a; Perera et al., 2023b; Ruangkanjanases et al., 2022; Song et al., 2023), with effects depending on post characteristics such as media type, content type, interactivity, and vividness (Kethüda & Bilgin, 2025; Soares et al., 2022; Song et al., 2023). Evidence on the specific link between social media and higher education brand personality, however, remains limited (Pawar, 2024, 2025). Existing studies have examined brand personality as a mediator of social media engagement effects on enrolment intentions (Simiyu et al., 2020) and analyzed alignment between universities' competitive strategies and projected brand personalities (Karadağ et al., 2024), leaving causal effects of content design choices on brand personality perceptions largely unexamined. At the same time, video content has become central to social media communication through platforms like Instagram and TikTok (Bargoni et al., 2024; Urquía, 2024), and higher education institutions now produce videos that particularly fall into two content types: informational videos conveying institution-related information such as degree programs, research, campus facilities, or important dates and deadlines, and entertaining videos such as memes, comedy formats, or student-life vignettes intended primarily to engage and amuse viewers (Eger & Gangur, 2024; Maresova et al., 2020; Peruta & Shields, 2018; Shields & Peruta, 2019; Sörensen et al., 2023a). How these content types affect students' brand personality perceptions of the institution remains, however, an open question.

More specifically, three limitations in the extant literature warrant attention. First, while social media post design has been extensively studied in general marketing contexts (Deng et al., 2021, 2023; Y. Liu et al., 2024), evidence on how content design choices affect brand personality perceptions in higher education is scarce. Although descriptive analyses have documented informational and entertaining content as two important types in university-generated content (Eger & Gangur, 2024; Maresova et al., 2020; Peruta & Shields, 2018; Shields & Peruta, 2019; Sörensen et al., 2023a), whether and how these formats produce different brand personality perceptions has not been systematically examined. Yet, theoretical and empirical grounds suggest that different content types may activate different facets of brand personality perceptions through distinct psychological routes (Eisend & Stokburger-Sauer, 2013; Radler, 2018; Sharma & Rahman, 2022). Second, existing studies on the role of social media in higher education branding have particularly been conducted in emerging higher education systems (A. A. Ibrahim et al., 2025; Kethüda & Bilgin, 2025; Perera et al., 2023a, 2023b; Ruangkanjanases et al., 2022; Soares et al., 2022; Song et al., 2023), leaving open whether findings generalize to mature systems. Third, research in this area has relied predominantly on cross-sectional surveys (A. A. Ibrahim et al., 2025; Kethüda & Bilgin, 2025; Perera et al., 2023a, 2023b; Ruangkanjanases et al., 2022; Song et al., 2023) or behavioral social media metrics (Soares et al., 2022; Sörensen et al., 2023b), neither of which supports causal inference about content design effects on brand personality perceptions.

Therefore, the present study examines how informational vs. entertaining Instagram video content affects enrolled students' brand personality perceptions of higher education institutions. The study focuses on enrolled students as a primary target group for higher education institutions' social media communications (Constantinides & Zinck Stagno, 2011; Shields & Peruta, 2019). Addressing the content, context, and methodological gaps identified above, it employs an experimental design in which participants are exposed to an Instagram video post from a fictitious higher education institution, with content type (informational vs. entertaining) manipulated between subjects. The study is situated in Germany, a mature higher education system in which Instagram is the most widely used social media platform both overall and among student age groups (ARD/ZDF-Forschungskommission, 2025; Tippelt, 2025). Drawing on a network perspective of brand personality (Keating, 2024), Uses and Gratifications Theory (Haridakis & Humphries, 2019; Katz et al., 1973; Pelletier et al., 2020), and feelings-as-information theory (Schwarz, 2012), the study examines both direct effects of content type on brand personality perceptions and indirect effects mediated by attitude toward the post. Findings indicate that content type significantly affects students' brand personality perceptions, with attitude toward the post playing a mediating role.

The study makes three contributions to the literature. Theoretically, it advances the understanding of how different types of higher education institutions' social media content influence perceptions of brand personality, combining the aforementioned theoretical perspectives to identify a direct mechanism of content congruence and an indirect mechanism via attitude toward the post. Empirically, it provides experimental evidence on the causal effects of informational vs. entertaining video content on brand personality perceptions in a mature higher education system. Practically, it offers higher education communicators guidance on the brand-personality implications of informational and entertaining video content.

2. Theoretical Framework

2.1. Higher Education Brand Personality

This study focuses on *perceived* brand personality, i.e., the personality students attribute to a higher education institution, rather than on the institution's intended or projected personality or the personality communicated back by target audiences (Jun & Lee, 2025). To conceptualize perceived brand personality, the study draws on the higher education-specific framework developed by Rauschnabel et al. (2016). While rooted in Aaker's (1997) seminal definition of brand personality as the set of human characteristics associated with a brand, the framework avoids transferring Aaker's dimensions (sincerity, excitement, competence, sophistication, ruggedness) to the higher education context—a practice adopted in prior work (Guimarães & Estima, 2022; Opoku et al., 2008; Rutter et al., 2017; Watkins & Gonzenbach, 2013) but criticized for limited cross-context validity (Geuens et al., 2009; Rauschnabel et al., 2016). Instead, Rauschnabel et al. (2016) propose a framework tailored to higher education, comprising six dimensions: prestige, sincerity, appeal, liveliness, conscientiousness, and cosmopolitanism (for consistency, we use the noun forms “liveliness” and “cosmopolitanism” throughout, in place of the original labels “lively” and “cosmopolitan”). *Prestige* reflects perceptions of an institution as successful, leading, and reputable, and *sincerity* as humane, helpful, trustworthy, and fair. *Appeal* reflects perceptions as attractive, productive, and special, and *liveliness* as dynamic, creative, and energetic. *Conscientiousness* reflects perceptions as competent, organized, structured, and effective, and *cosmopolitanism* as international, networked, and cosmopolitan (Rauschnabel et al., 2016).

Although brand personality is well-established, its dimensional structure remains debated (Davies et al., 2018; Jun & Lee, 2025). A recurring theme is that brand personality dimensions can be organized according to their underlying social-evaluative character (Davies et al., 2018; Kervyn et al., 2022). This perspective builds on a long-standing tradition in social evaluation research, exemplified by the Stereotype Content Model (Cuddy et al., 2008; Fiske et al., 2002), in which individuals evaluate social targets along two focal dimensions (Abele et al., 2021). Recent integrative work conceptualizes these as *vertical evaluation*, integrating competence and agency, and *horizontal evaluation*, integrating warmth and sociability (Abele et al., 2021). Vertical evaluation relates to judgments of status, prestige, esteem, and skill, and indicates a target's hierarchical position. Horizontal evaluation captures judgements of relational orientation, social attractiveness, and openness, reflecting the extent to which a target is perceived as approachable and aligned with others. Although originally developed in person perception, this dual-structure logic has been extended to brand perception (Kervyn et al., 2012, 2022; Luna Cortes, 2024).

Accordingly, we conceptualize higher education institutions as situated within a hierarchical and relational evaluative space and organize Rauschnabel et al.'s (2016) six brand personality dimensions into two broader facets reflecting vertical and horizontal evaluation. The *vertical facet* comprises prestige, conscientiousness, and sincerity. These dimensions refer to evaluative judgments about an institution's standing, organizational functioning, and conduct. Prestige reflects institutional leadership and status, conscientiousness reflects perceived reliability and effectiveness, and sincerity reflects evaluations of institutional fairness, trustworthiness, and supportiveness. While sincerity is often associated with affective warmth and thus with horizontal evaluation (Davies et al., 2018), its meaning in the higher education context warrants a different interpretation. As operationalized by Rauschnabel et al. (2016), sincerity comprises attributes such as trustworthy, fair, and helpful, which reflect institutional integrity and responsible conduct rather than interpersonal affection. In this sense, sincerity contributes to evaluations of an institution's credibility and legitimacy and thus aligns more closely with vertical evaluation as a judgment of standing within a hierarchical system. The *horizontal facet* comprises appeal, liveliness, and cosmopolitanism.

These dimensions capture impressions related to an institution's relational and experiential qualities. Appeal reflects general emotional and aesthetic attractiveness, liveliness reflects perceived energy and vibrancy, and cosmopolitanism reflects openness and worldliness. Together, these dimensions indicate the extent to which an institution is perceived as experientially appealing, socially engaging, and culturally open. This two-facet organization aligns with the dual-structure tradition in social and brand perception research (Abele et al., 2021; Cuddy et al., 2008; Fiske et al., 2002; Kervyn et al., 2012, 2022; Luna Cortes, 2024) while preserving the full dimensional content of Rauschnabel et al.'s (2016) higher education-specific brand personality framework.

2.2. Informational vs. Entertaining Higher Education Social Media Video Content

Higher education institutions routinely use video content on social media to communicate with students (Eger & Gangur, 2024; A. M. Fritz & Smith, 2024; Maresova et al., 2020; Peruta & Shields, 2017; Sörensen et al., 2023a; Urquía, 2024). Research on universities' social media communication has identified informational and entertaining content as two important content types (Eger & Gangur, 2024; Kethüda & Bilgin, 2025; Peruta & Shields, 2017, 2018). Informational content conveys factual, practical, or institutional information such as study tips, program details, or campus facilities, while entertaining content uses humor, narrative, or affective appeal to engage viewers around student-life themes. This distinction parallels broader typologies in the social media literature (Buzeta et al., 2020, 2024; Deng et al., 2023; Koob, 2026).

Uses and Gratifications Theory (UGT) provides a theoretical basis for why this distinction is substantive. UGT posits that media users actively select content to obtain specific gratifications, with content types meaningful insofar as they target distinct gratifications (Haridakis & Humphries, 2019; Katz et al., 1973; Rubin, 2009). Information and entertainment have consistently emerged as two of the most prominent gratifications consumers seek from media content (Buzeta et al., 2020, 2024; Muntinga et al., 2011). Informational higher education video content primarily targets information gratification, addressing students' desire to acquire knowledge, advice, and orientation relevant to their academic context. Entertaining higher education video content primarily targets the entertainment gratification, addressing students' desire for amusement, emotional relief, and engaging diversion.

Beyond what they offer the student, however, the two content types may also differ in what they signal about the institution itself, projecting different aspects of brand personality (Jun & Lee, 2025) and addressing students through different mechanisms. The following sections develop the theoretical case for these effects.

2.3. Direct Effects of Content Type on Brand Personality Perceptions

How informational vs. entertaining Instagram video content affects students' brand personality perceptions of a higher education institution can be understood through a network perspective of brand personality (Keating, 2024). This perspective conceptualizes brand personality as a cognitive network of interconnected belief nodes activated through brand-related stimuli, with activation spreading to semantically related nodes through associative links. Exposure to brand communication thus selectively activates those facets of brand personality whose attribute nodes are congruent with the content-level cues conveyed by the stimulus. Informational and entertaining videos should accordingly activate the vertical and horizontal facets of brand personality differentially, because the two content types foreground systematically different cues about the institution.

Informational higher education video content conveys factual, institution-related material such as degree program features, research achievements, organizational procedures, or campus infrastructure. Such content carries cues that are semantically congruent with

the attribute nodes underlying the vertical facet of brand personality. Cues signaling institutional capability and standing should activate nodes associated with prestige; cues signaling reliable, transparent, and well-organized institutional processes should activate nodes associated with conscientiousness; and cues presenting the institution as a credible, fair, and supportive source of information should activate nodes associated with sincerity (understood here, in line with Section 2.1, as institutional integrity). Entertaining content, by contrast, foregrounds humor, narrative, aesthetic appeal, and student-life themes, offering fewer cues that map onto judgments of institutional standing, organizational functioning, or integrity. Although it may activate other parts of the brand personality network, its cues are less congruent with the attribute nodes constituting the vertical facet. Informational content should therefore produce stronger activation of vertical brand personality perceptions than entertaining content.

H1. *Exposure to informational (vs. entertaining) higher education Instagram video content has a positive direct effect on the vertical facet of brand personality.*

A complementary logic (Keating, 2024) applies to the horizontal facet, which captures relational and experiential qualities of the institution. Entertaining content foregrounds cues that are semantically congruent with the attribute nodes underlying this facet: cues built around humor, creative storytelling, and emotionally engaging student-life themes should activate nodes associated with liveliness; aesthetically appealing presentation and affectively engaging visual production should activate nodes associated with appeal; and depictions of diverse student experiences, social interaction, and broader cultural themes should activate nodes associated with cosmopolitanism. Informational content, while sharing the same medium, foregrounds propositional, institution-focused material whose cues are less congruent with these attribute nodes, and entertaining content should therefore result in stronger activation of horizontal brand personality perceptions.

H2. *Exposure to informational (vs. entertaining) higher education Instagram video content has a negative direct effect on the horizontal facet of brand personality.*

Both effects are theorized as direct effects, arising from semantic congruence between content-level cues and attribute nodes within the brand personality network, independently of any evaluative response students may form toward the post itself. The role of such evaluative responses, and the indirect pathway through which they may affect brand personality perceptions, is developed in the next subsection.

2.4. The Mediating Role of Attitude Toward the Post

Beyond the direct content-congruence pathway, informational and entertaining videos may also influence brand personality perceptions indirectly, through students' evaluative response to the post itself.

As outlined in Section 2.2, UGT conceptualizes media users as active agents who select and evaluate content based on the gratifications it provides, with information and entertainment among the most prominent gratifications sought from social media content (Buzeta et al., 2020, 2024; Haridakis & Humphries, 2019; Muntinga et al., 2011; Pelletier et al., 2020). Which of these is more salient depends on the audience and the communicative context. For enrolled students engaging with their institution's social media accounts, informational gratifications are likely particularly salient. Enrolled students are embedded in an ongoing institutional relationship that generates continuous informational needs, from course registration and deadlines to academic opportunities, career services, and campus events. Empirical evidence corroborates this, indicating that their engagement with

institutional social media is driven particularly by the desire to stay informed (Howard et al., 2018). Although entertaining content may offer gratifications such as amusement and emotional diversion, these are arguably less central to a relationship in which students engage with the institution primarily as a provider of education rather than entertainment. Informational content should therefore exhibit higher gratification congruence for this audience and produce more favorable evaluations of the post—i.e., higher perceived post interestingness and appeal.

H3. *Exposure to informational (vs. entertaining) higher education Instagram video content has a positive effect on attitude toward the post.*

How attitude toward the post in turn influences brand personality perceptions can be understood through feelings-as-information theory (Schwarz, 2012). This theory holds that individuals attend to their feelings as informational input when forming evaluative judgments (Greifeneder et al., 2011). The extent to which feelings inform a given judgment depends on their perceived representativeness, i.e., the degree to which they are experienced as originating from the target object and reflecting its central characteristics (Greifeneder et al., 2011). In the present context, a favorable attitude toward the post—finding the institution’s Instagram content interesting and appealing—constitutes a positive evaluative experience that is temporally and thematically linked to the institution. Because the post is itself institutional communication, the feelings it evokes are likely experienced as representative of the institution. When students subsequently evaluate the institution’s brand personality, this experience should serve as informational input, with more favorable attitudes toward the post translating into more favorable brand personality perceptions across both facets—i.e., judgments of prestige, sincerity, and conscientiousness as well as judgments of appeal, liveliness, and cosmopolitanism.

H4. *Attitude toward the post has a positive effect on both the vertical and the horizontal facet of brand personality.*

Taken together, these arguments imply that the effect of content type on brand personality perceptions is carried by two parallel pathways: a direct content-congruence pathway (H1, H2) and an indirect pathway via attitude toward the post (H3, H4). How these combine is expected to differ across the two facets.

For the vertical facet, the direct content-congruence pathway and the indirect attitude-based pathway are both expected to favor informational over entertaining content. Informational content directly activates attribute nodes underlying prestige, conscientiousness, and sincerity (H1) and, by virtue of its higher gratification congruence for enrolled students, also produces more favorable attitudes toward the post (H3) that in turn inform vertical brand personality perceptions (H4). Direct and indirect effects are therefore expected to be of the same sign and to reinforce each other, corresponding to a complementary mediation pattern (Zhao et al., 2010).

H5. *Attitude toward the post complementarily mediates the effect of informational (vs. entertaining) higher education Instagram video content on the vertical facet of brand personality.*

For the horizontal facet, the two pathways are expected to operate in opposite directions. The direct content-congruence pathway works against informational content, as its cues are less semantically congruent with the attribute nodes underlying appeal, liveliness, and cosmopolitanism than the cues of entertaining content (H2). The indirect attitude-based pathway, by contrast, works in favor of informational content, as informational content

elicits more favorable attitudes toward the post (H3) that in turn inform horizontal brand personality perceptions (H4). Direct and indirect effects are therefore expected to be of opposite signs, corresponding to a competitive mediation pattern (Zhao et al., 2010).

H6. *Attitude toward the post competitively mediates the effect of informational (vs. entertaining) higher education Instagram video content on the horizontal facet of brand personality.*

Taken together, the model developed across H1-H6 integrates three theoretical perspectives in distinct and complementary roles. The network perspective of brand personality (Keating, 2024) accounts for the direct content-congruence pathway, Uses and Gratifications Theory (Haridakis & Humphries, 2019; Katz et al., 1973; Rubin, 2009) for the content-to-attitude stage of the indirect pathway, and feelings-as-information theory (Schwarz, 2012) for the attitude-to-brand-personality stage. The vertical-horizontal distinction (Abele et al., 2021), by contrast, provides the organizing structure of the outcome, specifying the two evaluative dimensions along which brand personality is perceived. Figure 1 summarizes the model.

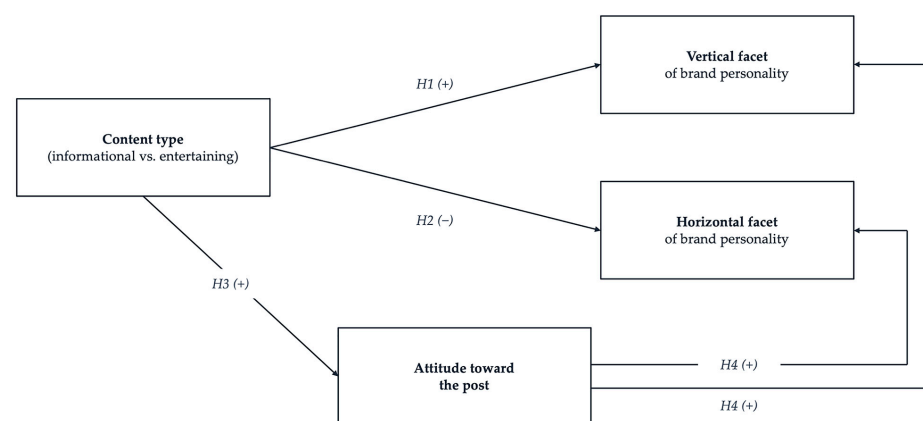


Figure 1. Conceptual model. H5 and H6 are not depicted as separate paths; they predict the mediation patterns arising from the combination of direct (H1, H2) and indirect ($H3 \times H4$) effects (complementary for the vertical facet and competitive for the horizontal facet).

3. Materials and Methods

3.1. Study Design

The study was designed following established guidance for experimental research in marketing (Viglia et al., 2021) and employed a between-subjects experimental design to examine the effects of informational vs. entertaining Instagram video content on students' brand personality perceptions of a higher education institution. The independent variable was content type, manipulated at two levels (informational vs. entertaining) by exposing participants to one of two professionally produced Instagram-style videos featuring the same fictitious higher education institution. A fictitious institution was used to avoid potential confounding influences of variables such as participants' prior knowledge, associations, and attitudes toward a specific real institution. The mediator was attitude toward the post, and the two outcomes were the vertical and horizontal facets of brand personality, conceptualized as in Section 2.1. The study was conducted online as a survey experiment administered in German, situated in Germany as a mature higher education system in which Instagram is the most widely used social media platform both overall and among student age groups (ARD/ZDF-Forschungskommission, 2025; Tippelt, 2025). Data were collected in Summer 2025.

Participants were randomly assigned to one of the two content conditions at the individual level via computerized random assignment implemented through the online survey platform SoSci Survey (Leiner, 2025). Randomization was concealed from participants, who remained unaware of the existence of the alternative condition throughout the study. Because the experiment was administered in an automated online environment, no masking of administrators or outcome assessors was required.

In accordance with the statutes and committee statement of the ethics committee of the host institution, no ethics review was required for studies of this design, as the study was voluntary, anonymous, captured no identifying data, involved minimal foreseeable risk, and offered no participation incentives. Informed consent was obtained from all participants. Data collection complied with the EU General Data Protection Regulation (GDPR). Reporting follows the APA Journal Article Reporting Standards for studies with an experimental manipulation (Appelbaum et al., 2018).

3.2. Procedure

Participants accessed the study via an online survey link. They were first presented with information about the study's purpose, voluntariness of participation, anonymity, and data handling, and were required to provide active informed consent before proceeding. Participants who consented completed an eligibility screener; non eligible individuals were guided out of the survey. Eligible participants then answered questions on sociodemographic and study-related characteristics. Participants were subsequently randomly assigned to either the informational or the entertaining condition and received a brief instruction to view the upcoming video carefully and to ensure their device's audio was activated. They then viewed the assigned video and completed measures of brand personality and attitude toward the post. Items measuring Instagram usage followed. The survey concluded with a brief acknowledgment.

3.3. Stimuli Development and Manipulation Check

The two video stimuli were specifically developed for the present study by the research team to enable a targeted manipulation (Koch et al., 2019). Development followed a structured procedure. To ensure realism, Instagram accounts of German universities of various sizes, types, and ownership structures were analyzed to identify typical content themes and design conventions. Both videos were produced in standard Instagram vertical format, depicted the same fictitious higher education institution under the same account handle, and featured the same on-screen speaker accompanied by voiceover and text overlays. The two videos differed in content type to implement the experimental manipulation. The informational video provided practical tips for starting university, while the entertaining video humorously depicted family expectations toward students. Production details such as pacing and framing varied between the two videos in line with the conventions of each content type. The stimuli were subsequently reviewed in consultation with university communication professionals. The videos are available from the corresponding author upon reasonable request.

A manipulation check was conducted prior to the main study to verify that the stimuli were perceived as intended and to allow for revision if necessary. The manipulation check was administered online to ten participants familiar with university communications (seven students and three university staff members), who viewed both videos sequentially and completed the manipulation check items after each video.

Perceptions of informativeness and entertainment were measured following the procedure from Ducoffe (1995), using two 11-point semantic differential scales: not informative at all—very informative, and not entertaining at all—very entertaining. The criterion for a

successful manipulation was set a priori at $M \geq 9.0$ on the semantic differential scale for the intended dimension. Both videos exceeded this criterion: the informational video was rated higher on informativeness ($M = 10.00$, $SD = 0.94$) than on entertainment ($M = 6.00$, $SD = 2.11$), and the entertaining video was rated higher on entertainment ($M = 10.40$, $SD = 1.07$) than on informativeness ($M = 1.50$, $SD = 0.71$). The stimuli were retained for the main study without modification.

3.4. Participants

Individuals who were enrolled at a state-recognized German higher education institution and aged 18 or above at the time of data collection were eligible to participate. Students of all institution types (universities, universities of applied sciences, art colleges, and other equivalent institutions such as colleges of education, theology, and public administration), all sponsorship types (public, private, and church-affiliated), and all degree programs at the Bachelor's, Master's, State Examination, and equivalent levels were included, to reflect the heterogeneity of the German student population (Statistisches Bundesamt, 2026). Doctoral students were excluded, as were individuals not currently enrolled at a higher education institution (e.g., prospective students, alumni). No further restrictions were applied. Eligibility was verified at the start of the survey through screener questions on enrollment status and age; non-eligible respondents were directed out of the survey.

Probability sampling was not feasible under the given structural and legal constraints. Germany has no national student registry or comparable centralized data source. Moreover, data protection legislation, particularly the purpose limitation principle under the GDPR, limits universities' use of student contact data to their statutory functions, leaving very limited scope to distribute externally initiated research that is not related to those tasks. Recruitment therefore followed a three-channel approach. Within the scope of applicable data protection requirements, (a) student associations at German universities with publicly accessible contact information were invited by email to share the survey link, (b) instructors at higher education institutions were contacted through professional networks and invited to forward the link to their students, and (c) the survey link was disseminated via higher education-related social media platforms. No personal contact data of students were transferred to the researchers.

3.5. Measures

Brand personality, attitude toward the post, and sociodemographic and study-related characteristics were measured using established scales, translated into German following standard translation guidelines (see translation procedure below) where required.

3.5.1. Brand Personality

The dependent variable was operationalized using the University Brand Personality Scale (UBPS) developed and validated by Rauschnabel et al. (2016). The scale comprises 24 items measuring six dimensions of higher education brand personality: prestige (5 items, e.g., "leading"), sincerity (5 items, e.g., "trustworthy"), conscientiousness (4 items, e.g., "organized"), appeal (3 items, e.g., "attractive"), liveliness (4 items, e.g., "dynamic"), and cosmopolitanism (3 items, e.g., "networked"). Items were rated on a seven-point Likert scale ranging from "does not apply at all" (1) to "totally applies" (7). Scores for the six dimensions were computed as the mean of their constituent items. Consistent with the dual-facet conceptualization (Section 2.1), the vertical brand personality facet score was then computed as the mean of the prestige, sincerity, and conscientiousness dimension scores, and the horizontal brand personality facet score was computed as the mean of the appeal, liveliness, and cosmopolitanism dimension scores, weighing each dimension equally within its facet.

3.5.2. Attitude Toward the Post

The mediator was measured using a two-item semantic differential scale developed by [Maring and Gmür \(2024\)](#) following [MacKenzie et al. \(1986\)](#). Participants rated the videos on two seven-point bipolar scales with the anchors “boring—interesting” and “unappealing—appealing”.

3.5.3. Other Measures

Sociodemographic and study-related characteristics, together with Instagram usage, were captured to verify eligibility, describe the sample, and serve as covariates in robustness analyses. Items captured enrollment status, demographic characteristics (age, gender), study-related characteristics (intended study degree, field of study, current semester, institution type, sponsorship type), and Instagram usage frequency. Data were collected following German recommendations for collecting demographic data ([Hoffmeyer-Zlotnik et al., 2024](#)) and standard study statistics classifications ([Statistisches Bundesamt, 2026](#)). Instagram usage frequency was measured with a single item aligned with established German media usage research ([ARD/ZDF-Forschungskommission, 2025](#); [Tippelt, 2025](#)).

3.5.4. Translation Procedure

The UBPS and the attitude toward the post measures were originally published in English and required translation into German. Translation followed established guidelines ([Beaton et al., 2000](#); [Kunst & Bierwiazzonek, 2023](#); [Manuel et al., 2025](#)), comprised forward translation, synthesis, back translation, and expert review, and utilized AI support in accordance with related recommendations ([Kunst & Bierwiazzonek, 2023](#)). Two independent forward translations of the original items were first conducted using distinct large language models accessed through their respective applications: GPT-4.0 via ChatGPT (T1) and Claude 3 Opus via Claude (T2) ([Kunst & Bierwiazzonek, 2023](#)). The translation prompt was engineered in line with established criteria for high-quality translation ([Manuel et al., 2025](#)). The two forward translations were harmonized to develop a single version (T12) by the first author (a native German speaker with academic English proficiency) and a bilingual expert qualified in English studies. The harmonized German version was then back-translated into English by the same two models using an analogous prompt. All translated versions were reviewed considering semantic, idiomatic, experiential, and conceptual equivalence by the first author and the same expert, and remaining discrepancies were resolved iteratively.

3.6. Sample Size

To determine the required sample size, separate a priori power analyses were conducted for the indirect and direct effects in each of the two planned simple mediation models for the vertical and horizontal facets of brand personality.

For the indirect effects ($a \times b$), the required sample sizes were calculated using [Schoemann et al.’s \(2017\)](#) Monte Carlo power analysis approach and application. Following the parameter values used by [Schoemann et al. \(2017\)](#), 5000 power analysis replications and 20,000 coefficient draws per replication were specified. The confidence interval (CI) level was set to 95% ($\alpha = 0.05$) for all indirect effects calculated within each replication. Simulations employed the application’s default random number generator seed of 1234. Considering effect size magnitudes typically reported in social media marketing ([B. Ibrahim, 2022](#)) and brand personality research ([Eisend & Stokburger-Sauer, 2013](#); [Rauschnabel et al., 2016](#)), half-medium effect sizes (standardized coefficients of 0.26, corresponding to halfway between [Cohen’s \(1988\)](#) small and medium R^2 benchmarks; [M. S. Fritz and MacKinnon \(2007\)](#)) were specified for the a-path (H3) and b-path (H4) in both models, with c' set to 0.26 in the vertical model (H1) and to -0.26 in the horizontal model (H2). The analyses returned

minimum required sample sizes of 150 and 152 for the vertical and horizontal models, respectively, to ensure a target power of at least 0.80 for detecting the hypothesized indirect effects. As the Monte Carlo CI method used by the application performs comparably to bootstrap CI methods for power estimation in mediation designs (Schoemann et al., 2017), these sample size requirements apply to the percentile-bootstrap inference used in the main analyses.

For the direct effects c' , the required sample size was calculated using G*Power 3.1 (Faul et al., 2009), specifying multiple linear regression with two predictors, $\alpha = 0.05$, and a target power of 0.80. Under an effect size corresponding to the 0.26 standardized coefficient specified above ($f^2 = 0.07$; Cohen (1988)), the required sample size is $N = 115$ for both models.

Taken together, the minimum required sample size for this study was 152, corresponding to the maximum across the analyses.

3.7. Statistical Analyses

3.7.1. Data Preparation

The data preparation procedure addressed missing values prior to the main analyses. Little's missing completely at random (MCAR) test, $\chi^2(1297) = 1267.72$, $p = 0.71$, did not reject MCAR, indicating that listwise deletion would produce unbiased estimates (Van Ginkel et al., 2020). Hence, listwise deletion was applied.

3.7.2. Sample Description and Balance Check

Sample structure was described at the overall level and separately for the two experimental conditions. As an external validity assessment, sample-level distributions of sociodemographic and study-related characteristics were compared with population distributions for German higher education students (Statistisches Bundesamt, 2026). To assess whether random assignment produced equivalent conditions, a balance check was conducted by descriptively comparing the two conditions on background characteristics.

3.7.3. Reliability and Descriptive Statistics

Internal consistency of the UBPS dimensions was assessed using Cronbach's α and McDonald's ω , computed on the items measuring each of the six brand personality dimensions. Internal consistency of the two brand personality facet composites was assessed using α and ω computed on the three dimension scores composing each facet. Reliability of the two-item attitude toward the post scale was assessed using the Spearman–Brown coefficient (Eisinga et al., 2013). For all reliability statistics, values ≥ 0.70 were considered acceptable (Hair et al., 2019). Descriptive statistics (M , SD) for the primary variables were computed separately for the two experimental conditions.

3.7.4. Primary Analyses

Subsequently, the hypothesized effects were tested using simple mediation models estimated with the PROCESS macro 5.0 (Model 4; Hayes & Little, 2022; Hayes, 2026) for SPSS Statistics 29. Content type was entered as a dummy-coded predictor (informational = 1, entertaining = 0), attitude toward the post as the mediator, and the brand personality facet as the outcome. The two facets were analyzed in separate models: one for the vertical brand personality facet, one for the horizontal brand personality facet. Indirect effects ($a \times b$) were tested using percentile bootstrap 95% CIs with 5000 resamples; an indirect effect was considered significant when its 95% CI did not include zero. The a -, b -, c' -, and total effects were evaluated using conventional standard errors with $\alpha = 0.05$. We report unstandardized coefficients with 95% CIs throughout. Partially standardized effects are not reported, as established interpretive benchmarks for such effects in mediation models are

lacking (Ledermann et al., 2025). Cohen's f^2 is reported for the a-, b-, and c'-paths (Ledermann et al., 2025) to support effect-size interpretation against conventional benchmarks of 0.02, 0.15, and 0.35 for small, medium, and large effects (Cohen, 1988). The pattern of direct and indirect effects is classified following the mediation typology of Zhao et al. (2010).

3.7.5. Robustness Analyses

In case the balance check revealed imbalances across multiple students' background characteristics between the two experimental conditions, robustness analyses were planned to assess the sensitivity of the primary results to potential confounding from these characteristics. Specifically, the two simple mediation models would be re-estimated with all measured background variables (see Section 3.5.3) as covariates, avoiding post hoc decisions about covariate inclusion. All other model specifications would match the primary analyses. Convergence of the adjusted analyses with the primary unadjusted results would be evaluated based on the pattern of significance and direction of all hypothesized effects.

4. Results

4.1. Participant Data and Group Balance

A total of 213 eligible individuals participated in the online experiment (109 informational condition, 104 entertaining condition). After listwise deletion of cases with missing data ($n = 29$; MCAR not rejected, see Section 3.7.1), the analytical sample comprised $N = 184$ students (94 informational condition, 90 entertaining condition). Exclusion rates were comparable across conditions (13.8% and 13.5%, respectively).

The analytical sample (Table 1) covered a broad range of student backgrounds, with participants of varied ages, intended degrees, academic fields, study progression, institution types, and sponsorship types. The sample was characterized by a majority of female students, and most participants reported using Instagram daily.

Sample-level distributions of age and current semester broadly corresponded to those of the German higher education student population (Statistisches Bundesamt, 2026). However, the sample was considerably overrepresented in female students (80.4% vs. 51.2% in the population), Master students (51.6% vs. 24.4%), students in the social sciences (66.8% vs. 39.1%), students at universities of applied sciences (65.2% vs. 38.3%), and students at church-affiliated institutions (20.1% vs. 1.1%). These deviations are likely related to the non-probability sampling approach used for recruitment (Section 3.4) and limit the generalizability of the findings to the overall German student population.

Random assignment produced approximately balanced distributions across the two conditions, although some imbalances emerged on individual characteristics (e.g., gender, sponsorship type, Instagram usage frequency; Table 1). These imbalances motivated covariate-adjusted analyses as a robustness check (see Section 3.7.5); results are reported in Table A1 in Appendix A.

Table 1. Sample structure and group balance.

Characteristic	Overall (N = 184)		Informational Condition (n = 94)		Entertaining Condition (n = 90)		Population
	%	n	%	n	%	n	%
Age							
≤24	48.4	89	50.0	47	46.7	42	52.7
25–29	37.5	69	36.2	34	38.9	35	28.2
30+	14.1	26	13.8	13	14.4	13	19.0

Table 1. Cont.

Characteristic	Overall (N = 184)		Informational Condition (n = 94)		Entertaining Condition (n = 90)		Population
	%	n	%	n	%	n	%
Gender							
Male	17.9	33	14.9	14	21.1	19	48.8
Female	80.4	148	81.9	77	78.9	71	51.2
Non-binary	0.5	1	1.1	1	0.0	0	—
Prefer not to answer	1.1	2	2.1	2	0.0	0	—
Intended degree							
Bachelor	45.7	84	45.7	43	45.6	41	61.5
Master	51.6	95	53.2	50	50.0	45	24.4
State Examination and other	2.7	5	1.1	1	4.4	4	14.1
Field of study							
Humanities	20.7	38	21.3	20	20.0	18	10.1
Law, Economics, Social Sciences	66.8	123	63.8	60	70.0	63	39.1
STEM and other	12.5	23	14.9	14	10.0	9	50.8
Current semester							
1–5	57.6	106	58.5	55	56.7	51	56.7
6+	42.4	78	41.5	39	43.3	39	43.3
Institution type							
University of applied sciences	65.2	120	69.1	65	61.1	55	38.3
University	32.6	60	29.8	28	35.6	32	57.5
Other	2.2	4	1.1	1	3.3	3	4.3
Sponsorship type							
Public	54.3	100	53.2	50	55.6	50	85.3
Private	25.6	47	21.2	20	30.0	27	13.7
Church-affiliated	20.1	37	25.5	24	14.4	13	1.1
Instagram usage frequency							
Daily	69.0	127	73.4	69	64.4	58	56.0
Weekly	19.0	35	16.0	15	22.2	20	20.0
Less often	12.0	22	10.6	10	13.3	12	24.0

Note. STEM = Science, Technology, Engineering, and Mathematics. Percentages may not sum to 100 due to rounding. Population data on sociodemographic and study-related characteristics from [Statistisches Bundesamt \(2026\)](#). Population data on Instagram usage frequency from [ARD/ZDF-Forschungskommission \(2025\)](#), referring to German residents aged 20–29 as a proxy because no current publicly available data exist for the German student population specifically. “—” indicates that the corresponding category is not reported in the population reference source.

4.2. Internal Consistency and Descriptive Statistics

Table 2 presents the internal consistency estimates of the UBPS dimensions, and Table 3 presents the descriptive statistics for the primary variables across the two experimental conditions together with their internal consistency estimates.

Table 2. Internal consistency of UBPS dimensions.

Dimension	Cronbach's α	McDonald's ω
Prestige	0.95	0.96
Sincerity	0.93	0.95
Conscientiousness	0.93	0.94
Appeal	0.84	0.85
Liveliness	0.88	0.91
Cosmopolitanism	0.86	0.90

Note. N = 184.

Table 3. Descriptive statistics and internal consistency of primary variables.

Variable	Informational Condition (n = 94)		Entertaining Condition (n = 90)		α	ω
	M	SD	M	SD		
Vertical brand personality	5.23	0.88	3.96	1.18	0.90	0.90
Horizontal brand personality	4.58	0.85	4.11	1.27	0.81	0.81
Attitude toward the post	5.15	1.34	4.55	1.72	0.88 ^a	

Note. Means and standard deviations are reported separately for the two experimental conditions; internal consistency estimates are based on the overall analytical sample (N = 184). α = Cronbach's alpha; ω = McDonald's omega. ^a Spearman–Brown coefficient for the two-item scale.

All reliability statistics exceeded the 0.70 threshold (Hair et al., 2019). Cronbach's α and McDonald's ω ranged from 0.84 to 0.95 and from 0.85 to 0.96, respectively, across the six UBPS dimensions (Table 2), and equaled 0.81 (horizontal facet) and 0.90 (vertical facet) for the two brand personality facet composites (Table 3). The Spearman–Brown coefficient for attitude toward the post was 0.88 (Table 3).

Per-condition descriptive statistics (Table 3) indicated higher mean values in the informational condition than in the entertaining condition for the vertical brand personality facet, the horizontal brand personality facet, and attitude toward the post.

4.3. Hypothesis Testing

Table 4 presents the results of the two simple mediation models testing the hypothesized effects of content type on the vertical and horizontal brand personality facets, with attitude toward the post as the mediator. Because the predictor and mediator were identical across models, the a-path is identical in both and is reported once below.

Table 4. Mediation models predicting vertical and horizontal brand personality.

Effect	Vertical Brand Personality						Horizontal Brand Personality					
	b	SE	t	p	95% CI	f ²	b	SE	t	p	95% CI	f ²
a (X → M) ^a	0.60	0.23	2.66	0.008	[0.16, 1.05]	0.04	0.60	0.23	2.66	0.008	[0.16, 1.05]	0.04
b (M → Y)	0.44	0.04	11.69	<0.001	[0.37, 0.52]	0.76	0.42	0.04	10.10	<0.001	[0.34, 0.50]	0.56
c' (direct)	1.00	0.12	8.46	<0.001	[0.77, 1.23]	0.40	0.21	0.13	1.65	0.101	[−0.04, 0.47]	0.015
c (total)	1.27	0.15	8.28	<0.001	[0.97, 1.57]	—	0.47	0.16	2.95	0.004	[0.15, 0.78]	—
a × b (indirect) ^b	0.27	0.10	—	—	[0.07, 0.47]	—	0.25	0.10	—	—	[0.07, 0.45]	—
<i>Model fit</i>												
M-equation ^a	R ² = 0.038, F(1, 182) = 7.10, p = 0.008						R ² = 0.038, F(1, 182) = 7.10, p = 0.008					
Y-equation	R ² = 0.586, F(2, 181) = 128.08, p < 0.001						R ² = 0.390, F(2, 181) = 57.74, p < 0.001					

Note. N = 184. X = content type (informational = 1, entertaining = 0); M = attitude toward the post; Y = brand personality facet. b = unstandardized regression coefficient. df for path-level t-tests: 182 for the a- and c-paths (single-predictor regressions); 181 for the b- and c'-paths (two-predictor regression). ^a M-model is identical across both Y-models (same X → M relationship); ^b Bootstrap SE and percentile bootstrap 95% CI for the indirect effect based on 5000 resamples; significance of the indirect effect is inferred from the bootstrap CI not including zero. Convergence with covariate-adjusted analyses is documented in Appendix A, Table A1; the pattern of significance and direction of all hypothesized effects was preserved.

Effect of content type on attitude toward the post. Content type significantly predicted attitude toward the post (a = 0.60, 95% CI [0.16, 1.05], p = 0.008; f² = 0.04, small). Participants exposed to informational content reported more favorable attitudes toward the post than those exposed to entertaining content, supporting H3. The a-path model accounted for 3.8% of the variance in attitude (R² = 0.038, p = 0.008).

Vertical brand personality. Content type and attitude toward the post jointly accounted for 58.6% of the variance in vertical brand personality (R² = 0.586, p < 0.001). Attitude toward the post significantly and positively predicted vertical brand personality (b = 0.44, 95% CI [0.37, 0.52], p < 0.001; f² = 0.76, large), supporting H4 for this facet. The direct effect

of content type on vertical brand personality was positive and significant ($c' = 1.00$, 95% CI [0.77, 1.23], $p < 0.001$; $f^2 = 0.40$, large), supporting H1. The indirect effect through attitude was significant as well ($a \times b = 0.27$, bootstrap 95% CI [0.07, 0.47]), and the total effect was $c = 1.27$, 95% CI [0.97, 1.57], $p < 0.001$. Because the direct and indirect effects were both significant and pointed in the same positive direction, the pattern of effects corresponds to complementary mediation (Zhao et al., 2010), supporting H5.

Horizontal brand personality. Content type and attitude toward the post jointly accounted for 39.0% of the variance in horizontal brand personality ($R^2 = 0.390$, $p < 0.001$). Attitude toward the post significantly and positively predicted horizontal brand personality ($b = 0.42$, 95% CI [0.34, 0.50], $p < 0.001$; $f^2 = 0.56$, large), supporting H4 for this facet. The direct effect of content type on horizontal brand personality was not statistically significant ($c' = 0.21$, 95% CI [−0.04, 0.47], $p = 0.10$; $f^2 = 0.015$, below the conventional threshold of 0.02 for a small effect), and its point estimate was positive rather than negative as hypothesized. H2 was therefore not supported. The indirect effect through attitude was significant and positive ($a \times b = 0.25$, bootstrap 95% CI [0.07, 0.45]), and the total effect was $c = 0.47$, 95% CI [0.15, 0.78], $p = 0.004$. Because the indirect effect was significant while the direct effect was not, the observed pattern corresponds to indirect-only mediation (Zhao et al., 2010) rather than the competitive mediation pattern predicted by H6, which requires a significant direct effect opposite in sign to the indirect effect. H6 was therefore not supported.

Summary of hypothesis tests. Table 5 summarizes the results across both models. H3 and H4 were supported in both models, with attitude toward the post transmitting a positive effect of informational content on both brand personality facets. The direct effect of content type was substantial and positive for vertical brand personality (supporting H1 and yielding the complementary mediation pattern of H5) but negligible and not significant for horizontal brand personality (failing to support H2 and yielding indirect-only rather than competitive mediation, failing to support H6). Of the six hypotheses tested, four were supported (H1, H3, H4, H5) and two were not (H2, H6).

Table 5. Summary of hypothesis tests.

	Hypothesis	Predicted	Observed	Conclusion
H1	Positive direct effect of informational (vs. entertaining) content on vertical brand personality	$c' > 0$	$c' = 1.00$, $p < 0.001$	Supported
H2	Negative direct effect of informational (vs. entertaining) content on horizontal brand personality	$c' < 0$	$c' = 0.21$, $p = 0.101$; positive, n.s.	Not supported
H3	Positive effect of informational (vs. entertaining) content on attitude toward the post	$a > 0$	$a = 0.60$, $p = 0.008$	Supported
H4	Positive effect of attitude toward the post on both brand personality facets	$b > 0$ in both models	Vertical: $b = 0.44$, $p < 0.001$ Horizontal: $b = 0.42$, $p < 0.001$	Supported
H5	Complementary mediation for vertical brand personality (significant indirect and direct effects, same direction)	$a \times b$ and c' significant, same sign	$a \times b = 0.27$, 95% CI [0.07, 0.47] $c' = 1.00$, $p < 0.001$; both positive	Supported
H6	Competitive mediation for horizontal brand personality (significant indirect and direct effects, opposite directions)	$a \times b$ and c' significant, opposite signs	$a \times b = 0.25$, 95% CI [0.07, 0.45], positive; c' n.s.; pattern is indirect-only rather than competitive	Not supported

Note. Full numerical results are reported in Table 4.

5. Discussion

The present study examined how informational vs. entertaining Instagram video content affects enrolled students' brand personality perceptions of a higher education institution. The findings indicate that informational content led to more favorable perceptions of the vertical facet of brand personality (prestige, sincerity, conscientiousness) than entertaining content via a direct content-congruence pathway, with the data also consistent with an indirect pathway via attitude toward the post. On the horizontal facet (appeal, liveliness, cosmopolitanism), the direct effect of content type was not statistically significant, while the indirect effect via attitude toward the post again favored informational content. The following sections discuss the theoretical implications of these findings, their practical implications for higher education marketers, and the limitations of the study together with directions for future research.

5.1. Theoretical Implications

First, this study's findings are consistent with an indirect attitudinal pathway linking Instagram video content to brand personality perceptions in higher education. Content type significantly affected attitude toward the post ($a = 0.60$, $p = 0.008$; $f^2 = 0.04$), with informational content eliciting more favorable evaluations than entertaining content. This pattern is consistent with the UGT's proposition that individuals assess media use by comparing sought and obtained gratifications (Haridakis & Humphries, 2019; Katz et al., 1973; Rubin, 2009), in combination with the more specific argument developed in Section 2.4 that informational gratifications are particularly salient for enrolled students engaging with their institution's social media. Prior survey-based (Howard et al., 2018; Polger & Sich, 2019; Prabawangi et al., 2026) and social media metrics-based (Hoang et al., 2024) research has implicated informational motives as central to enrolled students' engagement with institutional social media accounts. The present results extend this evidence by showing, under experimental conditions, that informational content elicits more favorable post evaluations than entertaining content. The magnitude of this effect, however, was small by Cohen's (1988) benchmarks. Through the lens of the UGT, this appears plausible: entertaining institutional content does not lack gratifications; rather, it offers different gratifications than informational content, and the a-path captures the marginal advantage of informational content in providing the gratification most salient to enrolled students, rather than representing a contrast between gratification-rich and gratification-bare content.

Attitude toward the post, in turn, predicted both the vertical ($b = 0.44$, $p < 0.001$; $f^2 = 0.76$) and the horizontal facet of brand personality ($b = 0.42$, $p < 0.001$; $f^2 = 0.56$), with effect sizes that were large by Cohen's (1988) benchmarks. This pattern is consistent with feelings-as-information theory (Schwarz, 2012), which holds that individuals use their feelings as informational input when forming evaluative judgments, particularly when those feelings are perceived as representative of the target (Greifeneder et al., 2011). Because the Instagram post is itself institutional communication, the evaluative response it evokes may be experienced as representative of the institution and may thus, in turn, be positively associated with brand personality perceptions. Notably, post attitude predicted the vertical and horizontal brand personality facets with similar magnitude, suggesting that the attitudinal association holds for both hierarchical and relational brand personality perceptions.

Taken together, the a-path and b-paths findings point to an indirect attitudinal pathway that may link institutional Instagram content to brand personality perceptions in higher education. They indicate that the evaluative response to a single institutional post is positively associated with brand personality perceptions across both hierarchical and relational facets, with content design as one factor shaping that response. As such, these findings contribute to higher education social media branding research on relationships

between social media exposure and brand-related outcomes (A. A. Ibrahim et al., 2025; Kethüda & Bilgin, 2025; Perera et al., 2023a; Perera et al., 2023b; Ruangkanjanases et al., 2022; Song et al., 2023) by focusing specifically on brand personality, an outcome this literature has not yet sufficiently examined.

Second, the findings provide experimental evidence on a direct content-cue pathway to vertical brand personality perceptions. Content type had a direct effect on the vertical facet of brand personality ($c' = 1.00$, $p < 0.001$; $f^2 = 0.40$), large by Cohen's (1988) standards, with informational content evoking more favorable perceptions of institutional standing, organizational functioning, and responsible conduct than entertaining content. This pattern is consistent with a network perspective of brand personality (Keating, 2024), which conceptualizes brand personality as a cognitive network of belief nodes activated through brand-related stimuli, with activation spreading to semantically related nodes through associative links. Cues conveying institutional capability and standing, reliable and well-organized processes, and credibility and integrity appear to selectively activate the attribute nodes underlying prestige, conscientiousness, and sincerity.

Jointly, the direct effect of informational content on the vertical facet and the indirect effect via attitude toward the post yielded a complementary mediation pattern in Zhao et al.'s (2010) typology: direct and indirect effects pointed in the same positive direction and summed to the total effect, $c = 1.27$, 95% CI [0.97, 1.57]. Two conceptually distinct pathways—cue-based activation of vertical attribute nodes and an attitudinal route—thus point in the same direction, with the direct, cue-based pathway accounting for the larger share of the total effect. These findings advance the network perspective of brand personality by providing experimental evidence on one of its core propositions in the higher education context. They also indicate that the vertical brand personality facet is responsive to content design in institutional social media communication, with a single exposure to informational vs. entertaining content producing different perceptions.

Third, contrary to expectations, our analyses did not reveal a statistically significant direct effect of content type on the horizontal facet of brand personality ($c' = 0.21$, $p = 0.101$, 95% CI [−0.04, 0.47]; $f^2 = 0.015$). Following Jacob et al.'s (2019) framework for interpreting null results, we consider not only statistical significance but also whether estimated effects are substantively small and measured with precision. The c' -path's f^2 of 0.015 fell below the conventional threshold for a small effect (Cohen, 1988). The point estimate was positive rather than negative as hypothesized, and its confidence interval is compatible with a null effect, with small effects in either direction, or with positive effects up to the value of the upper bound. Our data thus do not provide strong evidence for any substantive direct effect of content type on the horizontal facet of brand personality, but neither do they establish the absence of such an effect. Together with the indirect effect via attitude toward the post—which was positive and in favor of informational content ($a \times b = 0.25$, bootstrap 95% CI [0.07, 0.45])—this yielded an indirect-only mediation pattern in Zhao et al.'s (2010) typology, not the predicted competitive mediation pattern that would have required a significant direct effect with a sign opposite to that of the indirect effect.

Several complementary considerations help interpret this non-significant direct effect on the horizontal facet: a substantive one concerning the structure of students' brand-personality associations, developed below, and methodological ones—concerning statistical sensitivity and the single-stimulus design—addressed in Section 5.3. Within the network perspective of brand personality (Keating, 2024), one substantive consideration that may account for why the predicted negative direct effect was not observed concerns students' cognitive structures. The network perspective conceptualizes brand personality as a set of belief nodes that become more strongly linked the more frequently they are coactivated in an individual's experience. A densely linked node cluster is theorized to resist change

through a single message more than a sparser one, because the surrounding interconnected beliefs may inhibit change in the targeted ones (Keating, 2024). This suggests a potential asymmetry between the two brand personality facets for enrolled students. Horizontal attributes—appeal, liveliness, and cosmopolitanism—may be directly experienced in everyday campus life and perceptually saturated through repeated coactivation. Vertical attributes—institutional standing, organizational functioning, and integrity—may need to be inferred from less directly observable and verifiable cues and may correspondingly be less consolidated. The horizontal belief cluster could therefore be more densely linked than the vertical cluster in this audience. Thus, a brief stimulus carrying horizontal-relevant cues could face stronger inhibition from surrounding nodes, attenuating the direct effect on the horizontal facet. This consideration could hold even when the focal institution is fictitious. In the absence of brand-specific associations, enrolled students may draw on their category-level network for higher education brands, itself built up through lived experience with higher education as a category. This consideration suggests a refinement to the network perspective in which audience-level coactivation history functions as a boundary condition for content-induced facet-level effects. Under this refined view, effects would be expected to be larger for target groups with less consolidated belief clusters—e.g., prospective students—an empirical question which future research could address.

Taken together, this study's findings reveal an asymmetric pattern across pathways and facets. The direct, content-cue pathway derived from the network perspective of brand personality (Keating, 2024) operated facet-specifically: it produced a large effect on the vertical facet, while the corresponding effect on the horizontal facet was not observed. The indirect, attitude-based pathway derived from feelings-as-information theory (Schwarz, 2012) was facet-general: attitude toward the post predicted both facets with large and similar magnitude. Collectively, the study adds social media post design to the antecedents examined in higher education brand personality research, alongside elements such as logos and architecture (Melewar & Akel, 2005; Watkins & Gonzenbach, 2013), interactions with faculty and staff (Sampaio et al., 2012), and marketing communications via websites (Guimarães & Estima, 2022) and prospectuses (Rutter et al., 2017).

5.2. Managerial Implications

This study has implications for higher education institutions' marketers communicating with enrolled students through Instagram video content to actively influence their institutions' brand personality. These implications can be structured around potential communication objectives such content can serve.

A first potential objective concerns strengthening a focal institution's vertical brand personality facet, i.e., students' perceptions of prestige, conscientiousness, and sincerity. This study's findings suggest that informational content is the more effective choice for this objective. It produced a large direct effect on the vertical brand personality facet, and the indirect effect via attitude toward the post pointed in the same direction, so that both favored informational content. Hence, marketers seeking to promote perceptions of their institution as leading, reliable, and trustworthy may find informational Instagram video content particularly suitable. Drawing on established classifications of university social media content (Capriotti & Zeler, 2023; Sørensen et al., 2023a), which include categories such as "organization", "research", "teaching", "commitment", and "context", informational content can be designed to address the vertical facet. Content emphasizing institutional capability and standing—such as scientific projects, research achievements, distinctive programs, faculty expertise, or rankings outcomes—could help to signal prestige. Content emphasizing reliable, transparent, and well-organized institutional processes or robust and sustainable financing may signal conscientiousness. Content presenting the institution as a

credible, fair, and supportive actor—including open communication about institutional decisions, responsive and fair handling of student matters, supportive policies, student services, or transparent governance—may help signal institutional integrity. Marketers seeking to cultivate the vertical facet of brand personality may therefore draw on these content types to address its constituent dimensions.

A second potential communication objective refers to strengthening a focal institution's horizontal brand personality facet, i.e., students' perceptions of an institution's relational and experiential qualities in terms of appeal, liveliness, and cosmopolitanism. Here, the present study's findings warrant a thoughtful recommendation. The direct cue-based pathway did not differentiate clearly between informational and entertaining content, i.e., no evidence was found that either type of content directly contributes to horizontal-facet perceptions in a superior way. The indirect effect via attitude toward the post favored informational content: informational content produced a small advantage in attitude toward the post, which was in turn associated with more favorable horizontal-facet perceptions. In practical terms, this implies that marketers seeking to cultivate the horizontal facet of brand personality may reasonably default to informational content and concentrate effort on making such content interesting and appealing, given the positive association between favorable post evaluations and horizontal-facet perceptions. Where entertaining content is used, it could tap into the multidimensionality of entertainment experiences, including not only fun and suspense, but also moving and thought-provoking entertainment (Oliver & Bartsch, 2010). Topics such as student-life themes (McInnis, 2004)—for instance, campus events or student community life—or institutional culture (Schell & Colby, 2025)—for instance, shared values or an international, diverse community—remain consistent with what the horizontal brand personality facet entails. Importantly, however, this study does not establish that such entertaining content outperforms informational content for this communication objective among enrolled students. Marketers may therefore exercise careful judgment in this design space and take particular care to make any entertaining content interesting and appealing. Notably, the present findings relate to brand personality perceptions specifically and not to other communication objectives, such as visibility or engagement, for which entertaining content may hold distinct value.

A third potential communication objective concerns fostering favorable attitudes toward institutional Instagram posts. In the present study, attitude toward the post predicted both brand personality facets with large effect sizes, such that more favorable post evaluations were associated with stronger brand-level perceptions across both the vertical and horizontal facets. Because mediator and outcome were measured contemporaneously, the present design cannot determine the direction of influence underlying this association; whether cultivating favorable post attitudes actually strengthens brand personality perceptions therefore remains open. If such a direction of influence is assumed, however, this pattern—read alongside the small effect of content type on attitude—suggests that quality optimization within content type may matter particularly across both brand personality facets. Marketers in higher education may accordingly consider producing well-executed posts within whichever content type they choose. The specific design elements relevant to producing favorable attitudinal responses are beyond the scope of this study but constitute the operational space in which this recommendation can be enacted. One such element is the thoughtful planning and design of social media narrative structures, i.e., the semantic progression of an institution's narratives, including aspects such as narrative speed, breadth of covered themes, and semantic connection (Zhang et al., 2025).

5.3. Limitations and Future Research

Several limitations apply. First, the study design entails limitations. While the experimental design supports causal inference regarding the effects of content type on attitude toward the post and brand personality, the mediation analyses are subject to an important limitation: the contemporaneous measurement of mediator and outcomes prevents firm conclusions about their temporal ordering. The estimated indirect effects should thus be interpreted as consistent with the theorized attitudinal pathway rather than as conclusive evidence of the underlying causal mechanism. Designs incorporating temporal separation or longitudinal measurement could strengthen causal inference about this mediating pathway (Cole & Maxwell, 2003). Further, the UGT-, feelings-as-information-, and content-congruence-based interpretations are consistent with the data but were not tested through direct measurement of the proposed psychological processes. Moreover, the study examined short-term effects of a single video exposure. The findings therefore cannot be generalized to longer-term branding processes influenced by repeated content interaction, and future research should examine how repeated and temporally varying exposure patterns influence brand personality perceptions (Elsen et al., 2025). To avoid confounding from prior associations and validly manipulate informational and entertaining content (Koch et al., 2019), a fictitious institution and stimuli were used, with considerable effort devoted to realism. Nevertheless, participants viewed the stimuli in isolation rather than within an actual Instagram feed. Future research could enhance ecological validity through feed-embedded or field designs (Morales et al., 2017). Relatedly, content type was instantiated through a single video per condition. This enhances experimental control but means the two stimuli differ not only in content type but also in features related to informativeness and entertainment such as topic, pacing, and framing. The observed effects may therefore partly reflect the specific videos rather than the informational–entertaining distinction as such, limiting generalizability to each content type as a category. This single-stimulus design may also be relevant to the non-significant direct effect of content type on the horizontal brand personality facet (H2). The particular entertaining stimulus may not have foregrounded strong horizontal cues, so the absence of a direct content-type difference on this facet may partly reflect the specific execution rather than entertaining content in general. Although both stimuli were developed through a structured, convention-based procedure (Section 3.3), future research should employ multiple stimuli per category, treating stimulus as a random factor, to establish whether the present pattern of effects holds across different executions within each content type.

Second, sampling-related limitations may affect external validity. Because no centralized student registry existed and data protection regulations constrained direct institutional recruitment, recruitment relied on student associations, professional networks, and higher-education-related social media, which may have produced coverage bias. Students less connected to institutional communication networks or less active in such spaces may have been insufficiently covered by the sampling frame. Participation was voluntary and uncompensated, raising the possibility of self-selection toward students with greater interest in institutional communication or stronger social media engagement. Recruitment through decentralized forwarding precluded assessment of response rate and nonresponse bias. The analytical sample overrepresented female, Master's, and social science students as well as students from universities of applied sciences and church-affiliated institutions relative to the German student population. Future research using more diverse samples, particularly including underrepresented groups, is therefore warranted to assess the broader applicability of the findings.

Third, measurement limitations must be acknowledged. Following the dual-structure tradition in social and brand perception research (Abele et al., 2021; Cuddy et al., 2008;

Fiske et al., 2002; Kervyn et al., 2012, 2022; Luna Cortes, 2024), the six UBPS dimensions were organized into a vertical and a horizontal facet, but this higher-order structure was not psychometrically validated within the present sample. Future research employing latent-factor modeling could provide more construct-valid analyses. Further, because attitude toward the post and brand personality perceptions were self-reported within the same post-exposure survey, common method variance cannot be ruled out and may have biased associations between constructs (Yao & Xu, 2024). As content type was experimentally manipulated, this concern primarily applies to the mediator-outcome associations. Future studies could address this through procedural remedies such as temporal separation and latent variable approaches that explicitly model method effects.

Fourth, analytical limitations warrant consideration. The study was planned to provide adequate power for the hypothesized indirect effects and for direct effects of approximately $f^2 = 0.07$. An effect-size sensitivity analysis (Giner-Sorolla et al., 2024) using the final analytical sample ($N = 184$), $\alpha = 0.05$, and power = 0.80 indicated 80% power to detect direct effects of approximately $f^2 = 0.04$ or larger. The observed direct effect of content type on horizontal brand personality was smaller ($f^2 = 0.015$). Thus, the study had limited sensitivity to detect very small direct effects on this facet.

Beyond addressing these limitations, future research could pursue several directions. One avenue would be to adopt a contingency perspective (Hamann, 2017; Marmat, 2021) and examine whether the observed effects depend on audience and higher education system context. The present study focused on enrolled students in Germany, whose ongoing institutional relationship may heighten the value of informational gratifications and whose accumulated higher education experience may be associated with comparatively dense brand-personality networks (Keating, 2024). Other stakeholder groups may seek different gratifications and hold differently dense networks, potentially resulting in different content effects. Likewise, content effects may differ across mature higher education systems, between mature and emerging systems, or across systems varying in aspects such as competitive dynamics or marketization. A second avenue concerns a more granular examination of institutional social media content beyond the informational-entertaining distinction, since each content type comprises heterogeneous forms with potentially different brand-personality implications. Research on hybrid content combining informational and entertaining elements could further investigate whether such combinations produce trade-off, additive, or interactive effects on brand personality perceptions. A third avenue pertains to examining content effects at the level of individual brand personality dimensions. While the present study organized the six UBPS dimensions into two facets for theoretical parsimony, content cues may map specifically onto particular dimensions, and dimension-level analyses could thus complement the facet-level perspective with cue-specific insights. A final avenue concerns the role of the voices communicating on behalf of higher education institutions. The present study examined content from an official institutional account, yet higher education institutions are plurivocal organizations in which central communication units, departments, leaders, researchers, students, and alumni may all influence how the institution is perceived (Volk et al., 2025). Future research could examine whether content effects differ by communicating voice and how multi-voice configurations influence brand personality perceptions.

6. Conclusions

This study examined how informational vs. entertaining Instagram video content affects enrolled students' perceptions of higher education brand personality. In a between-subjects experiment with students in Germany, informational content led to more favorable perceptions of the vertical facet of brand personality—comprising prestige, sincerity, and

conscientiousness—than entertaining content directly. It also led to more favorable attitudes toward the post, which were in turn positively associated with vertical brand personality perceptions. For the horizontal facet—comprising appeal, liveliness, and cosmopolitanism—the expected direct advantage of entertaining content was not observed. Instead, the analysis indicated a positive indirect effect via attitude toward the post, favoring informational content. These results advance higher education branding research by providing experimental evidence that social media content design can influence brand personality perceptions. Institutional Instagram videos thus appear to do more than generate engagement or convey information. They may also contribute to how students perceive the character of an institution.

For higher education marketers, the study points to the strategic value of informational video content, particularly when the objective is to foster perceptions of institutional competence, credibility, and standing. At the same time, the results caution against assuming that entertaining content automatically yields more favorable relational or experiential brand personality perceptions among enrolled students. In light of the positive association between post attitude and brand personality perceptions, making posts interesting and appealing may remain important across content types. Overall, the study indicates that higher education institutions can use Instagram video content as a strategic lever in brand personality management.

These findings should be interpreted in light of the study's limitations, including its single-exposure design, reliance on one stimulus per condition, contemporaneous measurement of mediator and outcomes, and a sample that overrepresented some student groups relative to the German student population.

Author Contributions: Conceptualization, C.T. and C.K.; methodology, C.T. and C.K.; software, C.T. and C.K.; validation, C.T. and C.K.; formal analysis, C.K.; investigation, C.T.; resources, C.T. and C.K.; data curation, C.T. and C.K.; writing—original draft preparation, C.T. and C.K.; writing—review and editing, C.T. and C.K.; visualization, C.K.; supervision, C.K.; project administration, C.T. and C.K. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding. The APC was funded by the Association of Supporters of the Catholic University of Applied Sciences Munich (Förderverein Katholische Stiftungshochschule München e.V.).

Institutional Review Board Statement: Ethical review and approval were waived for this study. Due to German law, such approval is mandated for research involving medicinal products, medical devices, or clinical interventions, which did not apply here. Institutionally, the Interdisciplinary Ethics Committee for Research at the Catholic University of Applied Sciences Munich, Germany, does not impose a general obligation to submit studies for review (Statute and Code of Procedure, issued 8 December 2023; Committee Statement, issued 20 May 2025). Based on the nature of this study—voluntary, anonymous participation, no identifying data, and minimal foreseeable risk—formal ethical review was not necessary. All data collection complied with the EU General Data Protection Regulation.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The raw data supporting the conclusions of this article will be made available by the authors on request.

Acknowledgments: During the preparation of this study, the authors used GPT-4.0 via ChatGPT and Claude 3 Opus via Claude for the translation of measurement instruments employed in the study. Translation followed established guidelines for AI-supported translation. Details are provided in the Methods section of the manuscript. The authors have reviewed and edited the output and take full responsibility for the content of this publication.

Conflicts of Interest: The authors declare no conflicts of interest.

Appendix A

Table A1. Covariate-adjusted mediation models predicting vertical and horizontal brand personality.

Effect	Vertical Brand Personality						Horizontal Brand Personality					
	b	SE	t	p	95% CI	f2	b	SE	t	p	95% CI	f2
a ($X \rightarrow M$) ^a	0.50	0.23	2.15	0.033	[0.04, 0.95]	0.03	0.50	0.23	2.15	0.033	[0.04, 0.95]	0.03
b ($M \rightarrow Y$)	0.43	0.04	10.84	<0.001	[0.35, 0.51]	0.69	0.41	0.04	9.47	<0.001	[0.33, 0.50]	0.52
c' (direct)	0.97	0.12	7.96	<0.001	[0.73, 1.21]	0.37	0.16	0.13	1.21	0.230	[-0.10, 0.42]	0.009
c (total)	1.18	0.16	7.60	<0.001	[0.88, 1.49]	—	0.37	0.16	2.25	0.026	[0.05, 0.69]	—
a × b (indirect) ^b	0.21	0.10	—	—	[0.004, 0.41]	—	0.20	0.10	—	—	[0.005, 0.39]	—
<i>Model fit</i>												
M-equation ^a	$R^2 = 0.117$, $F(11, 172) = 2.07$, $p = 0.025$						$R^2 = 0.117$, $F(11, 172) = 2.07$, $p = 0.025$					
Y-equation	$R^2 = 0.606$, $F(12, 171) = 21.95$, $p < 0.001$						$R^2 = 0.422$, $F(12, 171) = 10.38$, $p < 0.001$					

Note. N = 184. X = content type (informational = 1, entertaining = 0); M = attitude toward the post; Y = brand personality facet. b = unstandardized regression coefficient. df for path-level *t*-tests: 172 for the a- and c-paths (11 predictors); 171 for the b- and c'-paths (12 predictors). Covariates entered with coding: age in years; gender (1 = non-female; 0 = female); intended degree (1 = Master/State Examination/other; 0 = Bachelor); current semester (1 = 6+ semester; 0 = 1–5 semester); field of study (two dummies: Law/Economics/Social Sciences; STEM and other; reference = Humanities); institution type (1 = University; 0 = University of Applied Sciences/other); sponsorship type (two dummies: Private; Church-affiliated; reference = Public); Instagram usage frequency (5-point Likert scale). Age was a significant negative predictor of attitude toward the post ($b = -0.07$, $p = 0.001$) and in the total effects models of both facets, but not in the direct effects models controlling for attitude. No other covariate reached significance. ^a M-model is identical across both Y-models (same $X \rightarrow M$ relationship); ^b Bootstrap SE and percentile bootstrap 95% CI for the indirect effect based on 5000 resamples; significance of the indirect effect is inferred from the bootstrap CI not including zero.

References

- Aaker, J. L. (1997). Dimensions of brand personality. *Journal of Marketing Research*, 34(3), 347–356. [\[CrossRef\]](#)
- Abele, A. E., Ellemers, N., Fiske, S. T., Koch, A., & Yzerbyt, V. (2021). Navigating the social world: Toward an integrated framework for evaluating self, individuals, and groups. *Psychological Review*, 128(2), 290–314. [\[CrossRef\]](#) [\[PubMed\]](#)
- Abell, D., & Becker, K. (2021). Enhancing university employer attractiveness for the next generation of academics. *Journal of Higher Education Policy and Management*, 43(5), 457–473. [\[CrossRef\]](#)
- Amado Mateus, M., & Juarez Acosta, F. (2022). Reputation in higher education: A systematic review. *Frontiers in Education*, 7, 925117. [\[CrossRef\]](#)
- Appelbaum, M., Cooper, H., Kline, R. B., Mayo-Wilson, E., Nezu, A. M., & Rao, S. M. (2018). Journal article reporting standards for quantitative research in psychology: The APA Publications and Communications Board task force report. *American Psychologist*, 73(1), 3–25. [\[CrossRef\]](#) [\[PubMed\]](#)
- ARD/ZDF-Forschungskommission. (2025). *ARD/ZDF-medienstudie 2025*. ARD/ZDF-Forschungskommission. Available online: https://www.media-perspektiven.de/fileadmin/user_upload/media-perspektiven/Medienstudie/Basispraesentation_ARD-ZDF-Medienstudie_2025_final_01.pdf (accessed on 12 April 2026).
- Balaji, M. S., Roy, S. K., & Sadeque, S. (2016). Antecedents and consequences of university brand identification. *Journal of Business Research*, 69(8), 3023–3032. [\[CrossRef\]](#)
- Bargoni, A., Giachino, C., Gutuleac, R., & Streimikiene, D. (2024). Is this really me? Investigating brand personality self-congruity on consumer behavior in video-based social media. *Psychology & Marketing*, 41(5), 1115–1132. [\[CrossRef\]](#)
- Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, 25(24), 3186–3191. [\[CrossRef\]](#) [\[PubMed\]](#)
- Bennett, R., & Ali-Choudhury, R. (2009). Prospective students' perceptions of university brands: An empirical study. *Journal of Marketing for Higher Education*, 19(1), 85–107. [\[CrossRef\]](#)
- Brosi, P., & Welp, I. M. (2015). Employer branding for universities: What attracts international postdocs? *Journal of Business Economics*, 85(7), 817–850. [\[CrossRef\]](#)
- Buzeta, C., De Keyser, F., Dens, N., & De Pelsmacker, P. (2024). Branded content and motivations for social media use as drivers of brand outcomes on social media: A cross-cultural study. *International Journal of Advertising*, 43(4), 637–671. [\[CrossRef\]](#)
- Buzeta, C., De Pelsmacker, P., & Dens, N. (2020). Motivations to use different social media types and their impact on consumers' online brand-related activities (COBRAs). *Journal of Interactive Marketing*, 52(1), 79–98. [\[CrossRef\]](#)
- Calderón-Fajardo, V., Molinillo, S., Anaya-Sánchez, R., & Ekinci, Y. (2023). Brand personality: Current insights and future research directions. *Journal of Business Research*, 166, 114062. [\[CrossRef\]](#)

- Capriotti, P., & Zeler, I. (2023). Analysing effective social media communication in higher education institutions. *Humanities and Social Sciences Communications*, 10(1), 656. [CrossRef]
- Casidy, R. (2013). The role of brand orientation in the higher education sector: A student-perceived paradigm. *Asia Pacific Journal of Marketing and Logistics*, 25(5), 803–820. [CrossRef]
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Lawrence Erlbaum Associates.
- Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: Questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology*, 112(4), 558–577. [CrossRef] [PubMed]
- Constantinides, E., & Zinck Stagno, M. C. (2011). Potential of the social media as instruments of higher education marketing: A segmentation study. *Journal of Marketing for Higher Education*, 21(1), 7–24. [CrossRef]
- Cuddy, A. J. C., Fiske, S. T., & Glick, P. (2008). Warmth and competence as universal dimensions of social perception: The stereotype content model and the BIAS map. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 40, pp. 61–149). Academic Press. [CrossRef]
- Davies, G., Rojas-Méndez, J. I., Whelan, S., Mete, M., & Loo, T. (2018). Brand personality: Theory and dimensionality. *Journal of Product & Brand Management*, 27(2), 115–127. [CrossRef]
- Deng, Q., Hine, M. J., Ji, S., & Wang, Y. (2021). Understanding consumer engagement with brand posts on social media: The effects of post linguistic styles. *Electronic Commerce Research and Applications*, 48, 101068. [CrossRef]
- Deng, Q., Hine, M. J., Ji, S., & Wang, Y. (2023). What Makes brand social media posts engaging? An integrative framework and future research agenda. *Journal of Internet Commerce*, 22(1), 1–39. [CrossRef]
- Ducoffe, R. H. (1995). How consumers assess the value of advertising. *Journal of Current Issues & Research in Advertising*, 17(1), 1–18. [CrossRef]
- Eger, L., & Gangur, M. (2024). How universities communicate with the public via social media: A content analysis. *Communication Today*, 15(1), 156–173. [CrossRef]
- Eisend, M., & Stokburger-Sauer, N. E. (2013). Brand personality: A meta-analytic review of antecedents and consequences. *Marketing Letters*, 24(3), 205–216. [CrossRef]
- Eisinga, R., Grotenhuis, M. T., & Pelzer, B. (2013). The reliability of a two-item scale: Pearson, Cronbach, or Spearman-Brown? *International Journal of Public Health*, 58(4), 637–642. [CrossRef] [PubMed]
- Elsen, M., Pieters, R., & Wedel, M. (2025). Effects of advertising exposure duration and frequency: A theory and initial test. *Journal of Marketing Analytics*, 13(2), 386–404. [CrossRef]
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149–1160. [CrossRef] [PubMed]
- Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, 82(6), 878–902. [CrossRef]
- Fritz, A. M., & Smith, A. M. (2024). Marketing higher education on YouTube: A content analysis of college promotional videos. *Journal of Marketing for Higher Education*, ahead-of-print. [CrossRef]
- Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, 18(3), 233–239. [CrossRef] [PubMed]
- García-Rodríguez, F. J., & Gutiérrez-Taño, D. (2024). Loyalty to higher education institutions and the relationship with reputation: An integrated model with multi-stakeholder approach. *Journal of Marketing for Higher Education*, 34(1), 223–245. [CrossRef]
- Geuens, M., Weijters, B., & Wulf, K. (2009). A new measure of brand personality. *International Journal of Research in Marketing*, 26(2), 97–107. [CrossRef]
- Giner-Sorolla, R., Montoya, A. K., Reifman, A., Carpenter, T., Lewis, N. A. J., Aberson, C. L., Bostyn, D. H., Conrique, B. G., Ng, B. W., Schoemann, A. M., & Soderberg, C. (2024). Power to detect what? Considerations for planning and evaluating sample size. *Personality and Social Psychology Review*, 28(3), 276–301. [CrossRef] [PubMed]
- Greifeneder, R., Bless, H., & Pham, M. T. (2011). When do people rely on affective and cognitive feelings in judgment? A review. *Personality and Social Psychology Review*, 15(2), 107–141. [CrossRef] [PubMed]
- Guimarães, C., & Estima, A. (2022). Do universities have a distinctive brand personality? The case of ECIU Universities. In Universitat Politècnica de València (Ed.), *8th international conference on higher education advances (HEAd'22)* (pp. 315–322). Universitat Politècnica de València. [CrossRef]
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage.
- Hamann, P. M. (2017). Towards a contingency theory of corporate planning: A systematic literature review. *Management Review Quarterly*, 67(4), 227–289. [CrossRef]
- Haridakis, P., & Humphries, Z. (2019). Uses and Gratifications. In D. W. Stacks, M. B. Salwen, & K. C. Eichhorn (Eds.), *An integrated approach to communication theory and research* (3rd ed., pp. 139–154). Routledge. [CrossRef]
- Hayes, A. F. (2026). *PROCESS documentation addendum*. Available online: <https://www.afhayes.com/public/processdocaddendum.pdf> (accessed on 11 May 2026).

- Hayes, A. F., & Little, T. D. (2022). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (3rd ed.). The Guilford Press.
- Hoang, H. Q., Tran, K. T., & Le, T. D. (2024). Engaging users on university Facebook pages: Insights from the uses and gratifications theory and post characteristics. *Cogent Social Sciences*, 10(1), 2402086. [CrossRef]
- Hoffmeyer-Zlotnik, J. H. P., Beckmann, K., Czajka, S., Glemser, A., Heckel, C., Klumpe, B., Schneider, S. L., Schoen, A., & Tran, N.-H. (2024). *Demographische standards: Ausgabe 2024—Eine gemeinsame empfehlung des ADM arbeitskreis deutscher markt- und sozialforschungsinstitute e.V., der arbeitsgemeinschaft sozialwissenschaftlicher institute e.V. (ASI) und des statistischen bundesamtes* (Vol. 31). GESIS—Leibniz-Institut für Sozialwissenschaften. [CrossRef]
- Howard, H. A., Huber, S., Carter, L. V., & Moore, E. A. (2018). Academic libraries on social media: Finding the students and the information they want. *Information Technology and Libraries*, 37(1), 8–18. [CrossRef]
- Ibrahim, A. A., Ahmad, S. Z., Abu Bakar, A. R., & El-Adly, M. (2025). Social media marketing's impact on brand equity and loyalty in higher education: Customer engagement's role. *Journal of International Education in Business*, 18(4), 527–546. [CrossRef]
- Ibrahim, B. (2022). Social media marketing activities and brand loyalty: A meta-analysis examination. *Journal of Promotion Management*, 28(1), 60–90. [CrossRef]
- Jacob, R. T., Doolittle, F., Kemple, J., & Somers, M.-A. (2019). A Framework for learning from null results. *Educational Researcher*, 48(9), 580–589. [CrossRef]
- Jun, Y., & Lee, H. (2025). Measuring brand personality in the digital age: A review, theoretical reconceptualization, and research agenda. *Journal of Marketing Communications*, 31(8), 925–958. [CrossRef]
- Karadağ, H., Tosun, P., & Ayan, B. (2024). User-generated and brand-generated content as indicators of university brand personality and business strategy. *Journal of Marketing for Higher Education*, 34(2), 646–668. [CrossRef]
- Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *The Public Opinion Quarterly*, 37(4), 509–523. [CrossRef]
- Kaushal, V., & Ali, N. (2020). University reputation, brand attachment and brand personality as antecedents of student loyalty: A study in higher education context. *Corporate Reputation Review*, 23(4), 254–266. [CrossRef]
- Keating, D. M. (2024). Persuasive message effects via activated and modified belief clusters: Toward a general theory. *Human Communication Research*, 50(2), 299–308. [CrossRef]
- Keller, K. L. (1993). Conceptualizing, Measuring, and managing customer-based brand equity. *Journal of Marketing*, 57(1), 1–22. [CrossRef]
- Kervyn, N., Fiske, S. T., & Malone, C. (2012). Brands as intentional agents framework: How perceived intentions and ability can map brand perception. *Journal of Consumer Psychology*, 22(2), 166–176. [CrossRef] [PubMed]
- Kervyn, N., Fiske, S. T., & Malone, C. (2022). Social perception of brands: Warmth and competence define images of both brands and social groups. *Consumer Psychology Review*, 5(1), 51–68. [CrossRef]
- Kethüda, Ö., & Bilgin, Y. (2025). The role of social media marketing activities in converting existing students into university advocates. *Journal of Marketing for Higher Education*, 35(3), 510–531. [CrossRef]
- Koch, T., Peter, C., & Müller, P. (2019). *Das Experiment in der Kommunikations- und Medienwissenschaft: Grundlagen, Durchführung und Auswertung experimenteller Forschung*. Springer VS. [CrossRef]
- Koob, C. (2026). Unveiling consumers' brand post content preferences: A best-worst scaling approach. *Computers in Human Behavior Reports*, 21, 100878. [CrossRef]
- Kunst, J. R., & Bierwiazzonek, K. (2023). Utilizing AI questionnaire translations in cross-cultural and intercultural research: Insights and recommendations. *International Journal of Intercultural Relations*, 97, 101888. [CrossRef]
- Le, Q. H., Fuller, R., Hoang, T.-H., & Nguyen, N. (2025). Branding in higher education: A bibliometric analysis and research agenda. *Journal of Marketing for Higher Education*, 35(3), 696–719. [CrossRef]
- Ledermann, T., Rudaz, M., & Fritz, M. S. (2025). On partial vs. full mediation and the importance of effect sizes. *Advances in Methods and Practices in Psychological Science*, 8(3), 25152459251355585. [CrossRef]
- Leiner, D. J. (2025). *SoSci survey* (Version 3.7.02) [Computer software]. Available online: <https://www.sosicisurvey.de> (accessed on 29 April 2026).
- Liu, S., & Ghasemy, M. (2025). Research progress and frontiers of the university brand: A bibliometric review between 2003 and 2024. *Journal of Applied Research in Higher Education*, ahead-of-print. [CrossRef]
- Liu, Y., Zhao, Z., Wang, J., & Qiu, Z. (2024). Consumer engagement on social media: An analysis of brand post characteristic combinations. *Journal of Marketing Management*, 40(9–10), 704–742. [CrossRef]
- Luna Cortes, G. (2024). A systematic literature review of the stereotype content model in the fields of psychology and marketing: Main themes examined in the literature and an agenda for future research in marketing. *Frontiers in Psychology*, 15, 1392629. [CrossRef] [PubMed]

- MacKenzie, S. B., Lutz, R. J., & Belch, G. E. (1986). The role of attitude toward the ad as a mediator of advertising effectiveness: A test of competing explanations. *Journal of Marketing Research*, 23(2), 130–143. [\[CrossRef\]](#)
- Manuel, L., Contreras, L. M., Lee, L., Fernandez, B. M., Vanicek, J., Gonsahn, M., Salinas, E., & Graf, E. (2025). Development of a practical translation approach for survey research projects. *Survey Practice*, 19(S1), 1–13. [\[CrossRef\]](#)
- Maresova, P., Hruska, J., & Kuca, K. (2020). Social Media university branding. *Education Sciences*, 10(3), 74. [\[CrossRef\]](#)
- Maring, N. C., & Gmür, M. (2024). Effects of university's social media presence on students' organizational media use and loyalty. *Journal of Nonprofit & Public Sector Marketing*, 37(3), 448–479. [\[CrossRef\]](#)
- Marmat, G. (2021). Enhancing brand experience in the online social media network context: A contingency perspective. *Qualitative Market Research: An International Journal*, 24(5), 581–609. [\[CrossRef\]](#)
- Maulana, A. E., Patterson, P. G., Satria, A., & Pradipta, I. A. (2024). Alumni connectedness and its role in intention to contribute to higher education institutions. *Journal of Marketing for Higher Education*, 34(2), 1124–1145. [\[CrossRef\]](#)
- McInnis, C. (2004). Studies of student life: An overview. *European Journal of Education*, 39(4), 383–394. [\[CrossRef\]](#)
- Melewar, T. C., & Akel, S. (2005). The role of corporate identity in the higher education sector: A case study. *Corporate Communications: An International Journal*, 10(1), 41–57. [\[CrossRef\]](#)
- Morales, A. C., Amir, O., & Lee, L. (2017). Keeping it real in experimental research—Understanding when, where, and how to enhance realism and measure consumer behavior. *Journal of Consumer Research*, 44(2), 465–476. [\[CrossRef\]](#)
- Muntinga, D. G., Moorman, M., & Smit, E. G. (2011). Introducing COBRAs. *International Journal of Advertising*, 30(1), 13–46. [\[CrossRef\]](#)
- Naheen, F., & Elsharnouby, T. H. (2024). You are what you communicate: On the relationships among university brand personality, identification, student participation, and citizenship behaviour. *Journal of Marketing for Higher Education*, 34(1), 368–389. [\[CrossRef\]](#)
- Oliver, M. B., & Bartsch, A. (2010). Appreciation as audience response: Exploring entertainment gratifications beyond hedonism. *Human Communication Research*, 36(1), 53–81. [\[CrossRef\]](#)
- Opoku, R. A., Hultman, M., & Saheli-Sangari, E. (2008). Positioning in market space: The evaluation of Swedish universities' online brand personalities. *Journal of Marketing for Higher Education*, 18(1), 124–144. [\[CrossRef\]](#)
- Orgilés-Amorós, M. (2026). Unboxing higher education institutions' marketing: A bibliometric analysis of effective communication strategies. *Research in Comparative and International Education*, 21(2), 17454999261418789. [\[CrossRef\]](#)
- O'Sullivan, H., Polkinghorne, M., Chapleo, C., & Cownie, F. (2024). Contemporary branding strategies for higher education. *Encyclopedia*, 4(3), 1292–1311. [\[CrossRef\]](#)
- Pawar, S. K. (2024). Social media in higher education marketing: A systematic literature review and research agenda. *Cogent Business & Management*, 11(1), 2423059. [\[CrossRef\]](#)
- Pawar, S. K. (2025). University branding in the age of social media: A systematic literature review and integrative framework. *Journal of Applied Research in Higher Education*, ahead-of-print. [\[CrossRef\]](#)
- Pelletier, M. J., Krallman, A., Adams, F. G., & Hancock, T. (2020). One size doesn't fit all: A uses and gratifications analysis of social media platforms. *Journal of Research in Interactive Marketing*, 14(2), 269–284. [\[CrossRef\]](#)
- Perera, C. H., Nayak, R., & Nguyen, L. T. V. (2023a). The impact of social media marketing and brand credibility on higher education institutes' brand equity in emerging countries. *Journal of Marketing Communications*, 29(8), 770–795. [\[CrossRef\]](#)
- Perera, C. H., Nguyen, L. T. V., & Nayak, R. (2023b). Brand engagement on social media and its impact on brand equity in higher education: Integrating the social identity perspective. *International Journal of Educational Management*, 37(6/7), 1335–1359. [\[CrossRef\]](#)
- Peruta, A., & Shields, A. B. (2017). Social media in higher education: Understanding how colleges and universities use Facebook. *Journal of Marketing for Higher Education*, 27(1), 131–143. [\[CrossRef\]](#)
- Peruta, A., & Shields, A. B. (2018). Marketing your university on social media: A content analysis of Facebook post types and formats. *Journal of Marketing for Higher Education*, 28(2), 175–191. [\[CrossRef\]](#)
- Polger, M. A., & Sich, D. (2019). Are they even following us? Using market research data to understand students' social media preferences. *Library Management*, 40(8–9), 503–517.
- Prabawangi, R. P., Fatanti, M. N., & Nasih, A. M. (2026). Student information preferences and the role of social media in Indonesian higher education. *PROfesi Humas*, 10(2), 191–214. [\[CrossRef\]](#)
- Radler, V. M. (2018). 20 Years of brand personality: A bibliometric review and research agenda. *Journal of Brand Management*, 25(4), 370–383. [\[CrossRef\]](#)
- Rauschnabel, P. A., Krey, N., Babin, B. J., & Ivens, B. S. (2016). Brand management in higher education: The university brand personality scale. *Journal of Business Research*, 69(8), 3077–3086. [\[CrossRef\]](#)
- Ruangkanjanases, A., Sivarak, O., Wibowo, A., & Chen, S.-C. (2022). Creating behavioral engagement among higher education's prospective students through social media marketing activities: The role of brand equity as mediator. *Frontiers in Psychology*, 13, 1004573. [\[CrossRef\]](#) [\[PubMed\]](#)

- Rubin, A. M. (2009). Uses-and-gratifications perspective on media effects. In J. Bryant, & M. B. Oliver (Eds.), *Media effects* (3rd ed., pp. 181–200). Routledge.
- Rutter, R., Lettice, F., & Nadeau, J. (2017). Brand personality in higher education: Anthropomorphized university marketing communications. *Journal of Marketing for Higher Education*, 27(1), 19–39. [CrossRef]
- Saeed, M. R., Burki, U., Ali, R., Dahlstrom, R., & Zameer, H. (2022). The antecedents and consequences of brand personality: A systematic review. *EuroMed Journal of Business*, 17(4), 448–476. [CrossRef]
- Sampaio, C. H., Perin, M. G., Simões, C., & Kleinowski, H. (2012). Students' trust, value and loyalty: Evidence from higher education in Brazil. *Journal of Marketing for Higher Education*, 22(1), 83–100. [CrossRef]
- Schell, E. P., & Colby, A. (2025). What's in a culture? students' perceptions of and experiences with U.S. higher education institutional culture. *Journal of Higher Education Theory and Practice*, 25(2). [CrossRef]
- Schoemann, A. M., Boulton, A. J., & Short, S. D. (2017). Determining power and sample size for simple and complex mediation models. *Social Psychological and Personality Science*, 8(4), 379–386. [CrossRef]
- Schwarz, N. (2012). Feelings-as-information theory. In P. Van Lange, A. Kruglanski, & E. Higgins (Eds.), *Handbook of theories of social psychology: Volume 1* (pp. 289–308). SAGE. [CrossRef]
- Sharma, M., & Rahman, Z. (2022). Anthropomorphic brand management: An integrated review and research agenda. *Journal of Business Research*, 149, 463–475. [CrossRef]
- Shields, A. B., & Peruta, A. (2019). Social media and the university decision. Do prospective students really care? *Journal of Marketing for Higher Education*, 29(1), 67–83. [CrossRef]
- Simiyu, G., Bonuke, R., & Komen, J. (2020). Social media and students' behavioral intentions to enroll in postgraduate studies in Kenya: A moderated mediation model of brand personality and attitude. *Journal of Marketing for Higher Education*, 30(1), 66–86. [CrossRef]
- Soares, J. C., Limongi, R., & Cohen, E. D. (2022). Engagement in a social media: An analysis in higher education institutions. *Online Information Review*, 46(2), 256–284. [CrossRef]
- Song, B. L., Lee, K. L., Liew, C. Y., & Subramaniam, M. (2023). The role of social media engagement in building relationship quality and brand performance in higher education marketing. *International Journal of Educational Management*, 37(2), 417–430. [CrossRef]
- Sörensen, I., Fürst, S., Vogler, D., & Schäfer, M. S. (2023a). Higher education institutions on Facebook, Instagram, and Twitter: Comparing Swiss universities' social media communication. *Media and Communication*, 11(1), 264–277. [CrossRef]
- Sörensen, I., Vogler, D., Fürst, S., & Schäfer, M. S. (2023b). Platforms matter: Analyzing user engagement with social media content of Swiss higher education institutions. *Journal of Marketing for Higher Education*, 36(1), 149–168. [CrossRef]
- Statistisches Bundesamt. (2026). 21311 Statistik der Studierenden. Available online: <https://www-genesis.destatis.de/datenbank/online/statistic/21311/details/filter/JTdCJTlyY29kZSUyMiUzQSUyMjlxMzExJTlyJTdE> (accessed on 4 May 2026).
- Stephenson, A. L., & Yerger, D. B. (2014). Does brand identification transform alumni into university advocates? *International Review on Public and Nonprofit Marketing*, 11(3), 243–262. [CrossRef]
- Sung, M., & Yang, S.-U. (2008). Toward the model of university image: The influence of brand personality, external prestige, and reputation. *Journal of Public Relations Research*, 20(4), 357–376. [CrossRef]
- Times Higher Education. (2025). *Towards 2035: Projecting the future of global higher education*. Times Higher Education. Available online: <https://www.timeshighereducation.com/cms-academic/sites/default/files/2025-11/Towards%202035%20Projecting%20the%20future%20of%20global%20higher%20education.pdf> (accessed on 25 March 2026).
- Tippelt, F. (2025). Social Media zwischen Wachstum und Sättigung: Nutzungsmuster und Plattformdynamiken in Deutschland. *Media Perspektiven*, 31, 1–16. [CrossRef]
- Urquía, Í. (2024). Spanish Universities on TikTok: The effectiveness of trends and challenges in generating engagement. *International Visual Culture Review*, 16(8), 15–27. [CrossRef]
- Van Ginkel, J. R., Linting, M., Rippe, R. C. A., & van der Voort, A. (2020). Rebutting existing misconceptions about multiple imputation as a method for handling missing data. *Journal of Personality Assessment*, 102(3), 297–308. [CrossRef] [PubMed]
- Viglia, G., Zaefarian, G., & Ulqinaku, A. (2021). How to design good experiments in marketing: Types, examples, and methods. *Industrial Marketing Management*, 98, 193–206. [CrossRef]
- Volk, S. C., Vogler, D., Fürst, S., & Schäfer, M. S. (2025). The plurivocal university: Typologizing the diverse voices of a research university on social media. *Public Understanding of Science*, 34(3), 270–290. [CrossRef] [PubMed]
- Watkins, B. A., & Gonzenbach, W. J. (2013). Assessing university brand personality through logos: An analysis of the use of academics and athletics in university branding. *Journal of Marketing for Higher Education*, 23(1), 15–33. [CrossRef]
- Xiao, Y., Huong, N. T. T., Nam, N. H., Quyet, P. D., Khanh, C. T., & Anh, D. T. H. (2023). University brand: A systematic literature review. *Heliyon*, 9(6), e16825. [CrossRef] [PubMed]
- Yao, M., & Xu, Y. (2024). Method bias mechanisms and procedural remedies. *Sociological Methods & Research*, 53(1), 235–278. [CrossRef]

- Zhang, Y., Sun, Y., & Wang, C.-J. (2025). Unraveling the shape of social media narratives: Analyzing the effects of online interaction and narrative structure on attention to digital asset transactions. *Journal of Broadcasting & Electronic Media*, 69(3), 200–218. [[CrossRef](#)]
- Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37(2), 197–206. [[CrossRef](#)]

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.