

AGE DISCRIMINATION IN ADVERTISING? LONG-TERM TRENDS IN COMPLAINTS TO THE GERMAN ADVERTISING STANDARDS COUNCIL (2003-2024)

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ABSTRACT

Against the backdrop of demographic change, this quantitative study examines the development of age-discriminatory advertising in Germany using complaints submitted to the German Advertising Standards Council (in German: Deutscher Werberat) from 2003 to 2024. The German Advertising Standards Council is a self-regulatory body of the advertising industry that receives complaints about advertising content and evaluates them for violations of recognized ethical standards. Its goal is to promote responsible advertising and to publicly reprimand or request changes to misleading or discriminatory content. In total, over 11,000 complaints were submitted during the 22-year observation period, including those directly related to discrimination against older individuals. The analysis shows that while complaints concerning age discrimination remain consistently low in relative terms, their absolute number has increased. This pattern follows a nonlinear trajectory and exhibits a more complex development. Advertising content related to entertainment electronics, services, and financial products were among the most frequently criticized categories. This study provides a data-driven foundation for understanding societal perceptions of age-discriminatory advertising and promotes realistic, inclusive images of aging in public discourse.

BACKGROUND

Even today, advertising continues to inadequately reflect Germany's demographic realities. Despite the ongoing societal shift toward an aging population, advertising still often targets older audiences in stereotypical, deficit-oriented, or completely neglectful ways. While nearly half of the German population was over 50 as early as 2009 (Statistisches Bundesamt, 2009), this proportion has risen to 52.8% in 2024 (Statistisches Bundesamt, 2024). Nevertheless, marketing efforts frequently continue to focus on the traditionally defined core demographic of 14- to 49-year-olds—a concept that originated in the U.S. media industry and was adopted in Germany during the 1990s as the key advertising target group. This age-based segmentation originated with U.S. broadcaster ABC, which introduced it some 50 years ago as a strategic tool for advertising sales (Jäckel, 2009; Gonser, 2009; Mayer, Lukas, & Rothermund, 2005). Such a limitation, however, ignores the significant purchasing power of older consumers and disregards their growing social presence.

Consumer complaints about advertising can be seen as reflections of broader societal attitudes toward fairness, representation, and inclusion. Prior studies have largely focused on gender, ethnicity, or disability stereotypes, while ageism in advertising has remained comparatively underexplored in consumer research (e.g., Yoon & Powell, 2012; Estrada et al., 2010; Stø & Glefjell, 1992). This gap underscores the need to analyze complaints as indicators of how consumers perceive discrimination and fairness in marketing communication.

As the earlier study by Meiners, Reucher, and Leeson (2017) revealed, older adults are either underrepresented or portrayed in ways that misalign with their reality—often through humorous distortion or reductive functional roles. A realistic and respectful portrayal of aging remains largely absent in commercial communications (BBS & Partner, 2005; Sonnenschein, 2008; Bosch, 1990; Röhr-Sendlmeier & Ueing, 2004). A 2005 study conducted by GREY found that 31% of older respondents felt that advertising did not take them seriously or even belittled them (GREY, 2005).

These observations are particularly significant in light of demographic shifts and the social challenges they entail. As early as 2006, Scholl pointed out that age discrimination is widespread in the everyday lives of older people and often goes unnoticed. Rothermund and Mayer (2009) also emphasized that age discrimination is not just an individual issue but has structural dimensions. Advertising that reinforces age-based stereotypes contributes to the perpetuation of negative images of aging, thereby influencing both self-perceptions and societal perceptions of older adults (Kroeber-Riel, Weinberg, & Gröppel-Klein, 2009).

Advertising, as a central component of public communication, plays a crucial role in shaping societal norms. McLuhan (1951) was among the first to describe advertising as the richest and most precise form of social self-description. It is against this backdrop that the question of age-discriminatory advertising emerges not only as a media and communication issue but also as a matter of socio-political importance. This follow-up study builds on prior findings and uses an expanded dataset to analyze how age-related advertising complaints have evolved from 2003 to 2024. To this end, all complaints submitted to the *Deutsche Werberat* (N = 11,154) during this period were systematically reviewed with a focus on potential age-discriminatory content.

The German Advertising Standards Council (in German: *Deutsche Werberat*) serves as the central body for reviewing advertising content and operates as an independent self-regulatory institution of the German advertising industry. It was established in November 1972 by the German Advertising Federation (ZAW). Through this institution, advertisers, media, and agencies have created a non-governmental oversight body to support and monitor commercial advertising practices in Germany. The German Advertising Standards Council receives consumer complaints, reviews them, and—when violations of ethical standards are identified—calls upon companies to amend or withdraw the offending advertising. Its overarching goal is to promote responsible, non-discriminatory advertising and foster public trust in the advertising industry. Although advertising in Germany is subject to legal frameworks—such as the Act Against Unfair Competition—the German Advertising Standards Council offers an additional avenue for addressing advertising content that may not violate the law but is still perceived by individuals or society as offensive or inappropriate. In this way, the Council complements legal protections through a moral and ethical self-regulatory process (Deutscher Werberat, 2014).

Complaints submitted to the German Advertising Standards Council therefore provide a unique and valuable longitudinal record of how consumers respond to perceived age discrimination in advertising (Meiners, Reucher & Leeson, 2017). Examining these complaints links individual expressions of dissatisfaction to broader questions of social justice, advertising ethics, and consumer voice within self-regulatory frameworks (Johnston, 1998; Meiners et al., 2021; Meiners et al., 2024).

The comprehensive dataset allows both absolute trends and thematic developments in societal perceptions of age-discriminatory advertising to be traced over more than two decades (2003–2024). The study specifically explores how the number of age-related complaints has evolved, which industries and media contexts are most frequently associated with such content, and whether societal events (e.g., pandemic-related sensitivity) have influenced complaint

behavior. With this empirical foundation, the study contributes to promoting realistic and inclusive portrayals of aging in advertising and raises societal awareness of subtle age discrimination in media contexts.

CURRENT STATE OF RESEARCH

Previous research on the portrayal of older people in advertising is remarkably consistent, both in its general tendencies and in its argumentative structure. Studies from the United States, Canada, and other countries over several decades have shown that older individuals are systematically underrepresented in advertising or—when depicted—are often addressed in a discriminatory manner. Notably, the work of Lauzen and Dozier (2005), Robinson et al. (2004), and Francher (1973) documents the ongoing invisibility of older adults in television advertising. This line of research is further supported by investigations such as those by Coltrane and Messineo (2000) and Moore and Cadeau (1985), which demonstrate that older people—particularly older women—either do not appear in commercial communications or are confined to stereotypical, age-centric roles.

A similar trend can be observed in the German-speaking world. Studies by Bosch (1986), Jürgens (1994), Röhr-Sendlmeier and Ueimg (2004), Burgert and Koch (2008), and Meiners and Seeberger (2012) show that older individuals predominantly appear in passive supporting roles. Their portrayal often follows a deficit model—presenting them as frail, dependent, or technologically incompetent—or exaggerates vitality in a way that produces unrealistic images of aging. Notably, advertising content aimed specifically at older consumers tends to be highly concentrated in just a few industries. Horn and Naegele (1976) document that nearly 90% of all advertisements targeting older people originate from the pharmaceutical sector. Femers (2017) likewise finds that stereotypical and unrealistic representations of aging are especially prevalent in the healthcare and cosmetics industries. These findings suggest that the continued focus on health-related themes in advertising reinforces an image of aging as a life phase marked primarily by functional limitations.

Representations that depict older adults as independent, multifaceted individuals remain the exception. Instead, advertising often reproduces deeply entrenched societal images of aging—frequently accompanied by negative connotations (Löffler, 2006). Studies by Hummert et al. (1994) and Kite, Deaux, and Miele (1991) reveal that older adults tend to be perceived as less capable, less attractive, and less socially integrated—a perception that is also reflected in advertising contexts. The spectrum of age-discriminatory portrayals ranges from overt ridicule and complete omission to seemingly positive, yet cliché-laden glorifications of old age (Roy & Harwood, 1997). Harwood (2007) notes that such overly positive portrayals can constitute a subtle form of discrimination because they distort realistic images of aging just as much as negative stereotypes do.

It is also evident that older individuals in advertising rarely appear in isolation. They are usually situated in relation to other age groups—for example, as grandparents, care-dependent relatives, or technologically overwhelmed users. In such depictions, age is frequently reduced to a set of narrowly defined social roles. The results of these studies indicate that representations of aging in advertising are far removed from any diversity-conscious or inclusive approach. Instead, stereotypical depictions still dominate today, constraining the image of old age and leaving little room for realistic portrayals (Femers, 2007; Lauzen & Dozier, 2005; Lee, Carpenter & Meyers, 2007).

Strikingly, most previous studies—both in the German and international contexts—rely almost exclusively on qualitative or content-analytical methods that examine selected advertising media. The Sixth Report on the Situation of the Elderly Population in Germany (Sechster Bericht zur Lage der älteren Generation in der Bundesrepublik Deutschland, 2010) as well as Rothermund and Mayer (2009) both criticize the lack of empirical research based on objective data that would allow for conclusions about societal perceptions of age discrimination. Jäckel (2009) and Schorb et al. (2009) likewise emphasize the need to examine this topic not only from a media-theoretical but also from an empirical perspective. Quantitative longitudinal analyses based on systematically collected complaint data remain rare. In particular, studies that capture public complaints about age-discriminatory advertising and track their development over time are largely absent.

From a consumer-behavior perspective, complaint activity can be understood through theoretical lenses such as perceived justice, fairness, and control (Singh, 1988; Tax, Brown & Chandrashekar, 1998). Integrating these concepts helps explain why some individuals choose to voice complaints rather than remain passive, thereby aligning age-discrimination research more closely with established frameworks in consumer dissatisfaction and complaint behavior. (Johnston, 1998).

This study addresses that research gap. It aims to establish an objective dataset based on complaints submitted to the German Advertising Standards Council (N = 11,154) from 2003 to 2024. This allows for valid assessments of the frequency, temporal development, and industry-specific concentration of age-discriminatory advertising. In doing so, the study introduces a new methodological approach that goes beyond conventional content analysis and systematically captures public responses to age-discriminatory communication. At the same time, it seeks to stimulate research on representations of aging in advertising and to provide a data-based foundation for social and political discourse.

OBJECTIVES OF THE STUDY, RESEARCH QUESTION, AND METHODOLOGY

Study Objective and Research Question

The objective of the present study is to make an empirically grounded contribution to the analysis of age-discriminatory advertising in Germany. For this purpose, all 11,154 complaints submitted to the *Deutsche Werberat* between 2003 and 2024 that address age-discriminatory advertising effects are collected and analyzed. In contrast to the preliminary study (Meiners, Reucher & Leeson, 2017), which focused on an 11-year period (2003 to 2014) and approximately 4,500 complaints, this study covers a more than 20-year investigation period. This extended timeframe allows capturing long-term developments and identifying potential trend shifts.

The central research question is: Have the frequency and structure of complaints about age-discriminatory advertising submitted to the *Deutsche Werberat* changed between 2003 and 2024? This guiding question implies several sub-aspects, including the examination of industry-specific differences and potential temporal clusters that may offer insights into the societal perception of advertising.

Of particular interest is the quantitative development of the distribution of complaints in relation to broader societal factors such as demographic change, the increasing visibility of older individuals in the public sphere, and the growing digitalization of the media landscape. Furthermore, the study examines whether significant differences exist across industries in the

prevalence of age-discriminatory content and whether public sensitivity to age discrimination in advertising has shifted over time.

The overarching goal is to relate the subjective perception of discrimination against older individuals to objectively measurable data and thereby derive academically sound findings for business, media, and policy-making.

Methodology and Data Collection

To answer the research questions, a quantitative time-series analysis was conducted, including all complaints received by the *Deutsche Werberat* from January 1, 2003, to December 31, 2024 (N = 11,154). The data were provided by the *Deutsche Werberat* upon written request. These consist of aggregated annual data on all complaints submitted in connection with discriminatory advertising, as well as a specific subset of complaints addressing age-discriminatory effects.

In the first step, the data were analyzed with respect to their annual distribution. For each year, the proportion of age-discriminatory complaints was calculated in relation to the total number of complaints received. In a second step, a regression analysis was conducted to identify possible temporal trends. The method of time series analysis was chosen because it is particularly well suited to capturing long-term developments while also providing a robust empirical foundation for evaluating the research questions (Kamps, 2014; Fahrmeir et al., 2010; Rößler & Ungerer, 2008). The quantitative evaluation is strictly limited to objectively measurable data and deliberately avoids qualitative supplementation to maintain a clear distinction between empirical data and interpretive conclusions. In addition, the standard deviation, coefficient of determination, and correlation coefficient were calculated to assess the explanatory power of the regression models. The chosen methodology thus enables a fact-based assessment of the development of age-discriminatory advertising over more than two decades.

In line with recent consumer-based ageism research (e.g., Yoon & Powel, 2012; Estrada et al., 2010), this empirical design also acknowledges that perceptions of age discrimination are shaped not only by media content but by broader social norms and consumer identity processes. Integrating these perspectives helps situate complaint data within a behavioral context of perceived fairness, inclusion, and trust.

DEFINITION OF AGE-DISCRIMINATORY ADVERTISING

The term 'discrimination' derives from the Latin *discriminare*, meaning “to distinguish” or “to separate.” However, in sociological and political science contexts, discrimination refers not to mere differentiation but to the disadvantageous unequal treatment of individuals or groups based on specific characteristics that are socially devalued. Age discrimination occurs when individuals are disadvantaged, devalued, or excluded from social or economic contexts solely because of their chronological age (Rothermund & Mayer, 2009; Sechster Bericht zur Lage der älteren Generation in der Bundesrepublik Deutschland, 2010).

In Germany, the legal definition of age discrimination is primarily established in the General Equal Treatment Act (AGG) of 2006. In this legislation, 'age' is recognized as a protected characteristic, enabling age-based discrimination to be legally challenged in employment, insurance, and general consumer transactions (§1 AGG, 2006). Unlike racial or gender-based discrimination, age discrimination is often more subtle, less visible, and, to some extent, socially

accepted. Geyer (2008) notes that age discrimination is frequently legitimized as a tool of market segmentation, thereby contributing to the normalization of discriminatory stereotypes.

In the context of commercial communication—especially in advertising—age discrimination rarely manifests through direct derogation. Instead, it is conveyed through stereotypical, marginalizing, or mocking imagery. According to the German Advertising Standards Council's 'Principles Against the Degradation and Discrimination of Individuals' (2004 edition), advertisements must not contain statements or representations that 'demean or socially isolate individuals based on their age.' Thus, evaluation must extend beyond verbal statements to include visual imagery, contextual framing, and the implicit messages conveyed by an advertisement (Deutscher Werberat, 2014).

Age-discriminatory elements in advertising typically take one of three forms: first, ridicule through exaggerated depictions of senile or clumsy older individuals; second, exclusion, whereby older people are entirely absent from advertising scenarios; and third, overidealization, in which aging is portrayed in unrealistic terms that emphasize normative ideals of 'eternal youth' (Hummert et al., 1994; Harwood, 2007).

It is important to recognize that age-discriminatory advertising is not necessarily intentional or malicious. The issue often lies in the uncritical reproduction of culturally ingrained representations of aging that are perpetuated by media and advertising. As Schmitt (2004) argues, age imagery is culturally constructed and subject to historical and social transformation. In this process, the advertising industry plays both a reflective and a formative role. Age-discriminatory advertising can not only reaffirm existing prejudices but also amplify or even generate them.

A particular challenge in defining age-discriminatory advertising is that it is not a binary criterion, but rather an interpretive framework influenced by societal norms, political discourse, and individual sensitivity. Even the DUDEN (2006, p. 176), the authoritative dictionary of the German language, acknowledges that although the term *Altersdiskriminierung* (age discrimination) was incorporated in 2006, its usage in public discourse remains inconsistent.

In summary, age-discriminatory advertising presents not only an ethical issue but also a challenge for empirical research, as the evaluation of discriminatory content involves subjective perceptions while potentially having objectively measurable consequences. For this reason, it is essential to collect empirical complaint data over extended periods to obtain a realistic picture of how society responds to representations of aging in advertising.

RESULTS

The follow-up study extends the analysis of the original investigation (Meiners, Reucher, & Leeson, 2017) by covering the period from 2014 to 2024, thereby spanning 22 years from 2003 (t_0) to 2024 (t_{21}). Compared to the initial analysis, the current data reveal significant developments in both the total number of complaints submitted to the *Deutsche Werberat* and those specifically addressing age-based discrimination:

The original study, covering the period from 2003 to 2013 (t_0 to t_{10}), recorded 4,537 total complaints submitted to the *Deutsche Werberat*. Of these, 197 complaints (4.34% of all cases) concerned discrimination against specific groups (e.g., women, men, foreigners). Within this subset, 31 complaints (15.74% of discrimination-related cases or 0.68% of all complaints) addressed allegations of age-based discrimination.

The extended follow-up study documents 11,154 complaints submitted during the expanded observation period. Of these, 645 complaints pertained to group discrimination (5.78%

of the total), indicating a relative increase from the earlier figure of 4.34%. Among the discrimination-related complaints, 69 involved age discrimination, representing 10.70% of that subset and 0.62% of all complaints submitted.

Compared to the initial data, the absolute proportion of age-related complaints within the discrimination category has decreased from 15.74% to 10.70%. However, the proportion of age-based complaints among total complaints has declined only marginally from 0.68% to 0.62%. At the same time, overall complaints regarding discrimination against groups increased as a share of total complaints.

In contrast to the findings of the initial study, the extended data from 2003 to 2024 reveal a slight but noticeable rise in complaints alleging age discrimination. The annual average increased from 3.0 to approximately 3.3 complaints per year (around 10%). Additionally, the complaint distribution shows more temporal variation, with significant peaks (e.g., 7 complaints in 2024) and improved model fit via cubic regression ($R^2 = 0.33$, $r = 0.57$), as opposed to the nearly flat trend observed earlier. This suggests that complaints followed more complex, nonlinear patterns, possibly reflecting shifts in public awareness or reporting behavior over time.

As in the original study, the majority of complaints concerning age discrimination originated from the sector 'Entertainment Electronics, Communication Technologies (excluding computers), and Telecommunications,' which, alongside 'Other Services,' accounted for the highest share (17.39% each). These findings reaffirm the importance of these industries in shaping public perception of age-discriminatory advertising, although the distribution across leading sectors has shifted somewhat from the first study.

The following remarks present the most significant research findings of the investigation in more detail:

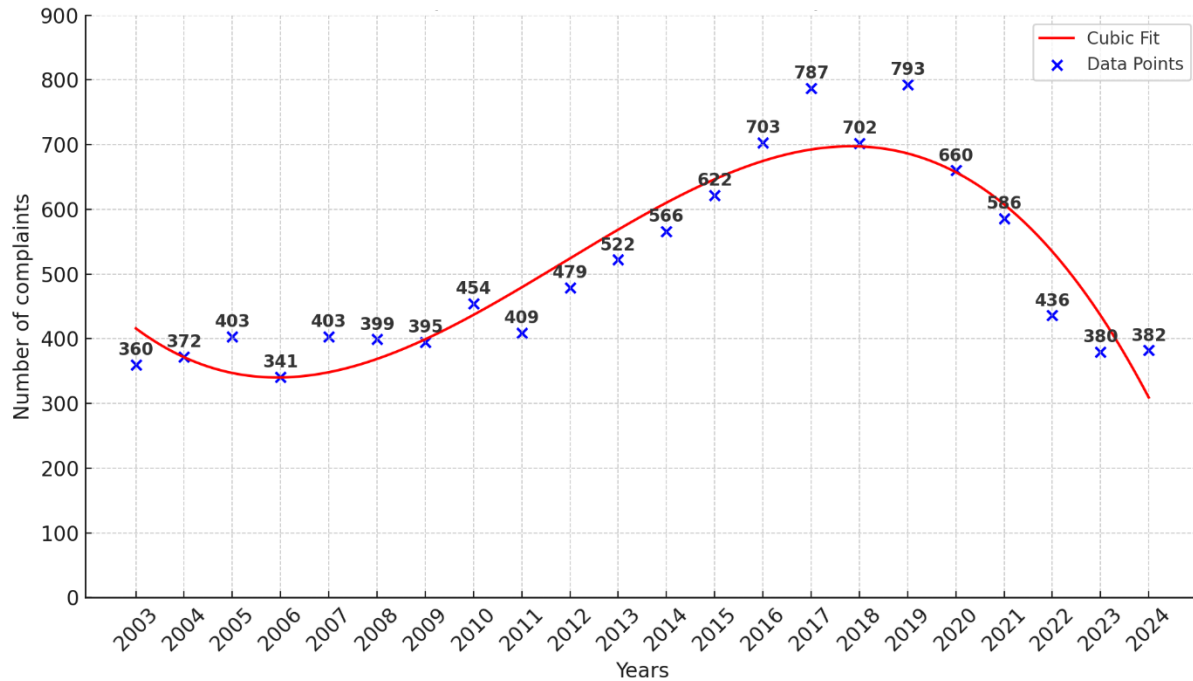
Complaints Over Time (Total Complaints)

In the initial study, a total of 4,537 complaints were recorded as submitted to the German Advertising Standards Council, averaging 412 per year. The years with the highest numbers of complaints were 2013 (522) and 2012 (479), while the lowest figures were recorded in 2006 (341) and 2003 (360). Over the period of investigation, a clear 45% increase in complaints was observed between 2003 and 2013. Linear regression analysis yielded the function $\hat{y} = 345.45 + 13.4 \times t$, with a correlation coefficient $r = 0.84$, a standard deviation $S = 30.86$, and a coefficient of determination $R^2 = 0.697$, indicating a significant linear trend.

The follow-up study, extending through 2024, reports a total of 11,154 complaints, reflecting a substantially higher annual average of 531. The years 2019 (793 complaints) and 2017 (787 complaints) marked the peak, whereas 2003 (360 complaints) and 2023 (380 complaints) recorded the lowest figures. This trend indicates continued growth up to a peak in 2019, followed by a subsequent decline. The increase from 360 complaints in 2003 to 793 in 2019 represents approximately a 120% increase, illustrating the dynamic nature of complaint activity.

While the linear model $\hat{y} = 391.02 + 11.05 \times t$ yielded only a weak R^2 of 0.24 and a correlation coefficient $r = 0.49$ (with $S = 130.08$), a significantly better fit was achieved using a cubic regression model: $\hat{y} = 416.04 - 55.37 \times t + 11.31 \times t^2 - 0.42 \times t^3$. This model presented an R^2 of 0.86, a correlation coefficient $r = 0.93$, and a standard deviation $S = 58.71$. These results suggest a non-linear development of complaints submitted to the *Deutsche Werberat* over the entire period, characterized by both steep increases and subsequent sharp declines.

Figure 1: Complaints Over Time (Total Complaints)



In summary, the comparison of both time series analyses reveals the following key differences:

- The overall number of complaints is significantly higher in the extended period, with a corresponding increase in the annual average.
- The peaks and troughs in complaint numbers have shifted: 2017 and 2019 now mark the high points, rather than 2013 and 2012. The years 2023 and 2024 now represent some of the lowest values, with 2003 still recording the lowest at 360 complaints.
- The simple linear regression function no longer adequately describes developments over the extended period, necessitating the use of a more complex model (in this case, cubic regression).
- The statistical relationship (r and R^2) is significantly stronger in the extended period when using the cubic model than when using the linear model in the original study.
- The dispersion of data points around the regression curve (S) was significantly reduced using the improved model.

These differences demonstrate that the volume of complaints in Germany has followed more complex patterns over the years than previously recognized in the original study. For non-statistical readers, these results can be interpreted to mean that consumer complaints follow societal attention cycles. Periods of increased media debate or heightened awareness of fairness in advertising tend to generate more complaints, whereas years with lower public discourse may produce temporary declines.

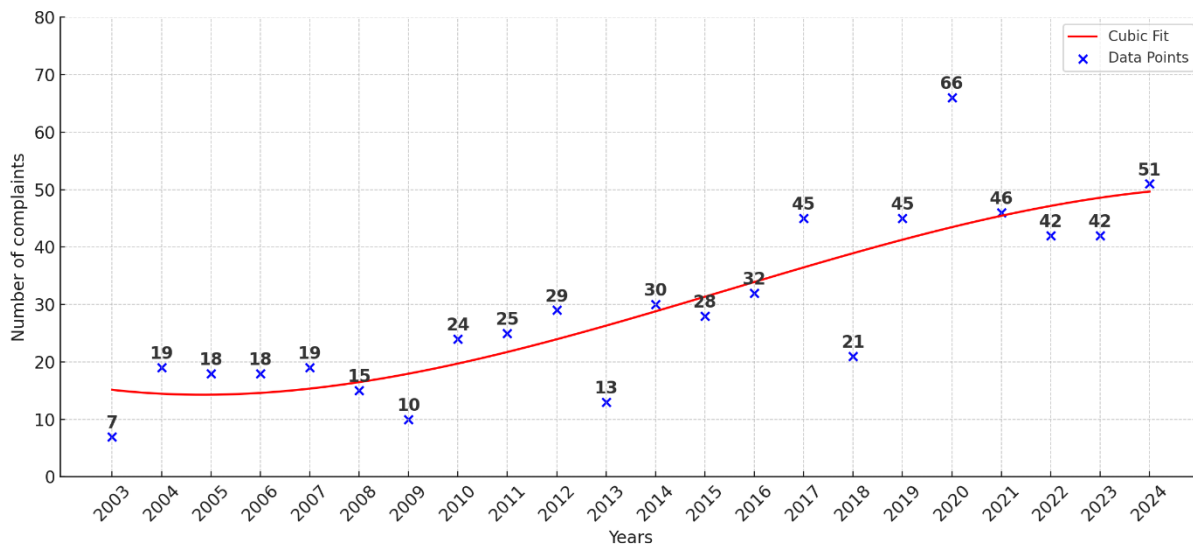
Complaints Over Time Involving Allegations of Discrimination Against Groups of Individuals (Women, Men, Foreigners, etc.)

In the initial study, a total of 197 complaints were recorded during the study period that concerned discrimination against groups of individuals (such as women, men, foreigners, etc.). This corresponded to an average of 18 complaints per year. The highest number of complaints was recorded in 2012 with 29 cases, followed by 2011 with 25 cases. The lowest numbers were recorded in 2003 (7 complaints) and in 2009 (10). Statistical analysis produced a linear regression function of $\hat{y} = 13.64 + 0.85 \times t$ with a correlation coefficient of $r = 0.43$, a coefficient of determination $R^2 = 0.188$, and a standard deviation of the residuals $S = 6.205$.

The follow-up study, covering the extended period through 2024, recorded a total of 645 complaints submitted to the German Advertising Standards Council, indicating a marked increase compared to the first study. Across the total 22 years of the extended study period, the average number of complaints per year rose to approximately 29, representing a 61% increase over the original study. The highest annual complaint counts were observed in 2020 (66) and 2023 (51). The lowest figures were again noted in 2003 (7 complaints) and in 2009 (10 complaints).

For statistical evaluation, the follow-up study employed a cubic regression model, which yielded the best fit and most accurately described the relationship between year and number of complaints. The regression function is: $\hat{y} = 15.14 - 0.97 \times t + 0.28 \times t^2 - 0.0076 \times t^3$. The correlation coefficient was $r = 0.84$, the coefficient of determination $R^2 = 0.71$, and the standard deviation of the residuals $S = 8.91$.

Figure 2: Complaints Over Time Involving Allegations of Discrimination against Groups of Individuals (Women, Men, Foreigners, etc.)



In summary, the comparison of both time series analyses reveals the following key differences:

- The total number of complaints was significantly higher during the extended period (to to t_{21}): rising from 197 to 645, with the annual average increasing from 18 to 29 complaints, a growth of approximately 61%.

- The peaks and troughs in complaint numbers shifted: whereas 2012 (29 complaints) and 2011 (25 complaints) previously topped the list, 2020 (66 complaints) and 2024 (51 complaints) now mark the highest points; the years with the lowest figures remain 2003 (7 complaints) and now 2009 (10 complaints).
- The simple linear regression function no longer sufficiently describes the relationship for the extended period, necessitating the adoption of a more complex model (in this case, cubic regression).
- The cubic model yielded significantly better statistical indicators during the extended period: $r = 0.84$, $R^2 = 0.71$ compared to $r = 0.43$, $R^2 = 0.188$ in the original study.
- Although the standard deviation of the residuals (S) increased to 8.91, this reflects the greater dynamics and complexity in the complaint trends over the extended timeframe.
- The trajectory of complaint volume over time follows more complex, non-linear patterns, which the cubic model captures more accurately.

These differences illustrate that complaint trends in Germany regarding discrimination against groups of individuals (such as women, men, and foreigners) have evolved along more dynamic and complex paths over time. Only the use of the cubic model has enabled an adequate representation of these patterns, highlighting increasing variability and changing dynamics over the years.

To facilitate comprehension for non-statistical readers, these findings suggest that public sensitivity toward discrimination has become more volatile and reactive to social events over time. Peaks in complaint numbers may correspond to periods of heightened societal debate over fairness, equality, or representation, suggesting that self-regulatory bodies serve as barometers of public sentiment on advertising ethics.

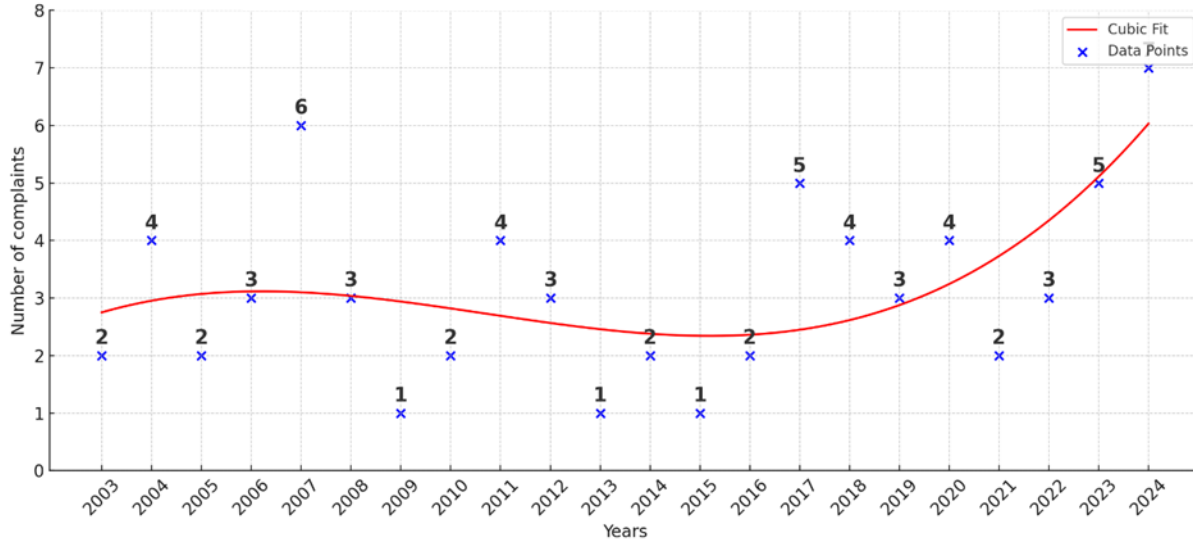
Complaints Over Time Containing Allegations of Discrimination Against Older People

The initial study documented 31 complaints filed between 2003 and 2013 alleging discrimination against older individuals, for an annual average of approximately 3. The highest number of complaints occurred in 2007, with 6 cases recorded. The lowest figures were seen in 2009 and 2013, with only one complaint each. The correlation coefficient was $r = 0.21$, the standard deviation was $S = 1.518$, and the coefficient of determination was $R^2 = 0.042$.

From a behavioral perspective, these modest statistical correlations suggest that complaints of age discrimination are less frequent but may still carry strong symbolic value. They reflect moments when older consumers—or the general public—perceive advertising messages as violating fairness or inclusiveness norms, triggering dissatisfaction and a loss of trust. Such perceptions align with research on perceived discrimination and its effects on consumer satisfaction and loyalty (Budiman, 2021).

In the follow-up study covering 2003–2024, a total of 69 complaints were registered, resulting in an annual average of 3.3 complaints—an approximate 10% increase over the earlier average. The highest yearly figures were recorded in 2024 (7 complaints) and 2007 (6 complaints), while the lowest numbers were once again seen in 2009, 2013, and 2015, with just one complaint each.

Figure 3: Complaints Over Time which Contain an Allegation of Discrimination Against Older People



The cubic regression model provided the best statistical fit for the extended timeframe: $\hat{y} = 2.75 + 0.25 \cdot t - 0.049 \cdot t^2 + 0.0021 \cdot t^3$. This model accounts for 33% of the variance ($R^2 = 0.33$), with a correlation coefficient of $r = 0.57$ and a residual standard deviation of $S = 1.42$. Thus, the cubic model provides the best fit to the data.

In summary, the comparison of both time-series analyses highlights the following key differences:

- The total number of complaints rose during the extended period: from 31 to 69, reflecting an increase in the annual average from 3 to 3.3 complaints (approx. 10% growth).
- The peak years for complaints shifted slightly: while 2007 (6 complaints) remained a high point, 2024 (7 complaints), 2017, and 2023 (5 complaints each) now rank among the highest. The troughs remained constant with 1 complaint each in 2009, 2013, and 2015.
- The simple linear regression model inadequately explained the development, necessitating the use of a cubic model to more accurately reflect the relationship.
- The cubic model yielded improved statistical values: $R^2 = 0.33$ (previously 0.042), $r = 0.57$ (previously 0.21), and a lower residual standard deviation $S = 1.42$ (previously 1.52).
- Complaint trends over the extended period followed more complex, non-linear patterns better captured by the cubic model than by the simple linear regression.

These differences demonstrate that complaint trends in Germany concerning age discrimination have followed a more intricate and non-linear trajectory over time—one that only the cubic model could adequately capture—indicating subtler shifts and patterns than previously assumed.

Industries with the Highest Number of Complaints Regarding Age-Discriminating Advertising

The first study (2003–2013) found that complaints about age-discriminatory advertising were concentrated in a few industries. Most complaints targeted the “Entertainment electronics, communication technology (excluding computers), and telecommunications” sector, accounting for 19.35% of the total. “Other services” (e.g., transportation companies, real estate agents, barbers) followed with 16.13%, while “Credit businesses, insurances, and building societies” came third with 12.90%. Collectively, nearly half (48.38%) of all complaints focused on these three industries, while the remaining 51.62% were spread across 12 other sectors, each representing well below 10% of the total.

The follow-up study (2003–2024) confirmed the concentration of complaints within a few industries but revealed slight shifts in rankings and distribution. “Entertainment electronics, communication technology (excluding computers), and telecommunications” and “Other services” now jointly lead, each comprising 17.39% of the total. These are followed by “Credit businesses, insurances, and building societies” at 11.59%. A new entrant to the top three, “Pharmaceuticals, remedies, medical devices, body care,” accounts for 5.80%. Together, these four sectors now represent 52.17% of complaints, indicating a slight increase in industry concentration compared to the earlier study. The remaining 47.83% of complaints are distributed across 11 industries, none of which exceeds 10% of the total.

These findings demonstrate that while the industries most frequently associated with age-discriminatory advertising have remained largely consistent, their respective shares have shifted slightly, and a new category has emerged among the top three. This suggests that age-discriminatory advertising remains predominantly associated with specific sectors, even as the focus subtly shifts over time.

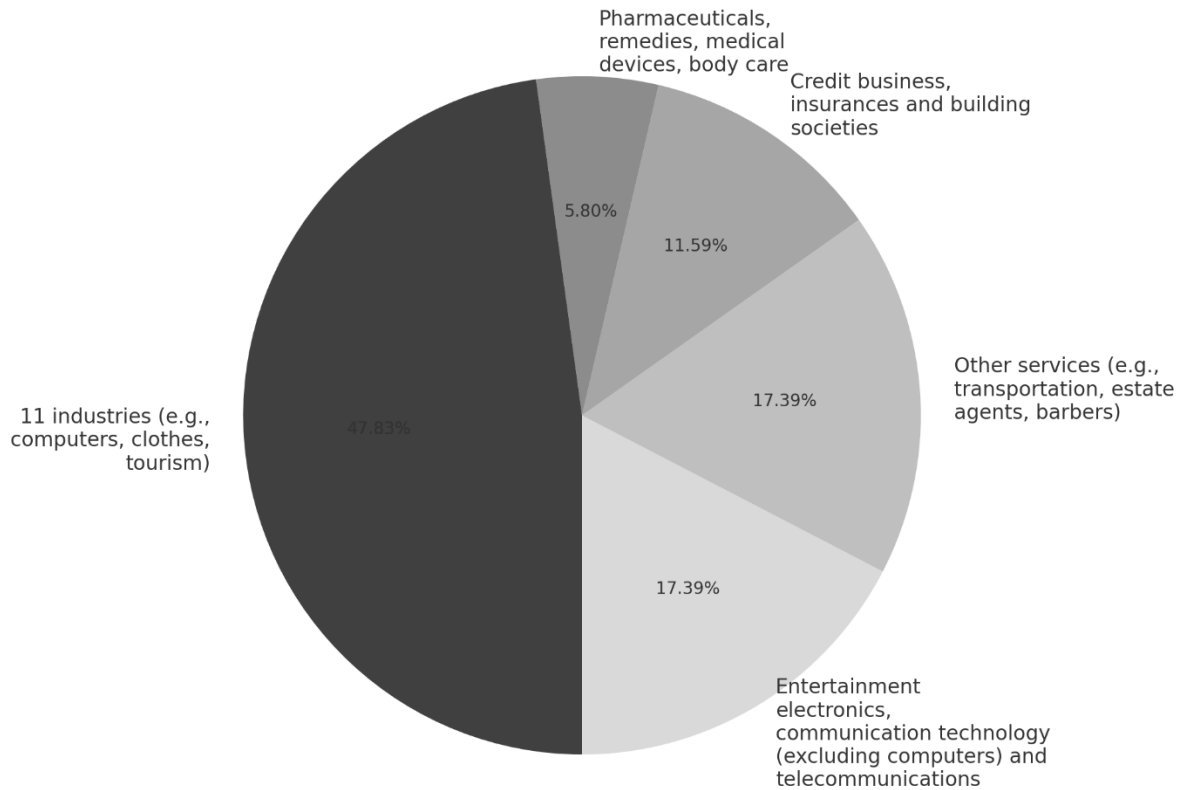
Below, the research findings presented above will be discussed critically.

DISCUSSION

The findings of the follow-up study reaffirm that age-discriminatory advertising remains a socially relevant issue. While the proportion of complaints concerning age discrimination remains similarly low (0.62%) as in the initial study (0.68%), the absolute increase—from 31 to 69—suggests a modest rise in public sensitivity or a shift in reporting behavior. This development challenges prior assumptions that such complaints are decreasing. From a consumer satisfaction perspective, this pattern aligns with expectancy-disconfirmation theory (Oliver, 1980): when consumers perceive advertising as unfair or exclusionary, dissatisfaction arises and motivates formal complaint behavior. At the same time, attribution processes determine whether responsibility is assigned to advertisers or regulators, shaping both the frequency and tone of complaints. Taken together, these behavioral insights suggest that age discrimination in advertising remains problematic and a legitimate cause for public concern (Deutscher Werberat, 2014).

From a theoretical perspective, these complaint patterns can be interpreted within consumer complaint behavior frameworks, which conceptualize complaining as a form of consumer voice reflecting perceptions of fairness, justice, and control (Singh, 1988; Tax, Brown, & Chandrashekar, 1998). Viewing complaints as expressions of perceived injustice helps explain why consumers actively engage with self-regulatory institutions rather than remaining passive or exiting the market.

Figure 4: Industries with the Highest Number of Complaints Regarding Age-Discriminating Advertising



The industry-specific analysis reiterates the dominance of certain sectors. As in the initial study, a significant portion of the complaints relates to the “entertainment electronics, communication technology (excluding computers), and telecommunications” industry. Recently, the “other services” sector has now shared this leading position (both at 17.39%), suggesting that age-discriminatory advertising is no longer perceived solely in tech-related domains but has also gained prominence in other service sectors. The rise of the “pharmaceuticals, remedies, medical devices, and body care” sector into the top three suggests increasing awareness regarding how health and aging are portrayed in advertising (Bosch, 1990; Röhr-Sendlmeier & Ueing, 2004).

This behavioral dimension aligns with research suggesting that consumers choose to voice complaints when they perceive procedural justice and trust in regulatory mechanisms (Day & Landon, 1977; Hirschman, 1970). In this sense, formal complaints to the German Advertising Standards Council represent an active strategy of engagement and a belief in institutional responsiveness, rather than simple dissatisfaction.

Statistical analyses demonstrate that simple linear models no longer adequately capture the trajectory of complaints. The patterns now follow more complex, non-linear developments, necessitating the use of a cubic regression model. This model yields significantly better metrics

($R^2 = 0.33$, $r = 0.57$) than the linear approach used in the first study ($R^2 = 0.042$, $r = 0.21$). The cubic pattern delineates three characteristic phases: a modest initial rise in complaints, a prolonged plateau, and a renewed increase peaking in 2023. This evolution suggests nuanced changes in public reporting behavior and perceptions of age discrimination over time.

The plateau observed during the middle period could be due to several factors. One possibility is that improved awareness within the advertising industry led to fewer age-discriminatory advertisements during this time. Heightened discourse around diversity and inclusion (McKinsey & Company, 2023; Rothermund & Mayer, 2009; Sechster Bericht zur Lage der älteren Generation, 2010), alongside initiatives promoting age-appropriate communication, may have mitigated the impact. Alternatively, reporting behaviors may have shifted: as more media channels emerged, some individuals may have opted to voice concerns via social media or other forums rather than submitting formal complaints to the German Advertising Standards Council. Familiarity or resignation over the perceived effectiveness of formal complaints might also have reduced reporting.

Nevertheless, the ongoing relevance of age-discriminatory advertising underscores the powerful role advertising plays in shaping societal images of aging and reinforcing stereotypes (Kroeber-Riel, Weinberg & Gröppel-Klein, 2009). Integrating these insights with consumer behavior models such as expectancy-disconfirmation and attribution theory provides a clearer understanding of complaint motivation. When consumers' expectations of fairness are violated, dissatisfaction increases and prompts voice behavior, while consistent and inclusive representations enhance trust and long-term brand loyalty. Advertising influences both self-perception and societal perceptions of older individuals (Harwood, 2007), necessitating a systematic, critical approach to counteract ageist portrayals and promote a more accurate, inclusive image of aging in public discourse (McLuhan, 1992).

From a managerial and policy perspective, these results highlight the importance of proactive inclusion strategies in advertising practice. Marketers should ensure that campaigns authentically represent diverse age groups, avoiding both stereotypical and tokenistic portrayals. Internal diversity audits, inclusive design workshops, and pre-testing of campaigns with older audiences can help prevent perceived discrimination. Regulators and self-regulatory organizations, such as the German Advertising Standards Council, may also use these insights to refine their guidelines, strengthen transparency, and promote public trust in the fairness of advertising.

LIMITATIONS

As with any empirical investigation, this study is subject to limitations that must be acknowledged when interpreting the results. A primary constraint lies in the exclusive reliance on complaint data submitted to the German Advertising Standards Council. While this body serves as a reputable self-regulatory authority of the German advertising industry, capturing and documenting advertising complaints systematically and validly, its data cannot represent the full spectrum of age-discriminatory advertising in Germany. Complaints submitted to other institutions—such as the Center for Protection Against Unfair Competition or the Federal Anti-Discrimination Office—were not included in this analysis. Likewise, individuals who perceived advertising as discriminatory but chose not to file formal complaints remain unaccounted for, suggesting a significant dark figure (Rothermund & Mayer, 2009; Schorb, Hartung & Reißmann, 2009).

Geographic and cultural specificity is another limiting factor. The study pertains solely to the Federal Republic of Germany. Given that advertising content and its reception are culturally contingent (Harwood, 2007; Prieler, 2008), the findings cannot be readily generalized to other countries or cultural settings. Values, perceptions of aging, and sensitivity to discrimination vary substantially across societies (Geyer, 2008). Consequently, comparisons with international research are also limited by divergent definitions and methodologies (Lee, Carpenter & Meyers, 2007; Miller, Leyell & Mazachek, 2004; Coltrane & Messino, 2000; Lauzen & Dozier, 2005; Tupper, 1995).

Additionally, the identities of complainants are anonymized, precluding access to demographic data such as age, gender, or educational background. As a result, it remains unclear whether older adults themselves were the primary source of complaints or if younger individuals also reported ageist content. This uncertainty complicates the interpretation of complaint patterns and hampers conclusions about age-group-specific perceptions (Hummert et al., 1994; Kite, Deaux & Miele, 1991; Swayne & Greco, 1987; Schmidt & Boland, 1986). Future research could extend this analysis through cross-national comparisons using data from institutions such as the UK Advertising Standards Authority (ASA) and the US National Advertising Division (NAD). Such comparative work would enhance generalizability and reveal whether observed complaint patterns are culturally or institutionally specific.

The inherently subjective nature of complaint processes presents another methodological challenge. The dataset reflects subjective perceptions rather than objectively verified instances of age discrimination. Hence, some complaints may stem from misunderstandings, cultural differences, or individual sensitivities that do not meet the legal criteria for discrimination under the General Equal Treatment Act (AGG, 2006). Consequently, it is not methodologically feasible to distinguish between objectively discriminatory and merely perceived offenses based on the available data.

Despite the study's twenty-year timespan, it remains impossible to determine causality—whether ageist advertising has truly become more or less prevalent. The findings illustrate trends in reporting behavior but do not quantify changes in the actual prevalence of age-discriminatory content. Whether the increase in complaints reflects a growing prevalence of such advertising or heightened public awareness remains uncertain (Schmitt, 2004; Röhr-Sendlmeier & Ueig, 2004; Sonnenschein, 2008). A multivariate analysis incorporating external variables—such as media coverage, demographic shifts, or legal changes—was not within the scope of this study.

Lastly, coding of advertisements was based solely on complaint categories as defined by the Werberat. While these categorizations result from systematic committee evaluations, they offer no direct insight into the actual content or language of the advertisements in question. No parallel content analysis of the advertising materials was conducted, meaning insights into tone, imagery, or rhetoric remain speculative (Bosch, 1986; Femers, 2007).

Despite these limitations, the study offers a valuable empirical foundation for understanding the public reception of ageist advertising in Germany and lays the groundwork for more nuanced future analyses of age portrayals in advertising.

CONCLUSION AND OUTLOOK

This longitudinal quantitative analysis of complaints submitted to the German Advertising Standards Council between 2003 and 2024 offers an evidence-based framework for investigating ageist advertising in Germany. Although the issue has become increasingly relevant to society, it

remains relatively underexplored in the academic literature. The results show that, while not a widespread phenomenon, age discrimination in advertising is consistently noticed and challenged by consumers. These perceptions are meaningful as they reveal societal age norms and highlight how advertising may perpetuate or even entrench ageist stereotypes.

Over the past two decades, the number of complaints has remained low, but not in a linear trajectory. While the data indicate a modest rise in complaints, this trend may reflect either increased public sensitivity or an actual growth in age-discriminatory content (Röhr-Sendlmeier & Ueing, 2004; Rothermund & Mayer, 2009). Methodologically, it remains unclear whether public discourse or advertising practices are driving the trend.

Therefore, while this study points in meaningful directions, it cannot draw conclusive insights into the frequency or development of ageist advertising itself. Nonetheless, it makes a significant contribution by closing a critical research gap, offering a longitudinal perspective that transcends isolated content analyses (Lauzen & Dozier, 2005; Schmidt & Boland, 1986).

A key finding is that age-discriminatory advertising continues to cluster in specific industries—especially “entertainment electronics, communication technology (excluding computers), and telecommunications,” “other services,” and “credit business, insurance, and building societies.” These same sectors were identified in the previous study, suggesting persistent problems. Future research should explore explanatory factors, such as language use, visual representations of older people, or campaign design—issues best examined through combined content and effect analyses.

The impact of age-related advertising extends beyond consumer behavior. It influences older individuals’ self-concept and shapes societal perceptions of aging (Kroeber-Riel, Weinberg & Gröppel-Klein, 2009; Schmitt, 2004). This dual influence—both normative and identity-shaping—requires understanding ageism in advertising as a legal, economic, cultural, and social issue. The advertising industry holds a special responsibility, as it plays a pivotal role in constructing social norms (McLuhan, 1992).

Future research must therefore broaden its scope and adopt an interdisciplinary approach. Only by combining communication studies, gerontology, consumer sociology, and psychology can we build a holistic understanding of the causes, perceptions, and effects of ageist advertising. Scholars such as Geyer (2008) and Renn (2006) advocate for precisely this type of empirically grounded and socially engaged scholarship.

Practically, future studies should also incorporate the actual content of the challenged advertisements. A dual-method approach—quantitative trend analysis and qualitative content research—would allow for richer insights into both frequency and nature of discrimination. Moreover, international comparative studies would illuminate cultural differences in the perception and design of age-based advertising (Prieler, 2008; Coltrane & Messino, 2000). Finally, institutional frameworks should evolve. It would be desirable for the German Advertising Standards Council to offer more differentiated complaint categories and communicate complaint statistics transparently. Doing so would heighten awareness and initiate a broader societal learning process, fostering a more inclusive advertising culture.

This study aims to contribute to that process—not with final answers, but by offering a robust empirical foundation for future research and debate. As McLuhan (1992, p. 268) aptly put it, “Advertisements are the most truthful reflections that any society ever made of its activities.” In light of demographic change, this reflection should increasingly include a realistic, respectful, and multifaceted image of aging.

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