

Brief Report

Multidimensionality of Younger and Older Adults' Age Stereotypes: The Interaction of Life Domain and Adjective Dimension

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Abstract

Objectives: The authors investigated the sources of age-stereotype multidimensionality with the help of personal everyday statements that differed with respect to life domain (e.g., family and partnership vs financial matters) and the adjective dimension reflected in the behavior (e.g., autonomous vs instrumental behavior).

Method: A total of 368 statements reflecting autonomy-, instrumentality-, or integrity-related behaviors in five different life domains were generated. Sixty-nine younger (18–26 years) and 74 older (60–84 years) participants rated the typicality of each statement for either a “young adult” or an “old adult.”

Results: Occurrence and direction of age stereotypes varied by life domain and adjective dimension and ultimately depended on the specific combination of both factors (i.e., a significant interaction). For example, old adults were expected to be optimistic about religious aspects but not about their health, fitness, and appearance.

Discussion: The findings highlight the multidimensionality and complexity of age stereotypes based on a wide array of personal everyday statements.

Keywords: Age stereotypes—Aging—Aging semantic differential—Attitudes—Life domains

Do we believe that older adults typically behave and think differently from younger adults? Research on age stereotypes revealed that adults of different ages hold both negative and positive expectations about aging and old age (Diehl et al., 2014; Heckhausen, Dixon, & Baltes, 1989; Kite, Stockdale, Whitley, & Johnson, 2005). In the seminal study by Hummert, Garstka, Shaner, and Strahm (1994), participants identified distinct subtypes of older adults (e.g., “perfect grandparent” and “curmudgeon”) by grouping adjectives describing person characteristics. Also taking a trait-based approach, Gluth, Ebner, and Schmiedek (2010) found that participants in their 20s and 60s rated older

adults higher than younger adults on autonomy-related adjective pairs (e.g., dependent–independent) but lower on instrumentality- (e.g., inflexible–flexible) and integrity-related pairs (e.g., pessimistic–optimistic). A newer line of research draws attention to contextual influences: Kornadt and Rothermund (2011) found that age stereotypes vary by life domain. Their 30- to 80-year-old participants rated “old people” positively in some domains (e.g., family and partnership) but negatively in others (e.g., mental and physical health, fitness, and appearance). These findings demonstrate that age stereotypes are complex and multidimensional.

However, up to now it is unknown whether the characteristics of the old person, the affordances and constraints of specific life domains, or a combination of both determine this complexity. For example, even though [Gluth and colleagues \(2010\)](#) found that older adults were rated as more autonomous, this may not apply to all life domains, particularly not to those in which older adults are generally perceived negatively. Nonetheless, even if older adults are not perceived as generally active in a life domain, specific behaviors in that domain may still be expected of them. In this study, we therefore investigated the interaction between the effects of life domain and adjective dimension on age stereotypes. Given that in a study by [Casper, Rothermund, and Wentura \(2011\)](#) the activation of age stereotypes regarding specific adjectives was highly context dependent (see also [Barber, Mather, & Gatz, 2015](#)), we predicted that neither domain nor adjective dimension alone but rather the specific combination of both would determine the direction and valence of evaluations.

Most research on age stereotypes examined ratings of a small selection of condensed statements covering a wide range of different behaviors (e.g., [Kornadt & Rothermund, 2011](#): “Old people depend on the help of others.”) or of adjectives without specific context ([Gluth et al., 2010](#), see first paragraph). In contrast, we used various concrete statements describing a person’s behaviors, hopes, plans, and preferences in everyday life. To consider age-group differences in age stereotypes ([Hummert et al., 1994](#)), we had different age groups rate the statements’ age typicality. In summary, our study had two goals: (a) establishing whether effects of life domain and adjective dimension on age stereotypes occur for such diverse everyday statements and (b) test for an interaction of these two factors to disentangle the sources of the multidimensionality of age stereotypes and to integrate the distinct (i.e., personality-focused vs context-focused) lines of previous research on this topic.

Method

Sample

Sixty-nine younger (M age 22.03 [18–26] years, 66.2% women) and 74 older adults (M age 70.17 [60–84] years, 69.6% women) completed our survey. All indicated fluency in German, the survey language. Younger participants were recruited online or on campus; community-dwelling older participants were recruited via newspaper ads, at local events, and through snowballing. Participants could opt to enter a raffle for gift cards; students (87% of younger participants) were alternatively offered course credit. On average, older participants had completed 14.22 ($SE = 4.59$) years of formal education and younger participants 15.33 years ($SE = 2.39$), $t(141) = 1.81$, $p = .073$. All younger and 40% of the older participants completed the survey online; the remainder completed an identical paper version.

Measure, Design, and Procedure

To keep the number of to-be-rated statements reasonable, we focused on life domains for which [Kornadt and Rothermund \(2011\)](#) reported (positive or negative) age stereotypes: family and partnership (FP); financial situation and dealing with money-related issues (FM); friends and acquaintances (FA); physical and mental health, fitness, and appearance (PH); and religion and spirituality (RS). We dropped the domains of leisure activities and personal way of living in which “old people” were rated neither positive nor negative. We further did not include statements about work and employment because we expected these to induce participants to think of a rather young “old adult” throughout the survey (Kornadt & Rothermund’s participants considered 60 “old” in this domain). For adjective dimensions, we relied on the factor analysis by [Gluth and colleagues \(2010\)](#) but dropped the “acceptability” dimension for which no age stereotypes were found. Thus, we included the following three factors (with adjectives marking each factor in the Gluth et al. analysis in parentheses): autonomy (decisive, sure, independent, and tidy); instrumentality (flexible, progressive, active, strong, and exciting); and integrity (happy, hopeful, optimistic, and content). On this basis, three of us independently generated two to three statement pairs for each Domain \times Adjective combination (examples in [Table 1](#)), with two opposing statements for each adjective pole (e.g., flexible vs inflexible). We then discussed the statements and dropped duplicates and statements for which we disagreed on the classification, resulting in a total of 368 statements. (A list of all statements [in German] may be obtained from B. G. Kuhlmann.) An additional independent rater agreed with our classification for 94.02% of the statements regarding life domain and 84.23% regarding adjective dimension.

Younger and older participants were randomly assigned to rate typicality for a “young adult” (34 younger and 39 older participants) or an “old adult.” Thus, the design was a 5 (Life domain; within-subjects) \times 3 (Adjective dimension; within-subjects) \times 2 (Participant age; between-subjects) \times 2 (Rated age; between-subjects) mixed design.

Survey instructions gave no specific target age but explicitly stated to consider both genders. Before rating, participants were asked to think about the to-be-rated age group for 1 min. Statements were randomly ordered (online: by participant; paper booklet: three different random orders). The rating scale was as follows: 1 = *very untypical*, 2 = *untypical*, 3 = *neither untypical nor typical*, 4 = *typical*, and 5 = *very typical*. Afterwards, participants indicated the age (in years) they had thought of while rating (younger participants: $M = 22.15$ [17–30], $SD = 2.14$, for “young adult” and 67.58 [45–80], $SD = 9.09$, for “old adult;” older participants: $M = 24.15$ [12–35], $SD = 4.21$, and 70.70 [50–100], $SD = 8.01$, respectively), indicated the frequency of contact with the rated age group, and provided demographic information.

Table 1. Mean Typicality Ratings for "Young Adult" and "Old Adult" by Younger and Older Participants for Each Life Domain × Adjective Dimension Combination

Domain	Adjective dimension					
	Autonomy (decisive, sure, independent, and tidy)		Instrumentality (flexible, progressive, active, strong, and exciting)		Integrity (happy, hopeful, optimistic, and content)	
	Younger participants	Older participants	Younger participants	Older participants	Younger participants	Older participants
Family and partnership	Y: 3.19 (.04) O: 3.24 (.04) (+0.21) =	Y: 3.13 (.03) O: 3.27 (.05) +0.62	Y: 3.35 (.05) O: 2.75 (.07) -1.76	Y: 3.12 (.04) O: 2.84 (.06) -0.89	Y: 3.46 (.06) O: 3.10 (.05) ^m -1.09	Y: 3.24 (.04) O: 3.41 (.07) +0.52
Finances	Y: 2.82 (.06) O: 3.40 (.06) +1.64 =	Y: 2.98 (.08) O: 3.72 (.06) +1.65 =	Y: 2.97 (.03) ^m O: 3.04 (.04) ^m (+0.34) =	Y: 3.04 (.03) ^m O: 3.01 (.04) ^m (-0.14) =	Y: 2.81 (.07) O: 2.96 (.08) ^m (+0.35) =	Y: 2.79 (.06) ^m O: 3.08 (.07) ^m +0.73
Friends and acquaintances	Y: 2.95 (.06) ^m O: 3.33 (.07) +1.06 =	Y: 3.08 (.06) ^m O: 3.39 (.07) +0.83 =	Y: 3.40 (.05) O: 2.79 (.06) -1.77	Y: 3.19 (.06) O: 2.82 (.06) -1.03	Y: 3.82 (.06) O: 3.07 (.09) ^m -1.70	Y: 3.50 (.07) O: 3.18 (.08) -0.68
Fitness, health, and appearance	Y: 3.18 (.04) O: 2.99 (.04) ^m -0.79	Y: 3.10 (.04) O: 3.11 (.06) ^m (+0.03)	Y: 3.41 (.06) O: 2.62 (.05) -2.63	Y: 3.27 (.05) O: 2.82 (.06) -1.37	Y: 3.54 (.07) O: 3.08 (.06) ^m -1.22	Y: 3.31 (.05) O: 3.31 (.10) (0.00)
Religion and spirituality	Y: 3.26 (.04) O: 3.33 (.04) (+0.26) =	Y: 3.28 (.04) O: 3.44 (.05) +0.62 =	Y: 2.70 (.06) O: 3.02 (.04) ^m +1.12	Y: 2.70 (.05) O: 2.85 (.05) +0.48	Y: 2.87 (.06) O: 3.32 (.05) +1.40	Y: 2.78 (.06) O: 3.15 (.07) +0.91

Note: For each combination of Life domain × Adjective dimension, a sample statement (translated from German) is provided in within double quotation marks. O = mean rating for an "old adult"; Y = mean rating for a "young adult". Standard error of the mean in parentheses. The third, centered value in each cell represents the effect size of the age stereotype (i.e., Cohen's *d*: difference between mean ratings for an "old adult" and mean ratings for a "young adult", standardized with the pooled standard deviation of both rating groups). If the effect size is in parentheses, the Sidak-corrected mean comparison was not significant ($p > .05$; i.e., no age stereotype). Otherwise, a positive (+) effect size denotes a significant Sidak-corrected $p < .05$ positive age stereotype (i.e., higher ratings for "old adult" than for "young adult") and a negative (-) effect size denotes a significant Sidak-corrected $p < .05$ negative age stereotype (i.e., lower ratings for "old adult" than for "young adult"). Equal signs (=) denote that age stereotypes were of similar size in younger and older participants. Asterisks (*) denote that age-stereotype strength differed significantly ($p < .05$; additional superscript +, - denotes $.05 < p < .10$) between younger and older participants (i.e., test of the interaction of Rated age × Participant age for the respective rating; in all significant cases, the age stereotype was more strongly pronounced in the younger participants). ^mMean rating *not* significantly ($p > .05$) different from midpoint of scale (3 = *neither untypical nor typical*), all mean ratings without this superscript significantly differ from the midpoint.

Results

Responses for statements from the negative adjective-pair pole (coded as in Gluth et al., 2010) were reversed such that high typicality ratings always indicate a positive evaluation. Mean ratings were analyzed with a 5 (Life domain) × 3 (Adjective dimension) × 2 (Participant age) × 2 (Rated age) mixed analysis of variance (ANOVA) with Greenhouse-Geisser correction. See Table 1 for descriptive statistics. All main effects but those of participant age and rated age and all interactions were significant ($\alpha = .05$). We will focus on interactions involving rated age, because an effect of rated age indicates a (positive or negative) age stereotype.

The top panel of Figure 1 shows that rated age interacted with life domain and participant age, $F(3.11, 431.66) = 6.83, p < .001, \eta_p^2 = .047$. Sidak-corrected pairwise comparisons revealed that younger participants evaluated an “old adult” significantly more negatively (i.e., lower autonomy, instrumentality, and integrity) than a “young adult” in the domains FP, FA, and PH. Older participants also rated an “old adult” significantly more negatively than a “young adult” in PH, but not in FP and FA (trend toward more negative rating of “old adult” in FA, $p = .075$). In

contrast, both younger and older participants rated an “old adult” more positively than a “young adult” in FM and RS.

The bottom panel of Figure 1 shows that the effect of rated age also interacted with adjective dimension and participant age, $F(1.91, 265.85) = 3.88, p = .024, \eta_p^2 = .027$. Sidak-corrected pairwise comparisons showed that both older and younger participants rated an “old adult” significantly lower than a “young adult” on instrumentality. On integrity, younger participants rated an “old adult” significantly lower than a “young adult,” whereas older participants evaluated both ages similarly. In contrast, both older and younger participants rated an “old adult” as significantly more autonomous than a “young adult.”

Importantly, the effects of life domain and adjective dimension interacted, $F(6.50, 902.91) = 55.68, p < .001, \eta_p^2 = .286$, and the four-way interaction with participant age and rated age was also significant, $F(6.49, 902.91) = 4.26, p < .001, \eta_p^2 = .030$. Based on Sidak-corrected pairwise comparisons, Table 1 indicates the strength (effect size) and direction (+ or -) of age stereotypes for each Domain × Adjective combination in each age group, showing that age stereotypes differed within life domains and within adjective dimensions depending on the specific combination. To illustrate, for instrumental statements, a negative age stereotype occurred in the PH, FP, and FA domains but stereotype strength substantially varied across these domains (i.e., rated age interacted with the three-level domain factor) in both younger, $F(1.99, 133.06) = 5.84, p = .004, \eta_p^2 = .080$, and older adults, $F(1.93, 138.92) = 4.43, p = .014, \eta_p^2 = .058$. Follow-up tests revealed that the negative age stereotype regarding instrumentality was significantly stronger in the PH domain compared with that in the FP and FA domains, with no difference in age-stereotype strength between the latter two domains. In contrast, in the RS domain, in which age stereotypes were generally strongly positive, even instrumental behaviors elicited a “positive” age stereotype. Finally, although age stereotypes in each combination were typically in the same direction for younger and older participants, those of older participants were often weaker (see Table 1).

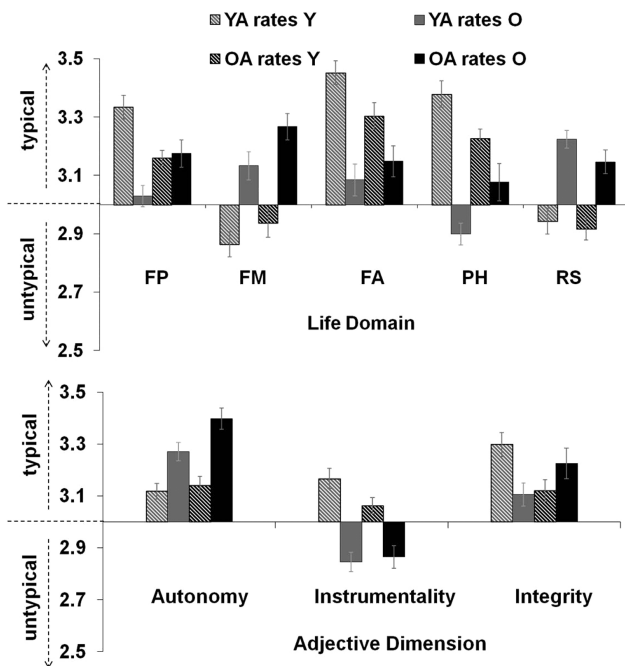


Figure 1. Life-domain (top panel) and adjective-dimension (bottom panel) differences in mean typicality ratings by participant age and rated age. For life domain, ratings are mean typicality in each life domain across adjective dimensions. For adjective dimension, ratings are mean typicality in each adjective dimension across life domains. Error bars represent the standard error of the mean. FA = friends and acquaintances; FM = financial situation and dealing with money-related issues; FP = family and partnership; O = rating for “old adult”; OA = older adult participant; PH = physical and mental fitness, health, and appearance; RS = religion and spirituality; Y = rating for “young adult”; YA = younger adult participant.

Discussion

This study examined age stereotypes in younger and older adults based on typicality ratings for statements from different life domains reflecting different ways of behaving (e.g., being autonomous). Our findings replicate those of prior work showing that age stereotypes are not uniformly negative but that their direction and magnitude differs between life domains (Kornadt & Rothermund, 2011) and adjective dimensions (Gluth et al., 2010). Most importantly, we extend prior research by demonstrating that these two factors interact. That is, the magnitude and (sometimes) direction of age stereotypes differed within life domains depending on adjective dimension and vice versa. For example, negative stereotypes about an “old adult” regarding health, fitness,

and appearance were strongly pronounced for statements reflecting instrumentality (e.g., trying new sports) and integrity (e.g., optimism about one's health) but weaker (non-significant in older participants) regarding autonomy (e.g., being self-secure about one's appearance; but see Sabik, 2015, for potential negative influences of ageism on older adults' body esteem). Similarly, although younger participants generally rated integrity as less typical for an "old adult," integrity-related statements (i.e., being happy and hopeful) were perceived as more typical for an "old adult" regarding religious matters. These results illuminate sources of the multidimensionality that has been reported for age stereotypes (e.g., Kite et al., 2005) and for subjective aging experiences in general (e.g., Diehl et al., 2014; Miche et al., 2014): Whether an older person is perceived more negatively or more positively depends on behavioral characteristics and their assumed relevance in specific life domains.

Our methodology of asking younger and older adults to rate either a young or old target differs from that of Kornadt and Rothermund (2011) who reported evaluations of "old people" only. Therefore, our findings provide first evidence that expectations regarding a "young adult" also vary by life domain. Our findings replicate those by Kornadt and Rothermund except for the positive age stereotype we found in the finances domain, which was, however, mostly confined to autonomy-related statements and probably due to our younger participants being students with low incomes and the age thought of for "young adult" being early 20s. Further research should examine expectations of and for middle-aged adults as well as gender-specific expectations, both of which show some differences in age-stereotypical expectations (e.g., Hummert et al., 1994; Kornadt, Voss, & Rothermund, 2013).

Knowing of which behaviors in a life domain older adults are perceived capable of and of which not may help determine specific situations in which older adults are at risk for discrimination (e.g., when wanting to try new sports)—but also for which perceived age-related strengths could be encouraged. Given that the activation of age stereotypes is highly situation specific (Barber et al., 2015; Casper et al., 2011), it is important to better understand when negative age stereotypes, which may in turn adversely affect older adults (e.g., Chasteen, Bhattacharyya, Horhota, Tam, & Hasher, 2005; Levy, Slade, Chung, & Gill, 2014), will be activated. Our findings suggest that focusing on personal characteristics or contextual factors alone does not provide a complete picture.

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