In the Eye of the Beholder: Can Counter Stereotypes Change Perceptions of Older Adults' Social Status?

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Abstract

Negative age-related stereotypes often entail the perception that older adults have a lower social status than middle-aged adults. We hypothesized that older adults are perceived to have lower social status because they are less likely to be seen in prestigious occupational positions. People tend to infer general assumptions about group characteristics from exemplars. According to this, presenting a stereotype-inconsistent exemplar (i.e. older person in a high-status position) should change perceptions of older adults' social status. Study 1 (60 countries, N = 86,026, 18-99 years) showed that people in countries with an older relative to a younger political leader do not perceive as great a decline in social status from middle-aged to older adults. Study 2 (N = 131; 19-74 years) tested the causal link demonstrating that participants exposed to older exemplars holding a prestigious occupational position were significantly more likely to rate older adults as having a relative higher social status. We discuss implications for future interventions to change negative age-related stereotypes.

Keywords: Social status; aging; stereotypes; leadership; ageism

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A survey on ageism in the United States found that 84% of older respondents had been 'talked down to' due to their age (Palmore, 2004). Common age-related stereotypes entail the perception that older adults are less competent and have lower social status (i.e. the extent to which a person is respected by others; Magee & Galinsky, 2008) than middle-aged adults (Garstka, Schmitt, Branscombe, & Hummert, 2004). As growing numbers of studies show that low social status has detrimental consequences for health and well-being (Sapolsky, 2004), our goal was to better understand the antecedents of the social devaluation of older adults and to identify ways to change social status perceptions of older adults.

Perceptions of social status follow an inverted U-shaped curve across the life span. While midlife is typically associated with high social status, young and older adulthood are associated with relatively low social status (Baker, 1985; Garstka, Hummert, & Branscombe, 2005; Graham & Baker, 1989). Low social status is linked to age-related stereotypes of incompetence and powerlessness (Fiske, Cuddy, Glick, & Xu, 2002; Miller, Gurin, Gurin, & Malanchuk, 1981). A typical older person is often seen as being disengaged from occupational roles and positions that are associated with prestige and respect (Cumming & Henry, 1961; Dowd, 1975; Eaton, Visser, Krosnick, & Anand, 2009). In the current research we were interested in whether older adults are perceived to have lower social status than middle-aged adults because they are less likely to be seen in prestigious occupational positions.

Counter-Stereotypes and Perceptions of Age-Related Social Status

People tend to infer general assumptions about group characteristics from typical exemplars (e.g. Cantor & Mischel, 1979; Brewer, Dull, & Lui, 1981). As such, counter-stereotype exemplars (i.e. a person who does not fit a typical norm) can ameliorate negative

perceptions concerning race and gender. For example, during Barack Obama's presidential campaign researchers found decreases in racially-focused negative stereotyping due to increased automatic positive associations with the concept 'Black' (Plant et al., 2009). Similarly, exposure to female leaders not only decreases gender-based stereotypes but increases positive perceptions of women's leadership qualities (Dasgupta & Asgari, 2004). The goal of this research was to investigate whether this theory can also be applied to age, and specifically to perceptions of age-related social status.

Prior research found that subgroups of older adults who had not been exposed to negative stereotypes about aging had more positive perceptions of aging and performed better on memory tasks than those who were regularly exposed to negative stereotypes about aging (Levy & Langer, 1994). In relation to counter-stereotypes to improve perceptions of aging, Dasgupta and Greenwald (2001) exposed participants of all ages to either admired young individuals (e.g. Ben Affleck) and disliked older people (e.g. Bob Packwood) or to disliked young individuals (e.g. Tonya Harding) and admired older people (e.g. Mother Teresa) and then assessed their attitudes towards younger and older adults. They found slightly less negative implicit attitudes towards older adults following the intervention. Similarly, Duval, Ruscher, Welsh, and Catanese (2000) showed that participants who listened to an older woman speaking counter-stereotypically about her peers – for example mentioning that she was immature and trim - formed less stereotypical impressions of a subsequently encountered older woman as compared to participants who had listened to an older woman describing her peers in a stereotypical manner. Because counter-stereotypes have not been widely explored in relation to perceptions of aging and not at all, to our knowledge, in relation to social status, our goal was to examine how age-related counter-stereotypes may shape perceptions of older adults' social status.

Changing Perceptions of Older Adults' Social Status via Counter Stereotypes

According to status characteristics theory (Berger, Cohen, & Zelditch Jr, 1972) hierarchies are formed because of the appraisals that people make about those in prestigious positions. People in prestigious positions are seen as more competent and as having a more agentic personality (e.g. ambitious), qualities that are associated with good leadership skills (Magee & Galinsky, 2008). Therefore, we predicted that perceptions of older adults' compared to middle-aged adults' social status might be linked to people's exposure to older persons in prestigious positions such as leadership roles or occupational positions.

Previous research on gender stereotypes has shown that cultural exposure to female leaders predicts gender stereotyping. Specifically, Dasgupta and Asgari (2004) found that young women in universities with greater numbers of female teachers have less biased perceptions of women compared to young women in universities with more male teachers. We were interested to test whether cultural exposure to older adults in positions of prestige has a similar effect on perceptions of older adults. The current research tests the hypothesis that cross-cultural exposure to older adults in prestigious positions, specifically the political leaders of their countries, will predict a lesser difference in perceptions of middle-aged compared to older adults' social status. Secondly, the current research seeks to expand on the previous literature with a new format for a counter-stereotype intervention and a novel dependent variable. Specifically we were interested to test whether perceptions of social status can be manipulated through a similar but simpler counter-stereotype intervention using only photographs of unknown people and basic demographic information.

In addition, we were interested to explore what may mediate any effects of our intervention. We hypothesized that one mediator may be the assumptions that people make about those in positions of prestige. Previous work has shown that older adults are seen as being non-competitive and low in competence (Andreoletti, Leszczynski, & Disch, 2015, Fiske et al., 2002). Meanwhile experimental studies have shown that portraying a target

group as being competent increases perceptions of that group's social status (Durante, Capozza, & Fiske, 2010; Oldmeadow & Fiske, 2012). This suggests that the assumptions that people make about older adults' personalities may form their perception that older adults have a lower social status than middle-aged adults. In line with this, we hypothesize that older adults holding a prestigious position should be perceived as having a more agentic personality and that this in turn will mediate perceptions of older adults' social status.

Our research offers several contributions to the existing literature. First, by adopting a cross-country approach we can assess whether exposure to older adults in positions of prestige predicts perceptions of social status across different cultures, language and political systems. Second, we contribute to the growing body of research on the correlates and consequences of age stereotypes and how these can be changed. Understanding the mediating mechanisms is important as these types of interventions could ultimately be used to inform widespread anti-ageism campaigns.

The Present Research

The present research investigates the association between counter-stereotypes and age-related social status. First, we sought to replicate the finding that age-group status follows an inverted U-shaped pattern across the life span with the lowest social status observed in young and later adulthood in a cross-cultural sample including 60 countries. In Study 1, we further tested whether the age of the political leader of a given country was associated with the perception of older adults as having a relative higher or lower level of social status than middle-aged adults. Specifically, we expected that the difference in perceived social status of middle-aged compared to older adults would be smaller in countries with an older political leader (i.e., older adults would be perceived to have a relative higher social status). In Study 2, we hypothesized that exposing participants to counter-stereotypical older exemplars (older persons occupying high status positions) would lessen the gap between the perceived social

status of middle-aged compared to older adults. . Thus, we predicted that participants exposed to older adults in prestigious positions would give higher agentic personality ratings to these adults and that this, in turn, would affect their ratings of older adults' social status in general.

Study 1

Previous work on social status has suggested that it follows an inverted U-shaped curve over the lifespan. However this has primarily been shown in Canadian and U.S. studies (Graham & Baker, 1989, Garstka et al., 2004). The initial aim of Study 1 was therefore to test whether this inverted U-shaped curve exists across multiple cultures and countries. The second aim was to test one hypothesis as to how perceptions of older adults' social status are developed and maintained. Previous work on gender stereotypes has shown that frequency of exposure to counter-stereotypical females (females in leadership positions reduces) reduces stereotypic beliefs (Dasgupta & Asgari, 2004). We were interested to test this in relation to older adults' social status. We hypothesized that cultural exposure to older adults in positions of prestige and power is likely to be associated with individuals' perceptions of the social status of older compared to middle-aged adults. In light of this, individuals in countries in which there is an older political leader should have more positive perceptions of older adults' social status than individuals in countries with a young political leader. We used a cross-cultural study to test the hypothesis that individuals in countries with older political leaders will assign a social status rating to older adults that is close to or on a par with that assigned to middle-aged adults.

Method

Participants and Procedure

We used data from the sixth wave of the World Value Survey (WVS), which was carried out between 2010 and 2014. The WVS is a standardized survey using nationally representative samples of residents including between 900-3000 respondents per country. The

WVS is made up of a network of social scientists with a principal investigator in each country who is responsible for data collection in that region. Random sampling is used to take a sample of at least 1000 participants aged 18 and over in each country creating a representative national sample. Detailed information about the WVS can be obtained at www.worldvaluessurvey.org. Wave 6 of the WVS included questions on social status. We included data from 86,026 respondents in 60 different countries around the world (M = 41.84, SD = 16.41; 52.3% female) (see Tables 1 and 2). Additional information about country-level characteristics, the relative development of a given country, was obtained from the United Nations 2015 Human Development Report (Jahan et al., 2015).

Measures

Perceived social status. To measure perceived status of different age groups participants in the WVS responded to the following questions: *"Now I'm going to ask you some questions about the position in society of people in different age groups. I'm interested in how you think most people in this country view the position in society of people in their 20s/ people in their 40s/ people over 70." Please tell me where most people would place the social position of people in their 20s/ people in their 40s/ people over 70?"* The response scale ranged from 0 = *'extremely low position in society'* to 10 = *'extremely high position in society'.* We hypothesized that the difference in how participants rated middle-aged compared to older adults would be larger in countries with younger political leaders compared to older political leaders. The dependent variable was therefore difference in ratings of middle-aged compared to older adults.

Political leader. Information on the political leader of each country was accessed via the Central Intelligence Agency (CIA) World Factbook and rulers.org (Central Intelligence Agency, 2016; Schemmel, 2016). For each country we identified the political leader who was involved in the day-to-day running of the state as defined as the head of government

according to the CIA World Factbook. In most cases this was the prime minister or chancellor (e.g. Angela Merkel in Germany). In a few cases the president acted as both head of state and government (e.g. Barack Obama in the United States). We then documented the age and gender of the political leader in each country at the time of the WVS wave 6 data collection for that country (range: 2010-2014) from rulers.org (Schemmel, 2016). The mean age of political leaders in the 60 countries at the time of data collection was 59.22 (*SD* = 9.57) and only 6 leaders were female (Argentina, Australia, Brazil, Germany, Thailand, Trinidad and Tobago).

Covariates. Because previous research shows that perception of older adults is related to sociostructural factors such as income levels and modernization (Bengtson, Dowd, Smith, & Inkeles, 1975), we adjusted for those in our analyses. We included the level of human development in each country by using the United Nations Human Development Index (HDI) value from the year the survey was taken in each country (Jahan et al., 2015). The HDI is computed as a composite of (1) gross national income per capita, (2) level of education, and (3) life expectancy in a given country. The human development index was available for 59 of the 60 countries with the exception being Taiwan (*M* = .75, *SD* = .12, Range: .48 (Rwanda) - .93 (Australia)). We also included the median age of the population in each country as reported by the United Nations Human Development Report 2015 (Jahan et al., 2015). This was available for 59 of the 60 countries with the exception again being Taiwan (*M* = 31.92, *SD* = 7.58, Range: 17.70 (Nigeria) – 46.50 (Japan).

Analyses Plan

In order to test perceptions of age-related social status by country we conducted a multilevel model with the type of status rating (young, middle-aged and old) as the independent variable and the target group (individuals' ratings of the three age-groups) as the dependent variable. Individual participants were nested within countries. We tested for a

linear trend and then for a non-linear trend by adding a quadratic term (target group squared) to the model. Second, to test the effect of age of political leader (country level) on ratings of social status (individual level) we conducted a linear multilevel model with difference between ratings of middle-aged adults' social status and ratings of older adults' social status as the dependent variable and age of political leader as the independent variable. We used multilevel modeling due to the nested nature of the data with two levels (individual and country) which violated the assumption of independence of observations necessary for linear regression analyses (Snijders & Bosker, 1999). Specifically, we tested three successive multilevel models: (a) Model 1 assessed the effect of age of the political leader as a fixed effect on individual ratings of social status; (b) Model 2 added the age and gender of raters as individual level fixed effects and also allowed these variables to vary as random slope effects; (c) Model 3 added the human development index for each country, the median age of the population and the gender of political leaders as fixed effects.

Results Study 1

Life-span pattern of age-related status. The individual status ratings of young, middle-aged, and older adults were correlated ($r_{y\text{-}ma}$= .33; $r_{y\text{-}o}$= .14; $r_{ma\text{-}o}$= .29, *ps* < .001). A multilevel model testing for a linear trend between target group and ratings revealed a positive relationship such that social status ratings increased over the three target groups (young to middle-aged to older adults) (β = 0.16, $p < .001$; Model Fit AIC = 1117184.41). We then tested for non-linear trends by adding a quadratic term of the model (target group squared) which revealed a statistically significant negative effect (β = -1.34, $p < .001$) that indicates a levelling off of the linear increase. The fit of the model was also improved by inclusion of the quadratic term (AIC: 1092277.65) indicating that the data is best fit with a non-linear model that most closely resembles an inverted U-shaped curve.

Thus, consistent with previous findings (Graham & Baker, 1989), the life-span pattern

of social status can be described as an inverted U-shaped curve (see *Figure 1).*

The link between leader age and perceptions of older adults' social status. The results of the multi-level models can be seen in Table 3. Analyses revealed that the age of the leader was statistically significantly associated with individual ratings of social status after inclusion of all random and fixed effects. Specifically, for every additional 1 year in age of the political leader of a country the difference in individual ratings of middle-aged compared to older adults decreased by nearly half a point on the 10-point rating scale ($t(58.06) = -3.06$, $p = .003$, see table 3). Analyses also show that the effect remains when controlling for the age and gender of participants, the gender of the leader, the median age of the population and the HDI of each country ($t(53.45) = -2.03$, $p = .047$, see table 3). This suggests that individuals in countries with older political leaders have more positive perceptions of older adults' social status. Figure 2 depicts the life-span pattern of social status for the countries with either the youngest or oldest political leaders reflecting one SD above or below the mean (Bauer & Curran, 2005). The countries with the youngest political leaders (-1 *SD* from average age = < 49.70 years) were Georgia, Netherlands, Kazhakstan, Romania, Sweden, Thailand, Slovenia (ascending). The countries with oldest political leaders (+1 *SD* from average age = > 68.80) were China, South Africa, Morocco, Kuwait, Jordan, Azerbaijan, Uruguay, Bahrain, Yemen, India (ascending). Taken together, these findings suggest that the age of the political leader is associated with a lower discrepancy in ratings of older adults' social status compared to middle-aged adults' social status and, thus, more positive perceptions of older adults' social status in a given country.

Discussion Study 1

Using data from the World Value Survey, Study 1 provided a first cross-country comparison of age-related status across the life span. The findings confirm the first hypothesis as they revealed that social status follows an inverted U-shaped curve across the

life span: young adults start off with a relatively low social status, social status is perceived to peak in midlife, and old age is again associated with low social status. This is in line with previous research and extends to a cross-cultural perspective (e.g., Baker, 1985; Zebrowitz & Montepare, 2000). Midlife has been linked to the systematic possession of powerful social roles that contributes to the perception of high social status (Eaton et al., 2009; Neugarten & Moore, 1968). Thus, the relatively low social status of the groups of younger and older adults may reflect systematic age-differences in the distribution of high status and power roles.

Although these findings suggest that the inverted U-shape is the most appropriate to describe the overall pattern of age-group status across the life span, there is substantial variation across countries, particularly concerning the lower levels of social status in late adulthood. To explore this further, we examined moderating factors for those country-level variations and found support for our assumption that the age of the political leader in a given country partly explains the country-level differences in perceptions of older adults' compared to middle-aged adults' social status. The findings suggest that status loss between midlife and later adulthood was less pronounced in countries with older political leaders.

There are, however, some limitations to Study 1. Firstly, the status question asked participants to rate how they think 'most people in this country' view younger, middle-aged and older adults rather than how they themselves view these groupings. Our dependent variable therefore represents a type of meta-perception (i.e. what people think most other people think). Nevertheless, this type of measure has previously been used to assess individual differences in attitudes (Fiske et al., 2002; Vauclair, Lima, Abrams, Swift, & Bratt, 2016). In the WVS sample there is variance in perceptions of social standing within countries by individual factors such as age and gender indicating that we are picking up on individual differences in meta-perceptions. Secondly, and perhaps most importantly, a limitation is the

cross-sectional nature of the study which means that an alternative interpretation of our findings could be that that in countries where older adults are perceived to have a relative higher social status, older individuals are more likely to be appointed as a political leader. Furthermore, there may also be other variables that may influence age-related status perceptions across cultures. As the WVS is based on correlational data we cannot determine the effects of how changes in the leaders' age may impact changes in social status over and above the effects of other influential variables. We therefore tested the causality of the proposed relationships together with the underlying psychological mechanism using an experimental design in Study 2.

Study 2

While Study 1 illustrates initial support for the hypothesis that perceptions of older adults' social status may be formed in part by exposure to stereotypical or counter-stereotypical older adults (i.e., political leaders), it was a cross-sectional study and thus unable to determine casualty. We therefore carried out a second experimental study in which exposure to counter-stereotypical exemplars could be manipulated and the mediating mechanisms assessed. We hypothesized that exposing participants to counter-stereotypical older exemplars (older persons occupying high status positions) would lessen the generalized bias towards older adults having low social status. Secondly, we hypothesized that this would be mediated by how participants' rated older adults on agentic personality characteristics. We hypothesized that participants exposed to older adults in prestigious positions would give higher agentic personality ratings to these adults and that this, in turn, would affect their ratings of older adults' social status.

Methods

Participants One hundred and thirty one participants aged between 19 and 74 (M_{age} = 35.62, *SD* = 12.11; 42% female) participated in this online study in exchange for monetary

compensation through the Amazon Mechanical Turk website (MTurk; Buhrmester, Kwang, & Gosling, 2011). Participation was available only to MTurk workers residing in the U.S. Ethical approval was received from the Columbia University Institutional Review Board. The majority of participants were Non-Hispanic White (72.5%), 11.5% were Black, Afro-Caribbean or African-American, 7.6% were Latino or Hispanic America, 3.8% were East Asian or Asian American, 2.3% were South Asian or Indian American, 0.8% were Native Hawaiian or Pacific Islanders and 1.5% identified as 'other.' The majority of the sample had a bachelor's degree (42.7%) while 29% had a high school diploma, 16.8% had an associate degree, 9.9% had a masters degree and 1.6% had no education or did not specify. Over half of the sample (57.3%) worked full time while 14.5% worked part-time, 23.7% were not employed and 4.6% were retired. We calculated an a-priori power analysis to determine the appropriate sample size for this study (Faul, Erdfelder, Lang, & Buchner, 2007). In order to detect a small interaction effect (f = 0.1) with a power of .80 and a Type 1 error level of .05 our recommended sample size was $N = 110$.

Design and Procedure

We used a mixed design consisting of a 2-between participant factor (Condition: Old Age High Status vs Old Age Low Status Exemplars) x 3 repeated measures factor (Status Perceptions: Young vs. Middle-Aged vs. Older Adults). Specifically, participants were randomly assigned to one of the two conditions, in which they were shown either counter-stereotypical or stereotype-consistent exemplars of middle aged and older adults, and then completed three identical status measurements assessing their perceptions of young, middle aged, and older adults' social status. As a cover story, participants were informed that the purpose of the study was to determine whether personality can be accurately assessed through photographs. Participants were then randomly assigned to one of two conditions, (a) Old Age High Status ($n = 70$) or (b) Old Age Low Status ($n = 61$) Exemplar. All participants saw five

photographs of older men (age range 63-72 years) and five photographs of middle-aged men (age range 40-46 years) accompanied by the age and job description of the person in the photograph. The job descriptions were taken from the Bureau of Labor Statistics Report (2013) which listed the top 10 highest paid and 10 lowest paid jobs in the United States. Five of the positions were low-ranking and five were high-ranking (see Supplementary Material for a list) (Kurtzleben, 2013a, 2013b). Photographs were taken from the Park Aging Mind Laboratory Face Database (Minear & Park, 2004). This database includes photographs of young, middle-aged and older adults of Caucasian, African-American, Asian and Hispanic race. All photographs were taken in natural light and resized to the same 640x480 pixel resolution (Minear & Park, 2004). For the purposes of our study we chose images of Caucasian middle-aged and older males with neutral faces. We only used photographs of Caucasian men to avoid any confounding bias that might result from gender or race-related stereotypes. We used GNU Image Manipulation Program (GIMP; version 2.8) to manipulate the shoulders of each headshot so that the photographs of men described to be in prestigious positions wore the same suit and photographs of men described to be in less prestigious positions wore the same jumper. Figure S1 in the Supplemental Material available online presents an example of one photograph from each condition. In the Old Age High Status condition the 5 photographs of older men were accompanied by high occupational status positions and the 5 photographs of middle-aged men were accompanied by low occupational status positions. This was reversed in the Old Age Low Status condition in which participants saw the same 10 faces with different demographic information. The photographs were presented to participants in randomized order. Participants rated what they perceived to be the personality characteristics of the person in each photograph while the photograph remained on the screen. When they had finished rating one photo a new one appeared. Finally, all participants reported their perception of the social status of young adults, middle-

aged adults and older adults. They then provided demographic details, were debriefed and thanked for their participation.

Agentic personality attribution. We used the masculinity subscale of the Personal Attributes Questionnaire (Spence, Helmreich, & Stapp, 1974) to assess perceived agentic personality atttributions of the target (Abele & Wojciszke, 2007; M. Weiss et al., 2014). This 8-item scale consists of a list of contradictory characteristics, for example "*can make decisions easily"* vs. "*has a hard time making decisions"* between which there is a seven-point scale. Participants were asked to describe where on the scale between each of the two contradictory characteristics they believed that the person in the photograph fell. We also added an additional item to assess how competent participants believed the person in the photograph to be. The average rating for the 9 characteristics formed an agency personality score for each photograph. We calculated the mean agency score for photographs of all middle aged adults and the mean agency score for photographs of all older adults. The agency measure showed good reliability for both conditions and for both ages (range of α = .82 - .92).

Perceived social status. We used the MacArthur Scale of Subjective Social Status (Adler, Epel, Castellazzo, & Ickovics, 2000). Participants were presented with 3 ladders and given the following instructions: "*"How do you perceive the social status of young/middle-aged/older adults? Think of this ladder as representing where people stand in society. At the top of the ladder are the people who are best off – who are most respected in society and looked up to in society. At the bottom of the ladder are the people who are the worst off – who are least respected and looked down to in society. Where would you place young/middle-aged/older adults on this ladder? Please mark the appropriate rung by clicking in the box."* were asked to indicat the social status of: (1) young adults; (2) middle aged adults, and (3) older adults on the three ladders by marking an appropriate rung. The scale ranged from 1

(low status) to 10 (high status). This measure has been shown to have good test-retest reliability (Operario, Adler, & Williams, 2004).

Results Study 2

Means and standard deviations for variables for the total sample and for each experimental condition are shown in Table 4. In order to test the hypotheses, the data was analyzed using a two-way repeated measures ANOVA. Mauchley's test revealed the assumption of sphericity had been violated ($\chi^2(2) = 14.93$, $p < .001$) and therefore degrees of freedom were corrected using the Huynh-Feldt correction ($\varepsilon = .92$). There was a main within-person effect of type of status perception (i.e. young, middle-aged or older adults), $F(1.84, 237.33) = 82.98$, $p < .001$, $\eta^2 = .39$. Paired contrasts revealed a significantly higher perception of middle aged adults' social status ($M = 6.22$, $SD = 1.56$) compared to younger adults' social status ($M = 4.24$, $SD = 1.58$) but no difference between perceptions of middle aged and older adults' social status overall ($M = 6.00$, $SD = 2.20$). There was no main effect of condition on social status ratings, $F(1, 129) = 0.03$, $p = .87$.

Consistent with our hypothesis there was a significant interaction effect between condition and type of status perception, $F(1.84, 237.33) = 3.57$, $p = .03$, $\eta^2 = .03$. Paired contrasts revealed that this was due to the significantly greater difference in ratings for middle-aged adults' social status compared to older adults' social status in the Old Aged Low Status condition than in the Old Age High Status condition. Participants in the Old Age Low Status condition perceived age-related social status as having an inverted U-shaped curve with younger and older adults holding lower social status than middle-aged adults. However, as predicted, participants in the Old Age High Status condition rated younger adults as having low social status but rated older adults as having the same level of social status as middle-aged adults (see Figure 3). Note that the presentation of middle-aged adult exemplars in low vs. high status positions did not change participants' perceptions of middle-aged adults'

social status. The same pattern of findings emerged when we controlled for the age and gender of participants, $F(1.89, 240.11) = 4.97$, $p = .009$, $\eta^2 = .04$. There was also a significant main effect of age, $F(1,127) = 9.20$, $p = .003$, $\eta^2 = .07$ and an interaction between age and ladder, $F(1.89, 240.11) = 3.75$, $p = .03$, $\eta^2 = .03$. Follow up Pearson correlations revealed that younger age was associated with higher ratings for both middle-aged ($r = -.20$, $p = .02$) and older adults ($r = -.26$, $p = .002$) but not for younger adults ($r = -.13$, $p = .14$). This indicates that younger adults relative to older adults have the tendency to rate the group of middle-aged and older adults as having a higher social status.

Next, we tested the mediating role of agentic personality attributions to the persons in the photograph in the relationship between experimental condition and the difference in perceived status ratings for middle aged and older adults controlling for the age and gender of participants (Preacher & Hayes, 2008). As can be seen in Figure 4, participants in the Old Age High Status condition rated the five older persons in the photographs as having significantly higher agentic personality characteristics ($M = 4.77$, $SD = 0.81$) than participants in the Old Age Low Status condition ($M = 3.25$, $SD = 0.98$) ($B = -1.45$, $SE = .15$, $p < .001$). Higher ratings of agentic personality characteristics for the older targets was in turn associated with a smaller difference in status ratings of older adults compared to middle-aged adults ($B = -.36$, $SE = .19$, $p = .07$). A bias corrected bootstrap 95% confidence interval for the indirect effect ($B = .52$, $SE = 0.27$) based on 5,000 bootstrap samples was above zero (0.02, 1.09) indicating a statistically significant mediation effect. There was no additional predictive value of experimental condition on status ratings once agentic personality attributions were accounted for ($B = .45$, $SE = .45$, $p = .32$). Agentic personality attributions thus mediated the association between experimental condition and social status ratings.

Discussion Study 2

Taken together, findings of Study 2 suggest that participants who are exposed to counter-stereotypical older adults in prestigious positions rate these older adults as having higher agency and this, in turn, results in a smaller discrepancy between perceptions of middle-aged and older adults' social status.

Nevertheless, there are some limitations to be considered. One limitation is something that is central to all counter-stereotype interventions, namely whether presentation of counter-stereotypical members of a group truly changes the exemplar that participants revert to when thinking about a group, or whether it merely increases the cognitive effort that people make when considering groups (for example by not succumbing to automatic exemplars or perceived homogeneity of the group). We did not test this in our experimental study but it will be an important question for future research. An additional limitation is that we only used Caucasian male faces in the manipulation. This was to avoid potential confounding with gender or race-related stereotypes but it will be important for future work to use a wider variety of faces. Finally, while we can show that exposure to older adults in prestigious positions predicted participants' perceptions of older adults' social status we don't know how long the effect lasted. This was a short experimental study without a follow up and thus it is probable that the effects of this intervention are short-lasting. Future studies will be needed to determine whether these types of interventions can provide long-lasting effects.

General Discussion

Two studies, including a cross-cultural and experimental study, revealed new insights into (a) lifespan patterns of age-group status across different countries and (b) the link between counter-stereotypical exemplars and perceptions of older adults' social status. First, and in line with previous research (e.g. Baker, 1985; Zebrowitz & Montepare, 2000, Garstka et al., 2004), the findings of both studies demonstrated that age-group status takes the form of an inverted U-shaped curve across the adult life span: the social standing of middle-aged adults'

is perceived higher than the social standing of younger and older adults in the majority of countries. Second, the results demonstrated that people's perception that older adults have lower social status than middle-aged adults may be formed, in part, by exposure to counter-stereotypical exemplars. Results of Study 1 showed that people in countries with an older political leader (i.e. an older adult in a counter-stereotypical prestigious position) perceive older adults as having social status that is on a par with middle-aged adults compared to countries with a younger leader. In addition, Study 2 demonstrated that exposure to older adults holding prestigious occupational positions influences ratings of older adults' compared to middle-aged adults' social status. This effect was mediated by agentic personality attributions – older adults in high occupational status positions were perceived as being more agentic than older adults in low status positions. Together, these results suggest that the perceived relative low social status of older adults compared to middle-aged adults can be changed by the exposure to stereotype-inconsistent exemplars.

One explanation as to why older adults are perceived to have low social status is that power confers status. The exchange theory of aging suggests that engagement in society is based on who holds valued resources or power (Dowd, 1975). Middle-aged adults are more likely to control key resources and to be viewed as high-valued exchange partners thus conferring upon them a higher perceived social status. Meanwhile, older adults are perceived to have less agentic personality characteristics (e.g., competence) compared to middle-aged adults suggesting that they may be less likely to be seen as suitable candidates for positions of power (Magee & Galinsky, 2008). As status characteristics theory (Berger et al., 1972) suggests that hierarchies are formed on the basis of appraisals that people make about those in prestigious positions, this combination of factors may thus lead to the common perception that older adults as a group have lower social status than middle-aged adults.

Previous research has shown that the assumptions people make about a group can be challenged by presentation of counter stereotypic members of that group (e.g. Dasgupta & Asgari, 2004; Dasgupta & Greenwald, 2001; Duval et al., 2000; Plant et al., 2009). Counter-stereotype interventions in aging to date have focused on likeability and general stereotypes as targets (Dasgupta & Greenwald, 2001; Duval et al., 2000). The present research instead focuses on social status to suggest that both cultural exposure to older adults in prestigious positions and manipulated exposure in an experimental setting predicts a smaller discrepancy between how participants view middle-aged adults compared to older adults' social status. We find that this effect holds while controlling for the age and gender of participants. Interestingly, however, younger age is associated with higher ratings for middle-aged and older adults but not younger adults. Younger adults are unlikely to be threatened by the perceived low social status of their age-group as they can look forward to gaining status in future (Garstka et al., 2004; Lui, Chung, Wallace, & Aneshensel, 2014). Indeed, previous work has shown that low social status or status loss is only threatening for those who have previously experienced high social status and not for those who have not (Marr & Thau, 2014). Younger adults may therefore have rated middle-aged and older adults as having a higher social status in anticipation of their own status gains in future.

Conclusion, Limitations, and Suggestions for Future Research

This study presents a foundation for future research on social status in the context of aging. This study is the first, to our knowledge, to explore the effect of exposure to older adults in prestigious positions on generalized perceptions of older adults' and middle-aged adults' social status. It is also the first to test the mediating role of agentic personality attributions on perceived age-related social status. We only investigated agency as a mediator in this study but there are other possible mediators and moderators that would be interesting to consider in future research. For example, the strength of participants' negative or positive

attitudes towards older adults prior to the study, or the frequency of their exposure to older adults, may be moderators that determine susceptibility to attitude change following counter-stereotype exposure. An additional interesting finding in this research was that perceptions of middle-aged adults remained constant between conditions. Specifically, middle-aged adults were seen as having high social status regardless of whether participants were exposed to middle-aged adults in prestigious or non-prestigious occupational positions. This is consistent with counter-stereotype interventions in other groups such as race and gender which find effects on perceptions of the stigmatized groups but not on the non-stigmatized groups (Dasgupta & Asgari, 2004; Plant et al., 2009). For example, exposing individuals to female or Black exemplars does not result in a negative bias towards male or White exemplars but rather lessens the bias towards the stigmatized group. It is likely that the perception that middle-aged adults, particularly middle-aged males, have high social status is so socially ingrained that it is unlikely to change. Indeed, Study 1 shows that this perception is consistent across multiple cultures. The effect of the intervention in Study 2 was therefore to bring perceptions of older adults' social status in line with that of middle-aged adults. Finally, in the current design it is not yet clear whether pictures of older adults in prestigious positions without the middle-aged comparison would have a similar effect. Future amendments to this study design could compare older adults in prestigious or non-prestigious occupational positions with neutral controls as has been done in previous gender-related counter-stereotype interventions (e.g. Dasgupta & Asgari, 2004).

This research suggests that exposure to older adults holding positions of high occupational prestige can influence people's discrepant perceptions of the social status of older compared to middle-aged adults. Given that the experience of social status loss is both psychologically highly threatening and also has detrimental effects on physical health and performance (Adler et al., 2000; Pettit, Yong, & Spataro, 2010; Sapolsky, 2004; Scheepers,

2009) these findings have potential ramifications for understanding age-related social status and for future interventions to reduce ageism and ultimately improve health. While the intervention in the current form needs to be replicated and amended the simplicity of interventions such as these highlight the possibility of future societal-wide anti-ageism campaigns to reduce negative stereotyping and improve perceptions of older adults.

Secondly, and importantly, it may have the potential to improve older adults' self-perceptions of aging, a factor that has been shown to predict health and health behaviors as well as psychological well-being (e.g. Levy, Slade, Kunkel, & Kasl, 2002; Robertson, Savva, King-Kallimanis, & Kenny, 2015; Robertson & Kenny, 2016; Robertson, King-Kallimanis, & Kenny, 2016; Sargent-Cox, Anstey, & Luszcz, 2012a; Sargent-Cox, Anstey, & Luszcz, 2012b). Interestingly, we found that the effects of the age of leader and our manipulation were the same regardless of the age of participants suggesting that seeing older adults in positions of prestige is effective at changing both younger and older adults' perceptions of social status. This has important implications for not only how people view other older adults in general but also how older adults view themselves.

Finally, our findings - that the attributions that people make about agentic personality traits affects social status perceptions - may be important for workplace decisions. Although, the percentage of older workers increases continuously, a report in the 2002 American Community Survey found a dramatic drop-off in the proportion of people working who are classified as managers in those aged over 58 (Eaton et al., 2009). Our findings may suggest a negative cycle in which older adults are perceived as being less competent and are therefore not considered for promotional roles. This may then perpetuate the perception that older adults have lower social status than middle-aged adults. Greater consideration of the assumptions made about older employees and whether bias drives these assumptions is

something that workplaces will need to consider in future, particularly with a global aging population and an extension in the number of years that people will be expected to work.

Study 1 of this paper illustrates that cultural exposure to older adults in prestigious positions influences perceptions of older adults overall but in the current situation, where the most common retirement age is 65, there may be many workplaces and cultures in which this natural exposure to older adults in prestigious positions in lacking. This is where the results of Study 2 are important as we show that exposure to fictional older adults in positions of prestige and middle-aged adults in position of lesser prestige has a similar effect to cultural exposure. Thus, we may be able to challenge people's aging stereotypes and to improve perceptions of older adults with interventions such as these while continuing the changes that should ultimately see more older adults in positions of prestige and status. Future research may also consider alternative sources of social status such as those in the home, family, or community. For example, previous work has shown that age-related stereotypes can differ in valence (positive vs negative) depending on the domain considered (e.g. health, family, community; Kornadt, Meissner, & Rothermund, 2016). It would be interesting to assess whether exposure to older adults holding social status in these domains could also improve perceptions of older adults' social status overall. In addition, membership in a specific generation (e.g., Greatest Generation) pointing to collective accomplishments may also provide a source of high social status in later adulthood (Weiss & Lang, 2009).

Taken together, the findings of two studies confirm that age-related social status is perceived to follow an inverted U-shaped curve across the lifespan. Nevertheless, the drop-off in status from mid to late life may be ameliorated by increased exposure to counter-stereotypical exemplars such as older adults as political leaders or occupying prestigious jobs.

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Table 1.

Means, Standard Deviations and Correlations Between Variables of Interest in the World Value Survey Wave 6.

	M (SD)	1	2	3	4
Individual Level					
1. Social Status of Young Adults	5.38 (2.37)	-	.33***	.14***	-.04***
2. Social Status of Middle-Aged Adults	6.88 (1.98)	-	-	.29***	-.01
3. Social Status of Older Adults	5.70 (2.64)	-	-	-	-.07***
4. Participants' Age	41.84 (16.41)	-	-	-	-
Country Level					
1. Age of Leader	59.00 (9.94)	-	-.24	-.27*	-
2. HDI	0.75 (0.12)	-	-	.84***	-
3. Median Age	31.92 (7.58)	-	-	-	-

Note. *** $p < .001$, ** $p < .01$, * $p < .05$. Individual listwise N = 80,224; Group listwise N = 59; HDI = Human Development Index. Mean age of leader differs for that reported in text (M = 59.22) as it is calculated from 59 out of 60 countries in this table due to Taiwan being missing from the UN Human Development Report 2015.

Table 2.

Characteristics of each of the 60 countries in the World Value Survey Wave 6.

Country	Survey Year	Age of Leader	Gender of Leader	HDI	Status YA	Status MA	Status OA	Median Age
Algeria	2013	65	Male	.734	5.48	5.86	5.93	27.5
Argentina	2013	60	Female	.833	6.41	6.26	4.42	31.6
Armenia	2011	51	Male	.723	5.18	7.30	4.39	33.4
Australia	2012	51	Female	.932	5.63	7.28	5.42	37.4
Azerbaijan	2011	76	Male	.742	4.58	5.99	5.54	30.4
Bahrain	2014	78	Male	.824	6.44	6.57	6.61	30.2
Belarus	2011	61	Male	.793	4.51	7.27	4.65	39.5
Brazil	2014	67	Female	.755	5.53	6.72	5.28	31.2
Chile	2011	62	Male	.821	5.36	6.78	4.97	33.7
China	2012	70	Male	.718	5.38	7.11	6.11	36.0
Colombia	2012	61	Male	.715	6.87	6.59	5.39	28.3
Cyprus	2011	65	Male	.852	5.29	7.12	5.58	35.9
Ecuador	2013	50	Male	.730	6.18	6.92	5.81	26.7
Egypt	2013	51	Male	.689	5.06	6.44	5.60	25.8
Estonia	2011	55	Male	.849	4.95	7.17	3.77	41.3
Georgia	2014	32	Male	.754	4.99	5.92	4.50	38.1
Germany	2013	59	Female	.915	5.43	7.12	6.16	46.3
Ghana	2012	68	Male	.572	4.50	7.59	6.22	20.9
Hong Kong	2013	59	Male	.908	4.92	6.76	5.28	43.2
India	2014	82	Male	.609	5.04	5.70	6.01	26.9
Iraq	2012	62	Male	.654	5.63	6.95	6.60	20.0
Japan	2010	63	Male	.884	4.76	7.19	4.98	46.5
Jordan	2014	75	Male	.748	4.63	6.49	6.52	24.0
Kazakhstan	2011	46	Male	.772	4.85	7.31	5.22	29.7
Kuwait	2014	72	Male	.816	4.95	7.13	7.28	29.7
Kyrgyzstan	2011	55	Male	.639	5.66	7.38	6.45	25.1
Lebanon	2013	58	Male	.768	4.89	5.12	5.50	30.7
Libya	2014	64	Male	.724	5.08	6.55	6.46	27.2
Malaysia	2012	59	Male	.774	6.92	7.42	7.23	28.2
Mexico	2012	50	Male	.754	6.34	6.82	6.14	27.7
Morocco	2011	71	Male	.621	5.61	6.61	5.03	27.5
Netherlands	2012	45	Male	.920	5.52	7.36	5.12	42.4
New Zealand	2011	50	Male	.907	5.42	7.42	5.70	37.3
Nigeria	2011	54	Male	.499	4.77	6.96	6.67	17.7
Pakistan	2012	60	Male	.532	7.35	7.74	7.39	23.2
Palestine	2013	61	Male	.679	5.58	6.76	6.21	19.7
Peru	2012	50	Male	.728	5.79	6.00	4.50	27.1
Philippines	2012	52	Male	.657	5.01	7.06	5.27	23.4
Poland	2012	55	Male	.838	4.41	6.61	4.39	39.4
Qatar	2010	51	Male	.844	6.48	7.85	6.24	31.7
Romania	2012	46	Male	.788	5.12	6.40	4.02	40.0
Russia	2011	59	Male	.790	4.30	6.89	3.82	38.5
Rwanda	2012	51	Male	.476	5.53	7.01	7.01	18.4
Singapore	2012	60	Male	.905	5.90	6.97	5.77	38.7
South Africa	2013	71	Male	.663	6.75	7.22	6.66	26.5

Slovenia	2011	48	Male	.877	5.10	6.46	5.18	43.0
South Korea	2010	64	Male	.886	4.40	7.19	4.41	40.5
Spain	2011	51	Male	.870	4.25	6.16	4.97	42.2
Sweden	2011	46	Male	.903	5.90	7.20	4.28	41.2
Taiwan	2012	64	Male	*N/A*	4.45	6.42	6.52	N/A
Thailand	2013	46	Female	.724	5.16	7.31	6.93	38.0
Trinidad and Tobago	2011	59	Female	.767	4.77	6.90	6.00	34.2
Tunisia	2013	64	Male	.720	5.88	6.79	6.89	31.2
Turkey	2011	57	Male	.751	5.48	6.77	6.59	30.1
Ukraine	2011	64	Male	.738	4.81	6.48	3.97	39.9
United States	2011	50	Male	.911	5.07	7.00	5.50	37.7
Uruguay	2011	76	Male	.784	5.28	5.90	4.58	34.8
Uzbekistan	2011	54	Male	.661	5.47	8.03	7.52	26.0
Yemen	2014	79	Male	.498	5.74	7.65	7.15	19.7
Zimbabwe	2012	60	Male	.491	4.92	7.13	6.17	20.1

Note. The World Value Survey Wave 6 was carried out between 2010 and 2014. Age of leader, gender of leader and Human Development Index value for each country refer to the values of these characteristics at the time the survey was carried out. The Human Development Index is not available for Taiwan. HDI = Human Development Index; YA = Young Adults; MA = Middle-aged Adults; OA = Older Adults.

Table 3.

Results of Linear Mixed Effects Models with Difference in Status Ratings of Middle-Aged and Older Adults as the Dependent Variable

	Model 1 Estimate (95% CI)	Model 2 Estimate (95% CI)	Model 3 Estimate (95% CI)
Intercept, γ_{00}	3.30 (1.88, 4.71)***	3.17 (1.76, 4.58)***	0.72 (-1.44, 2.88)
Age of Political Leader, γ_{10}	-0.04 (-.06, -.01)**	-.04 (-.06, -.01)**	-.02 (-.04, -.0003)*
Age, γ_{20}		-.002 (-.004, .001)	-.001 (-.004, .001)
Gender, γ_{30}		.08 (.03, .14)**	.08 (.02, .13)**
HDI, γ_{40}			0.32 (-2.96, 3.60)
Gender of Leader, γ_{50}			-.37 (-1.01, .32)
Median Age of Country, γ_{60}			0.06 (0.01, 0.11)*
Model Information: AIC	386426.68	386082.87	381202.98
Sample Size	80,892	80,848	79,734

***$p < .001$, **$p < .01$, *$p < .05$. CI = Confidence Interval; HDI = Human Development Index; AIC = Akaike's Information Criterion.

Note. Beta coefficients and 95% confidence intervals for random and fixed effects in multilevel model with difference in status ratings of middle-aged compared to older adults as the dependent variable. Total possible sample size is 86,026. The decrease in sample size from Model 2 to Model 3 is due to the lack of HDI value for Taiwan (N=1,114). Model 1: Fixed effect predictor only; Model 2: Individual level covariates of age and gender were added as fixed effects and allowed to vary across countries as specified by random slopes; Model 3: Fixed country level effects of HDI, median age of the country and the gender of the political leader were added. Due to a strong positive correlation between HDI and median age which could indicate multicollinearity and lead to spurious associations we conducted the analyses 3 times: with all covariates except median age, with all covariates except HDI and finally with both together. The main findings did not differ between the three models.

Table 4.

Means and standard deviations for variables for the total sample and for each experimental condition.

	Old Age High Status	Old Age Low Status	Total
N	70	61	131
Age	37.54 (13.25)	33.41 (10.32)	35.62 (12.11)
Gender (% female)	48.6%	34.4%	42%
Employment (% full time)	58.6%	55.7%	57.3%
Agency Beliefs (OA)	4.77 (0.81)	3.25 (0.98)***	4.06 (1.17)
Agency Beliefs (MA)	3.13 (0.90)	4.48 (1.01)***	3.76 (1.17)
Social Status of Younger Adults	4.17 (1.60)	4.31 (1.58)	4.24 (1.58)
Social Status of Middle-Aged Adults	6.09 (1.54)	6.38 (1.58)	6.22 (1.56)
Social Status of Older Adults	6.26 (2.28)	5.71 (2.08)	6.00 (2.20)

Note: $^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$. Differences between groups were tested using independent *t*-tests and chi-squares as appropriate. OA = older adults; MA = middle-aged adults.

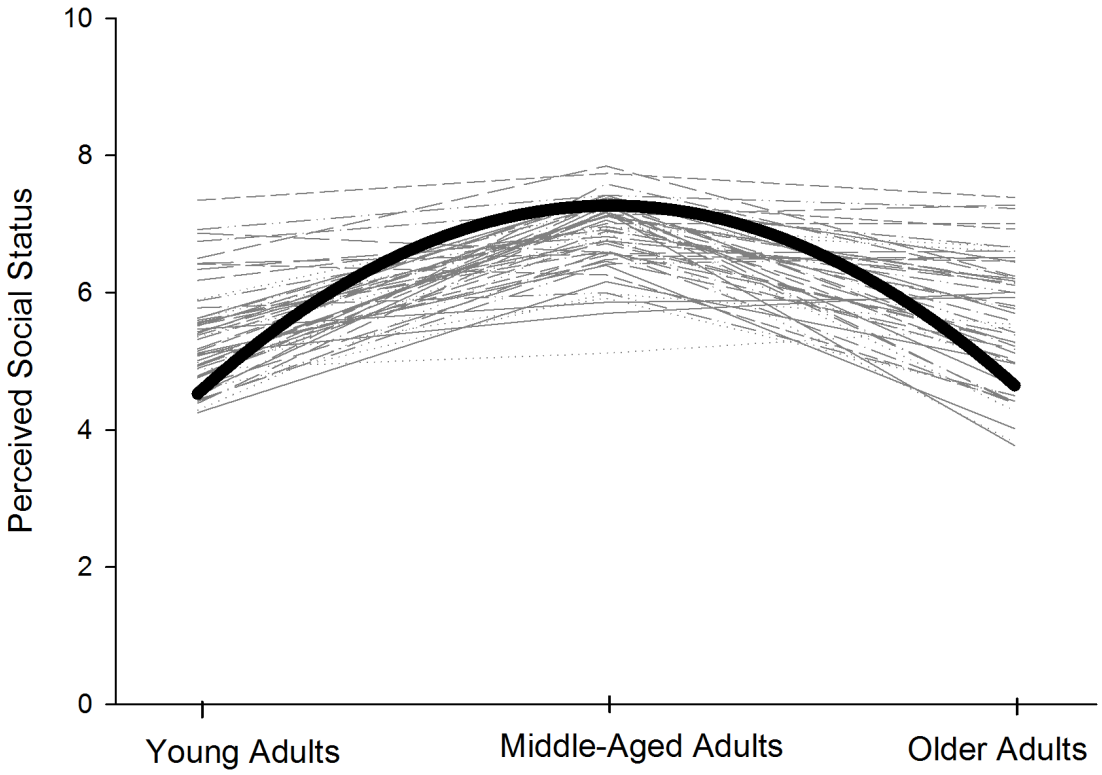

Figure 1. Perceived social status across the life span (i.e., for young: 20-29 years, middle-aged: 40-49 years, and older adults: 70 years and older) is best represented by a negative quadratic function for the 60 different countries (Study 1).

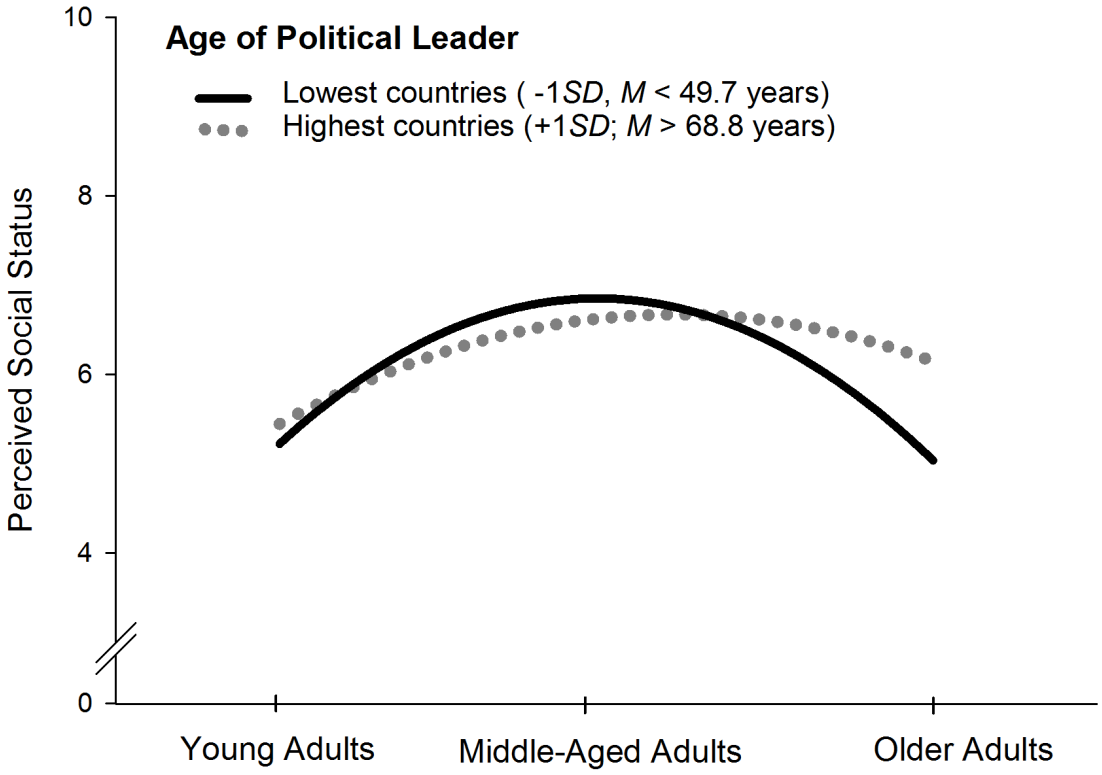

Figure 2. Old age is associated with a higher social status in countries with a relative older political leader compared to countries with a younger leader.

Figure 3. Perceptions of status across the life span for young, middle-aged, and older adults by experimental condition (i.e., 'old age high status' and 'old age low status').

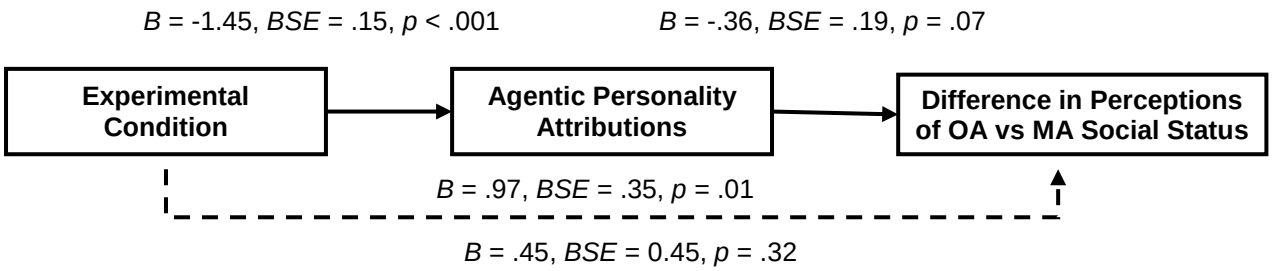

Figure 4. Agentic personality attributions mediate the relationship between experimental condition and perceptions of social status, Study 2. (OA = Older Adults; MA = Middle-Aged Adults)