The Relative Importance of Personal Beliefs, Meta-Stereotypes and Societal Stereotypes of

Age for the Well-Being of Older People

Nicole Fasel[1]

Christin-Melanie Vauclair[1]

Maria Luísa Lima[1]

Dominic Abrams[2]

[1] Instituto Universitário de Lisboa (ISCTE-IUL), Edifício ISCTE, Cis-IUL, Avenidas das

Forças Armadas, 1649-026 Lisboa.

[2] University of Kent, School of Psychology - Keynes College, University of Kent,

Canterbury, Kent CT2 7NP.

The Relative Importance of Personal Beliefs, Meta-Stereotypes and Societal Stereotypes of

Age for the Well-Being of Older People

Abstract

Negative images of old age can harm older individuals' cognitive and physical functioning and health. Yet, older people may be confronted with age stereotypes that are inconsistent with their own personal beliefs. We examine the implications for older people's well-being of three distinct elements of age stereotypes: their personal beliefs about their age group, their perception about how others generally perceive older people (i.e., their meta-stereotypes), and the societal age stereotypes that are empirically widely shared in society. Using measures from the Stereotype Content Model and survey data of older people from the UK (Study 1, $N = 171$), we found only partial overlap between older people´s personal beliefs and their meta-stereotypes. Personal beliefs were unrelated to well-being, but positive meta-stereotypes of older people's competence were linked to higher well-being. These findings were largely replicated with a sample of baby boomers from Switzerland (Study 2, $N = 400$) controlling for socio-demographics. Study 3 used representative survey data ($N = 10,803$) across 29 European countries, to test and confirm that the link between positive competence meta-stereotypes and well-being can be generalized to different cultures, and that positive warmth meta-stereotypes were an additional predictor. At the country level, societal age stereotypes about competence were positively related to well-being of older people, but only in countries that provide greater opportunities for competence attainment.

The Relative Importance of Personal Beliefs, Meta-Stereotypes and Societal Stereotypes of

Age for the Well-Being of Older People

Many societies are confronted with ageing populations on the one hand, and persistent negative images of older people on the other hand. Indeed, images of old age associated with incompetence, fragility, and decline are ever present in the media and everyday discourse (Donlon, Ashman and Levy 2005; Nelson 2011). These images have negative consequences for older people in many ways, including their cognitive and physical performance, health, and longevity (Lamont, Swift and Abrams 2015; Levy 2009; Swift *et al.* 2017). However, baby boomers born after WWII now enter retirement in better health, with more financial resources and higher education than any generation before them. They are also more diverse as a group (North and Fiske 2013). Some engage in voluntary or civic activities, others continue to pursue their careers, while others still reinter the labour force because of financial necessity. Many baby boomers thus view themselves as active citizens, contributing to society in one way or another (Perrig-Chiello and Höpflinger 2009). Research on the implications of images of old age has not yet simultaneously taken into account the possible discrepancy between older people's personal beliefs and their perceptions on what others think about them as a group (i.e., their meta-stereotypes), nor the actual age stereotypes that prevail in society. What is more, an enabling societal context that allows older people to maintain their functioning and autonomy may help buffer the detrimental implications of negative images of old age on their well-being.

The purpose of this paper is to examine age stereotypes and their implications for older people's well-being through several frames of reference and in various contexts. By doing so, this paper offers novel insight into the implications of age stereotypes for older people: First, it examines whether age stereotypes must necessarily be personally endorsed before they harm older people, or whether it is the social climate, reflected by normative beliefs such as meta-stereotypes or societal stereotypes, and structural factors that are more influential. Second, it extends research on age stereotypes and well-being by examining replicability across different

contexts and reveals the extent to which the implications of age stereotypes are generalizable across, or are distinctively shaped by societal differences. The evidence then leads us to consider strategies to combat negative age stereotypes at the individual as well as the societal level.

Age Stereotypes – Content and Frames of Reference

A large body of evidence confirms that older individuals are generally perceived and often treated more negatively than younger individuals (Kite *et al.* 2005 for a meta-analysis). Yet, at the same time, these stereotypes tend to be complex, including both, negative as well as positive associations (Marques *et al.* 2014). The fact that stereotypes of social groups are often mixed or ambivalent is an essential claim of the *Stereotype Content Model* (SCM; Fiske *et al.* 2002). According to the SCM, stereotypes of groups can be described along the two dimensions of warmth and competence. Competence describes whether a group is viewed as capable of obtaining their goals, and it is predicted by a group's status in social structure. Warmth, in turn, refers to the group's good intentions and positive overall demeanour in the social structure. Older people are often stereotyped as being relatively lower in competence and higher in warmth -- an ambivalent stereotype pattern labelled as 'doddering but dear' (Cuddy and Fiske 2002) -- which is also very persistent in the media (e.g., Donlon, Ashman and Levy 2005). Such stereotypes may appear well intended, aiming at helping older people; however, they often result in patronising policies that are detrimental for older people's empowerment (Lamont, Swift and Abrams 2015).

For older people, how they believe to be viewed by society may be an important element of age stereotypes. Indeed, members of lower status groups highly depend on comprehending and predicting how others think of them and how they might react towards them (Lammers, Gordijn and Otten 2008), and are therefore particularly sensitive to meta-stereotypes. *Meta-stereotypes* are beliefs or the awareness that a relevant outgroup has a certain view of one's

group (Vorauer, Main and O'Connell 1998). Older people's meta-stereotypes are assessed by asking them how most in their society view their age group. We expect that age meta-stereotypes represent an interpretative grid that encapsulates normative expectations about how older people are likely to be viewed and treated in a social situation (Elcheroth, Doise and Reicher 2011).

Meta-stereotypes are not necessarily congruent with the personal endorsement of that stereotype (Devine 1989). Group members are motivated to positively distinguish their group from other groups (Tajfel and Turner 1979). Because intergroup relations are often described as distrustful, meta-stereotypes can be expected to be more negative than personal beliefs about the ingroup (Frey and Tropp 2006). Discrepancies between the two are especially likely among members of social groups who are personally targeted by negative stereotypes, but have the opportunity to seek strategies for positive distinctiveness for their ingroup (Tajfel and Turner 1979). This should be the case for baby boomers who enter retirement age in better health and with more financial resources than previous generations.

Hence, for our first set of hypotheses (H1) we expected that: (a) Older people's age meta-stereotypes should not be isomorphic with their personal beliefs about their age group; (b) Because the latter concern evaluations about their ingroup, personal beliefs are likely to be more positive than age meta-stereotypes; (c) Since older people are often portrayed as higher on warmth than on competence, we can expect to find the doddering-but-dear stereotype pattern for various elements of age stereotypes.

Implications of Age Stereotypes at the Individual Level

Based on the assumption that meta-stereotypes are not isomorphic with ingroup beliefs, the question arises as to which of the two is more relevant for individuals' well-being. With respect to age stereotypes, two assumptions can be made. Focussing on personal beliefs, *stereotype embodiment theory* (Levy 2009) suggests that old age stereotypes harm individuals'

health and well-being by being internalized across the life span and becoming self-relevant at a later age. Longitudinal studies show that individuals who endorse negative age stereotypes at a young age are more likely to have a cardiovascular event or die at a younger age than those with more positive age stereotypes (Levy *et al* 2009; Ng *et al.* 2016). From a stereotype embodiment perspective, it is thus the internalized and personally endorsed age stereotype that affects well-being.

Shifting the reference point to how others view one's own group, research has shown that meta-stereotypes impact individuals' quality of life, functioning, and social relations. Negative meta-stereotypes were linked to an increased sense of rejection, loneliness, low self-esteem, reduced perceived social fairness and more negative beliefs regarding employability (Gordijn and Boven 2009; Owuamalam and Zagefka 2014). Negative age meta-stereotypes have also been related to higher perceived age discrimination (Vauclair *et al.* 2016), which in turn is a crucial factor contributing to lower psychological well-being (Schmitt *et al.* 2014). Furthermore, negative age meta-stereotypes have been linked to increased intergroup anxiety, thereby leading to a preference for avoiding intergenerational contact (Fowler and Gasiorek 2020). Negative contact experiences following negative meta-stereotypes, in turn, are linked to reduced well-being (Gordijn, Vacher and Kuppens 2017).

Conceptually closely related to meta-stereotypes (Fowler and Gasiorek 2020), research drawing on the *stereotype threat* paradigm (Steele and Aronson 1995) has shown that being aware of the negative stereotype associated with one's group in a particular stereotype-relevant situation causes deficits or decrements in a number of performance outcomes. These effects have been confirmed for older people's cognitive and physical performance (e.g. Lamont, Swift and Abrams 2015; Swift *et al*. 2013). What is more, stereotype threat increases anxiety (Bosson, Haymovitz and Pinel 2004; Osborne 2007) and feelings of dejection (i.,e., disappointment, frustration, sadness; Keller and Dauenheimer 2003).

From a meta-stereotype and stereotype threat research perspective, normative beliefs about one's age group are thus sufficient to produce detrimental effects on individuals over and above personal beliefs. Because meta-stereotypes are particularly relevant for lower status groups (Lammers, Gordijn and Otten 2008), and they not only have direct implications for older people, but also through crucial social determinants of well-being such as perceived discrimination and inter-generational contact, we expect meta-stereotypes to be stronger predictors of older people's well-being compared to their personal (ingroup) beliefs.

With respect to the stereotype content dimensions, perceived negative evaluations on the competence dimension should be particularly detrimental, as this dimension reflects a group's status in the social structure, and thus its access to resources, influence, and respect. The large body of stereotype threat literature confirms this assumption by showing that expected negative evaluations on the competence dimension have implications for older people on performance and learning outcomes, which in turn, are related to dependent behavior and social withdrawal (Lamont, Swift and Abrams 2015) as well as on difficult emotions (Keller and Dauenheimer 2003; Osborne 2007).

Nevertheless, much of stereotype threat research was conducted in Western countries where individualistic, autonomy-oriented cultural values prevail (Schwartz 2006). In more collectivistic countries, that view the individual as embedded in a group and emphasize achieving group goals, the more relational warmth dimension of meta-stereotypes -- feeling valued as a caring and trusted member of community -- may also be important for older people's well-being.

Our second set of hypotheses (H2) are therefore that: (a) Age meta-stereotypes should predict well-being in older people more strongly than do personal beliefs about their age group; (b) Competence meta-stereotypes rather than warmth meta-stereotypes predict older people's well-being; (c) When extending the sample to a larger set of countries and having greater

statistical power, warmth meta-stereotypes may also predict older people's well-being.

The Role of Normative Age Climates and the Socio-Economic Context

The normative climate surrounding old age is reflected in a variety of aspects of social life, including discriminatory and exclusionary norms, policies, practices, and institutions, thereby affecting the experiences of older individuals in multiple ways. For example, in the workplace, older people may face negative treatment including discriminatory hiring practices (Abrams, Swift and Drury 2016), fewer promotions, or forced retirement (Cuddy, Fiske and Glick 2007). In the health and social sector, older people are frequently denied services and treatment because their concerns are considered a natural consequence of ageing (Swift *et al.* 2017). It is thus crucial to examine the normative age climates that sustain such discriminatory policies and practices on a larger scale. The normative age climate can be derived from the age stereotypes that are widely shared in society (Vauclair *et al.* 2017; 2016). Such societal stereotypes can create and re-create a social reality by becoming self-fulfilling prophecies. The few studies measuring societal stereotypes of old age have mostly focused on the doddering-but-dear pattern and generally confirmed it across a number of individualistic and collectivistic countries (e.g., Cuddy, Norton and Fiske 2005) with greater differences on the competence dimension (Vauclair *et al.* 2017). Studies that empirically examine the implications of such societal stereotypes are still rare, but given their function as part of a normative climate, societal age stereotypes should affect older people's well-being.

A highly developed socio-economic environment should also help to support older-people's well-being, especially if older people are enabled to maintain their functioning and autonomy through employment, social participation and pensions. A revised version of *modernization theory* (Palmore and Manton 1974) supports the assumption that older people are devalued in the early stages of modernization; however, perceptions about older people´s status and competence increase in more advanced stages of modernization. This assumption

was recently confirmed by showing a link between perceived social status of older people and the socio-economic context of a country (Vauclair *et al.* 2015). Countries in which older people benefit from a higher social status, in turn, have been shown to produce better health outcomes for them (Marques *et al.* 2015). Similarly, 'the paradox of well-being' -- the fact that many older individuals succeed in maintaining their well-being despite potential stressors – appears limited to countries with a high economic development (Swift *et al.* 2014). These findings suggest that socio-economic circumstances pertaining to the actual resources of a country crucially shape the well-being of older people.

Finally, there are reasons to assume that normative climates and the socio-economic development of a country interact. According to *Self-Determination Theory* (Deci and Ryan 2012; Ryan and Deci 2000), social contexts such as the culture or the economic system of a country impact individuals by facilitating or impairing the satisfaction of their psychological needs regarding their competence, relatedness and autonomy. We contend that in contexts in which older people are empowered to develop their competence and pursue their talents, a normative climate characterized by positive societal age stereotypes should boost their well-being. In contexts that deny them such opportunities, societal age stereotypes related to competence should turn into external expectations older people cannot live up to. They may be perceived as pressuring rather than supportive, thereby possibly even harming older people's well-being. Thus our third set of hypotheses (H3) are: (a) Societal age stereotypes of competence are related to older people's well-being (b) In an enabling environment characterized by a high socio-economic development, older individuals report higher well-being; (c) In an enabling context with high socio-economic development, societal age stereotypes of competence are more positively related to older people's well-being than in countries with low socio-economic development.

We now turn to the empirical examination of our hypotheses. The hypotheses focusing on comparing personal beliefs with age meta-stereotypes (H1) and their implications for well-being (H2) are tested with a survey study conducted in the UK (Study 1) and replicated with a survey study in Switzerland (Study 2). Study 3 examines whether some of these hypotheses can be generalized across a set of 29 different countries. Finally, the societal-level hypotheses (H3) are also investigated with Study 3.

Study 1

Method

Sample. We used data from a survey conducted in the UK in 2010 with older people. Individuals were contacted through a number of Non-Profit Organisations, charity shops, and hospices and invited to fill in a questionnaire. Individuals with missing data on the dependent variable, predictors, and binary control variables (i.e., gender) were dropped ($N = 29$). Missing values of continuous control variables (i.e., age) were replaced by the mean ($N = 34$). The final sample of $N = 171$ consisted of 123 (71.9%) women and 48 (28.1%) men. Individuals were aged between 51 and 94 years and the average age was $M = 69.85$ years ($SD = 7.38$).

Measures. *Dependent variable*. Participants were asked to rate their subjective well-being on three items. The items "Taken all things together would you say you are from 1 = *extremely unhappy* to 7 = *extremely happy*") and "Compared to my peers I consider myself from 1 = *less happy* to 7 = *more happy*" were taken from the subjective happiness scale (SHS, Lyubomirsky and Lepper 1999). The third item „How often in the past week have you felt on top of the world? From 1 = *not at all* to 7 = *very often*." measured positive affect based on the affect balance scale (Bradburn 1969). The three items showed good reliability (Cronbach's α = .81) and were averaged into a mean score of well-being.

Predictors. Meta-stereotypes were measured with single items to assess the stereotype content model dimensions (Cuddy*,* Fiske and Glick 2007) of competence ("How likely is it that

most people in Britain view those over 70 as competent") and warmth (i.e., "How likely is it that most people in Britain view those over 70 as friendly") on a 7-point scale from 1 = *Not at all likely to be viewed that way* to 7 = *Very likely to be viewed that way*. Personal beliefs of competence and warmth were assessed with the questions "To what extent do you personally see those over 70 as competent" or as "friendly" on the same 7-point scale.

Control variables included gender and age.

Results

Age meta-stereotypes and personal beliefs were moderately correlated with each other for the competence ($r(171) = .44$, $p < .001$) and warmth ($r(171) = .50$, $p < .001$) dimension. Therefore, in line with our assumption (H1a), only 19.4 per cent of variance between personal beliefs and meta-stereotypes is shared for competence and 25.0 per cent for warmth. This confirms that it is reasonable, statistically as well as conceptually, to examine them as separate constructs. Confirming H1b, personal beliefs were significantly more positive than meta-stereotypes for both, competence ($M = 4.90$, $SD = 1.25$ vs. $M = 3.87$, $SD = 1.42$; $t(170) = 9.55$, $p < .001$), and warmth ($M = 5.41$, $SD = 1.27$ vs. $M = 4.66$, $SD = 1.44$, $t(170) = 7.24$, $p < .001$).

Moreover, supporting the doddering-but-dear pattern (H1c), warmth meta-stereotypes were rated as more likely to be held than competence meta-stereotypes ($t(170) = 6.88$, $p < .001$). Note that personal beliefs about warmth were also more positive than those about competence ($t(170) = 6.25$, $p < .001$).

The links between the stereotype measures and well-being were tested with hierarchical regression performed with SPSS 23. All continuous predictors were centred at the grand mean. In a first model, meta-stereotypes of competence and warmth were entered, explaining 3.8 per cent of variance in well-being ($F(2, 168) = 3.33$, $p = .04$). Including the two dimensions of personal beliefs in Model 2 did not significantly improve model fit ($F(2, 166) = 2.01$, $p = .14$). Finally, adding the control variables in Model 3 did not improve model fit ($F(2,$

164) = 0.57, p = .57). Unstandardized regression coefficients and their standard errors are displayed in Table 1.

The analyses revealed that the competence meta-stereotype was positively related to subjective well-being, but the warmth meta-stereotype was not significantly associated with well-being. Findings of Model 2 showed that neither of the personal beliefs were significantly related to well-being. The effect of the competence meta-stereotype became marginally significant when entering the personal beliefs. Note that analyses of a reversed order of Model 1 and 2 (not shown) did not reveal any significant links between personal beliefs and well-being. Model 3 showed that the link between the competence meta-stereotype and well-being remained marginally significant, while age and gender had no impact on well-being. These findings confirm our hypotheses that age meta-stereotypes play a greater role for well-being than personal beliefs (H2a), and that it is the competence rather than the warmth age meta-stereotype that is related to older people's well-being (H2b).

< INSERT TABLE 1 HERE >

Discussion

Study 1 revealed that there is only a moderate overlap between older people's personal beliefs and their meta-stereotypes of older people, and that personal beliefs were generally more positive than meta-stereotypes. The doddering-but-dear stereotype pattern was found, and the age meta-stereotype of competence was the only predictor related to well-being. This is in line with stereotype threat research, indicating that awareness of an incompetence stereotype is especially detrimental for older people (Lamont, Swift and Abrams 2015; Swift, Abrams and Marques 2013).

Study 1 has a few limitations that need to be addressed. First, men were underrepresented in the sample. Due to their socialization towards economic success, men's retirement status and social status are more strongly related to their well-being than for women (Kim and Moen 2002; Pinquart and Sörensen 2000). Since retirement and ageing processes are often associated with changing roles and a loss in social status, the underrepresentation of men may partially account for the relatively weak link found between the competence meta-stereotype and well-being. Moreover, the sample covered a rather large age range, and individuals were asked to rate their agreement with stereotypes of individuals "in their 70s". Thus, although old age defines a category with fluid boundaries, some individuals may not have felt personally concerned by the age stereotype assessed. In addition, apart from gender and age, no information was collected on participants' socio-demographic background. Yet, it is known that variables such as education, financial situation, having a partner, or religiosity play a role in shaping well-being of older people (e.g., Pinquart and Sörensen 2000). Furthermore, health is known to contribute to well-being among older people (Smith *et al.* 2002). Studies examining the link between age stereotype and well-being should thus control for these covariates. Finally, the well-being measure was based on items from the subjective happiness scale (SHS), which has shown good test-retest reliability and convergent and discriminant validity (Lyubomirsky and Lepper 1999), and a positive affect item (Bradburn 1969). Together, they showed good reliability, indicating that they reflected a higher-order construct of well-being. Yet, emotional intensity tends to decline with age and aroused types of positive affect generally reveal less stable compared to cognitive components of well-being such as life satisfaction (Diener *et al.* 1999), which was not included in the current study. With Study 2, we aimed to address these issues as well as to replicate the key finding with an independent sample.

Study 2

Method

Sample. Participants were recruited via flyers and newspaper ads in German-speaking Switzerland. The study invited individuals born between 1948 and 1954 to participate in an online study on baby boomers. Data were collected in summer 2014. Individuals with missing data on the dependent variable, predictors as well as the binary control variables (i.e., relationship status) were deleted ($N = 22$). Missing data on continuous control variables (i.e., religiosity, $N = 13$) were replaced by the mean. The final sample ($N = 400$) consisted of 228 women (57.0%) and 172 men (43.0%). The average age was $M = 63.5$ years ($SD = 1.70$). In general, participants were highly educated, with $N = 167$ (41.8%) holding a university or other tertiary degree, $N = 109$ (27.3%) having a higher vocational training and $N = 124$ (31.0%) with primary/secondary education or primary vocational training. Participants reported high financial satisfaction on a scale from 1 = *very unsatisfied* to 5 = *very satisfied* ($M = 4.15$; $SD = 0.82$). The majority were living in a relationship ($N = 312$, 78%) and had already retired ($N = 244$; 61.0%). Individuals reported being somewhat religious, on a scale from 1 = *not at all religious* to 5 = *very religious* ($M = 3.88$; $SD = 1.59$). Self-reported health was composed of two (recoded) items measuring agreement (from 1 = *disagree* to 5 = *agree*) with the statements "I am hampered in my daily activities by physical illness or infirmity" or "mental health issues" ($r(400) = .34$, $p < .001$). The majority reported relatively good health on the composite health score (i.e., low hampering in daily activities, $M = 4.46$; $SD = 0.86$).

Measures. *Dependent variable*. Subjective well-being was composed of four items ($\alpha = .79$) pertaining to agreement (from 1 = *disagree* to 5 = *agree*) with the affective (e.g., "In the last month, I was generally happy") and cognitive (e.g., "I am generally satisfied with my life") components of well-being (see Diener *et al.* 1999).

Predictors. Meta-stereotypes of competence and warmth were assessed asking participants to rate the extent to which they agreed with the statement "Most people in

Switzerland view individuals my age as competent" or "friendly" on a 5-point scale, with a higher value indicating stronger agreement. Personal beliefs related to competence and warmth were assessed with agreement with "I generally view people my age as competent" or "friendly" on the same five-point scale.

Results

As expected (H1a), meta-stereotypes and personal beliefs of the two dimensions were moderately related to each other (competence $r(400) = .26$, $p < .001$; warmth $r(400) = .52$, $p < .001$). Yet, especially for competence, this association is quite low, with the two ratings only sharing 6.9 per cent in variance. For warmth, 26.5 per cent are shared. In line with our hypothesis (H1b), personal beliefs were significantly more positive than meta-stereotypes for both, competence ($M = 4.19$, SD = .78 vs. $M = 3.50$, $SD = .98$), $t(399) = 12.78$, $p < .001$), and warmth ($M = 3.81$, $SD = .87$ vs. $M = 3.41$, $SD = .92$), $t(399) = 8.91$, $p < .001$). Against our expectations (H1c), the doddering-but-dear stereotype pattern was not confirmed. Individuals scored slightly higher on competence meta-stereotypes than warmth, $t(399) = 2.09$, $p = .04$. For personal beliefs, the pattern was even more clear-cut $t(399) = 10.23$, $p < .001$.

To test our hypotheses regarding the link between the stereotype measures and well-being, we carried out hierarchical regression analyses using SPSS 23. All continuous predictors and control variables were mean-centred. In a first model, we entered the competence and warmth dimensions of meta-stereotypes. In a second Model, we included the two stereotype dimensions as personal beliefs. In a final Model (i.e., Model 3), we controlled for age, gender, education, financial satisfaction, religiosity, retirement status, living with a partner, and self-reported health.

< INSERT TABLE 2 ABOUT HERE >

Unstandardized regression coefficients and standard errors are displayed in Table 2. Model 1 revealed that the competence dimension of age meta-stereotype was significantly and positively related to well-being. The warmth meta-stereotype was not significantly related to well-being. The competence meta-stereotype-well-being link remained significant when the two stereotype dimensions were added as personal beliefs in Model 2. Neither of the two personal beliefs were significantly related to well-being. These findings confirm our hypothesis that age meta-stereotypes play a greater role for well-being than personal beliefs (H2a), and that it is particularly the competence age meta-stereotype that is related to older people's well-being (H2b).

Additional analyses reversing Model 1 and 2 (not shown) revealed that the link between the competence dimension of personal beliefs and well-being was marginally significant when entered first. However, this effect disappeared when the competence age meta-stereotype was entered into the model, which remained a significant predictor for well-being.

When controlling for socio-demographic variables and self-rated health in Model 3, the competence meta-stereotype also remained significant. Financially satisfied individuals and individuals living with a partner reported higher well-being. Compared to individuals with primary or secondary education, individuals with higher vocational training reported marginally higher well-being. None of the other socio-demographic control variables were significantly related to well-being. Finally, as expected, self-rated health yielded a positive effect on well-being.

Discussion

The finding that age meta-stereotypes and personal beliefs were only weakly related with each other among the sample of baby boomers in Switzerland provides empirical evidence for the anticipated gap between their own views of their age group and their perceptions of how they are viewed in society. Moreover, confirming the findings from Study 1, the competence

meta-stereotype proved to be the only stereotype measure linked to subjective well-being, with a significant effect even after controlling for personal beliefs, self-rated health, and relevant socio-demographic variables. This finding points to the normative influence of meta-knowledge over and above personal beliefs and suggests that in the current sample, the influence of meta-stereotypes and stereotype threat dynamics may have played a greater role than stereotype embodiment processes.

Against our expectations, the doddering-but-dear stereotype pattern was not supported. In fact, participating baby boomers viewed their own group as higher on competence than warmth, a pattern that was also found for their meta-stereotypes. While the finding related to their personal beliefs can be explained by their actual social status in society (i.e., highly educated, financially well-off), the second finding related to their meta-stereotypes is more intriguing. There is however evidence that an older individual portrayed as competent tends to elicit lower warmth ratings (Cuddy, Norton and Fiske 2005). In a sense, stereotype disconfirming attributes -- such as the ones displayed by the current sample -- are thus punished by society through evaluating individuals as less likeable, which in turn, would explain the lower warmth meta-stereotypes reported by this sample.

Moreover, similar to Study 1, the warmth dimension of meta-stereotypes was not significantly related to well-being. This confirms our assumption that the competence dimension reflecting a group's social status is more important for older people's well-being than warmth, especially in Western countries in which much of stereotype threat research was conducted. Indeed, both, the UK and Switzerland are Western European countries that endorse rather individualistic, autonomy-oriented cultural values (Schwartz 2006). In a larger sample containing more collectivistic oriented countries, warmth meta-stereotypes may be of greater importance for older people's well-being.

To test whether the age meta-stereotype - well-being link generalizes to different countries, and to examine whether the warmth dimension also predicts older people's well-being in a larger set of countries, in Study 3, we turn to large-scale social survey data and the appropriate analytic strategy (i.e., multi-level analyses). This procedure also allows for the testing of our societal-level hypotheses (H3) by including the societal age stereotypes of a representative sample of the population and the country's socio-economic context.

Study 3

Method

Sample. We used data from 29 countries included in the 4th wave of the European Social Survey. Data were collected in 2008/2009. Only individuals aged 65 or older were included (N = 10,803). Individuals with missing data on the dependent variable, the predictors or control variables were excluded. We chose the cut-off criteria of 65 years because it roughly corresponds to the upper limit of retirement age for men in Europe at the time of data collection, a threshold frequently associated with entering 'old age' by the broader culture. On average, N = 373 individuals were included per country (minimum 182 and maximum 735). The average age was M = 73.51 (SD = 6.37) years and women (58.0%) were slightly overrepresented. As additional control variables, dissatisfaction with household income on a scale from 1 = *living comfortably on present income* to 4 = *very difficult on present income* (M = 2.27, SD = 0.94), years of fulltime education (M = 9.75, SD = 4.51), religiosity on a scale from 0 = *not at all religious* to 10 = *very religious* (M = 5.71, SD = 2.92), being retired (84.7%), and living with a partner (52.7%) were included. Self-reported health was measured with one item (i.e., not being hampered in daily activities by illness/disability/infirmity/ mental problem) from 1 = *yes, a lot* to 3 = *no; M* = 2.37, SD = 0.72. All continuous predictors and controls were centred at the grand-mean.

Measures. *Dependent variables.* Well-being was measured as subjective well-being with two items pertaining to the cognitive and affective dimensions of the construct (Diener *et al.* 1999): "All things considered, how satisfied are you with your life as a whole nowadays?", and "Taking all things together, how happy would you say you are?" from 0 to 10, with higher scores indicating greater satisfaction and happiness ($r(10,657) = .74$, p $< .001$). The intraclass correlation coefficient (ICC) was .27, indicating that subjective well-being varied considerably across countries.

Individual-level Predictors. The competence and warmth dimensions of age meta-stereotypes were assessed with the ESS items: "How likely is it that most people in [country] view those over 70 as competent" or "friendly" from 0 = *not at all likely to be viewed that way* to 4 *very likely to be viewed that way*.

Contextual-Level Predictors. Societal age stereotypes were aggregated means based on a separate dataset containing the full representative sample across all ages ($N = 58,543$). By grand-mean centring the age meta-stereotypes of individuals aged 65 and older, their views were controlled for (see Vauclair *et al.* 2016), indicating that any effect of societal age stereotypes found on the country level represents a true contextual effect.

The socio-economic context of a country was measured with the Human Development Index (HDI) for the year 2007 (Human Development Report 2009). The HDI comprises measures of life expectancy at birth (to assess health technology), educational attainment (to assess education), and Gross National Income per capita (to assess economic advancement) and is indicated as a value between 0 and 1. In the ESS sample, the HDI covered countries from .80 to .97 ($M = .91$, $SD = .05$).

Model Building. The data is structured on two levels: individuals are nested within countries and thus not independent from each other (e.g. Hox 2010). To account for this type of structure and to simultaneously test individual-level and country-level effects, we carried out

multilevel regression analyses with Mplus 5.21 software. Models were built step by step. In a first step, individual-level predictors were entered (Model 1), followed by contextual-level predictors (Model 2) and the country-level interaction (Model 3). In a final model (Model 4), control variables were entered to ensure that the effects were not confounded with socio-demographic variables or self-rated health. Model fit was significantly improved in each step (see Table 3 for change in deviances Δ-2 x loglikelihood).

< INSERT TABLE 3 HERE >

Results

The doddering-but-dear stereotype pattern (H1c) was confirmed at both levels. At the individual level, the warmth dimension of meta-stereotypes ($M = 2.96$, $SD = 0.92$) was more positive than the competence dimension ($M = 2.61$, $SD = 1.01$), $t(10,802) = 37.23$, $p < .001$. At the country-level, the warmth dimension of societal age stereotypes ($M = 2.92$, $SD = 0.20$) was also more positive than the competence dimension ($M = 2.44$, $SD = 0.29$), $t(28) = 7.72$, $p < .001$.

Table 3 displays the results of the multi-level regression analyses for Models 1 to 4. Confirming the findings of Study 1 and Study 2 and in line with our hypothesis (H2b), at the individual level, the competence dimension of age meta-stereotypes was significantly and positively related to well-being among the sample of older adults across 29 countries. Moreover, in this larger sample, the warmth dimension of meta-stereotypes also predicted well-being, confirming our hypothesis (H2c).

Findings of Model 2 containing the country-level predictors revealed that neither of the societal age stereotype dimensions yielded a significant effect on well-being over and above older individuals' meta-stereotypes, thus not confirming H3a. However, as expected (H3b),

HDI was positively related to well-being. Moreover, when including the country-level interaction between the societal age stereotype dimensions and HDI in Model 3, in line with our expectation (H3c), a significant interaction emerged for competence. We also examined the interaction between the warmth dimension of societal age stereotypes and HDI. The interaction was not significant and Model fit did not improve. For reasons of parsimony, this interaction was excluded.

To interpret the country-level interaction between societal age stereotypes of competence and HDI, we carried out simple slope analyses and displayed them in Figure 1 (Preacher, Curran and Bauer 2006). In accordance with our expectations on the role of enabling socio-economic contexts (H3c), the societal age stereotype of competence was positively related to well-being only in countries characterized by higher levels of socio-economic development (HDI +1SD: $b = 1.593$, $SE = 0.646$, $p = .01$). In countries with lower socio-economic development, societal competence age stereotypes were even linked to a decrease in well-being (HDI -1SD: $b = -1.057$, $SE = 0.316$, $p < .001$).

< INSERT FIGURE 1 HERE >

In the full model including control variables (Model 4), age, education, religiosity, being retired, living with a partner, and self-reported health were all positively linked to well-being. Dissatisfaction with income was negatively related to well-being. Gender was not significantly associated with well-being. Importantly, the effects of the individual-level predictors, the contextual-level predictor, as well as the interaction remained significant.

Discussion

The findings of Study 3 revealed that across 29 ESS countries, warmth meta-stereotypes were rated higher than competence meta-stereotypes by individuals aged 65 and older. This

pattern was also found for societal stereotypes at the country level, thus confirming the doddering-but-dear stereotype at both levels. Moreover, at the individual level, competence and warmth age meta-stereotypes were positively related to well-being in older individuals. The link between competence age meta-stereotypes and well-being confirmed our findings from Study 1 and 2 and was further generalized to a wider set of countries. This shows that the perception of being seen as a member of a competent group -- a reflection of the group's status in the social structure -- appears to be a relevant predictor of older people's well-being across a wide range of countries. Warmth age meta-stereotypes also emerged as a predictor of older people's well-being. Indeed, meta-perceptions of warmth have previously been linked to lower perceived discrimination in older people across European countries (Vauclair *et al.* 2016). In more collectivistic countries that place greater importance on relational and cooperation-oriented qualities, characteristics of older people related to their friendliness, trust, care, and wisdom are likely to be rewarded. Older individuals who feel valued on these dimensions may therefore experience greater inclusion and well-being.

At the country level, societal age stereotypes -- the aggregation of the two stereotype dimensions on the basis of a representative sample of the adult population -- did not yield any significant effects over and above older people's own age meta-stereotypes or the state of socio-economic development of the country (i.e., HDI), which in turn, was associated with higher well-being. Yet, interaction analyses revealed that the competence dimension of societal age stereotypes interacted with the state of socio-economic development of a country. In socio-economically developed countries providing an enabling environment, societal competence stereotypes were linked to higher well-being in older people, while they showed a negative relationship with well-being in countries with low socio-economic development. This is in line with self-determination theory (Deci and Ryan 2012; Ryan and Deci 2000): societally shared beliefs of older people as competent only have an empowering effect in societies that

simultaneously provide opportunities for older people to prosper. Where opportunities are limited, societal competence stereotypes may actually result in frustration and dissatisfaction owing to the lack of opportunity to demonstrate competence. Such a mismatch between the available resources and the societally held expectations directed towards older people may be perceived as external pressures that undermine autonomy and well-being.

A few limitations need to be addressed. First, data for Study 3 were collected between 2008 and 2010, a period corresponding to the height of the global financial crisis. It is thus possible that findings such as the interaction between societal stereotypes and socio-economic context may have been accentuated through the prospects and particularities of this time period. To investigate period effects and to re-examine our findings with more recent data, it would be valuable to collect contemporary cross-national representative data on age stereotypes.

The variance explained by age meta-stereotypes was low in this study, explaining only one per cent at the individual level. Due to their specificity, it is not rare to find single stereotype or attitude measures to have limited predictive power on relatively broad concepts such as subjective well-being. Literature confirms that older people's well-being is strongly influenced by their health, financial satisfaction, social relationships, or living conditions (e.g., Smith *et al.* 2002). These factors have multiple direct consequences for older people's everyday lives, such as their autonomy, mobility, and access to support and care. Yet, since the determinants of these factors are complex and difficult to tackle, meta-stereotypes as a form of acquired beliefs that can be changed remain an important avenue for investigation.

Finally, the Human Development Index represents a rather coarse measure of socio-economic development of a country. It can be argued that not all countries with a high HDI allocate resources equally to all age groups. To further assess country differences in conditions for optimal ageing and equal access to resources across all age groups, future studies could examine how more age group specific indicators of socio-economic development interact with

societal age stereotypes.

General Discussion

With three studies, including an age-diversified sample of older individuals in the UK, a sample of baby boomers in Switzerland, and a sample of older individuals drawn from representative data across 29 European countries, we examined various elements of age stereotypes and their relationship with well-being. Personal beliefs and meta-stereotypes were largely ambivalent and supported the doddering-but-dear pattern, with the exception of the high-skilled sample of baby boomers (Study 2) that reported higher competence than warmth evaluations. This highlights the need for age stereotype research to account for the diversity in today's ageing generations, and an interest in including the 'newly old' who tend to see themselves as active members of society well into their retirement years. As expected, personal beliefs only partially overlapped with meta-stereotypes, calling for their conceptual and empirical distinction. Across all studies, we found consistent evidence that age meta-stereotypes of competence are linked to increased well-being in older people, whereas only partial evidence that warmth meta-stereotypes are positively related to well-being in a larger set of countries (Study 3). Study 1 and 2 controlled for personal beliefs and indicated that age meta-stereotypes may impact older people's well-being independently of their personal endorsement, and despite the fact personal beliefs were more positive than meta-stereotypes. The findings are in line with meta-stereotype and stereotype threat research, and suggest that the normative dynamics of meta-knowledge can outweigh the internalization of stereotypes that might arise in stereotype embodiment processes. Thus, for older individuals to thrive, it seems more important how they perceive their age group to be viewed by society than how they personally view it.

Moreover, the role of the context in which competence stereotypes of ageing are prevalent seems crucial: Within a socio-economic environment that can more easily foster the potential of older people, more favourable societal competence stereotypes are associated with higher well-being among older people. Yet, when financial, technological, and educational opportunities are scarce, favourable societal competence stereotypes may have a detrimental effect on older people. This highlights the importance of studying societally shared beliefs and expectations within their socio-structural context.

Some issues have yet to be addressed. First, trade-offs were made on the number of items included to assure that questionnaires were as short as possible. While efforts were made to create composite scores wherever possible, some predictors of well-being, including beliefs and meta-stereotypes, were measured only with single items. The use of single items may constrain reliability and validity. To minimize this limitation, the items used in Study 1 and 2 were largely adopted from the ESS Round 4 questionnaire. The ESS places a high value on transparency during the stages of design, execution, and archiving. Items used undergo rigorous development and testing against alternative formulations, and experiments are conducted with the aim to estimate and correct for measurement error (Saris and Gallhofer 2007; see also Vauclair, Abrams and Bratt 2010 for further reliability and validity analyses of the employed age stereotype items). Nevertheless, validity and reliability remain to be explored in future research that could adopt more comprehensive measures of the constructs.

A limitation of Study 3 is that the ESS did not contain any measures of personal beliefs related to age stereotypes. This precluded examination of the distinction between age meta-stereotypes and personal beliefs. Although personal beliefs were unrelated to well-being in Study 1 and Study 2 once meta-stereotypes were taken into account, we cannot rule out the possibility that a link may have emerged had we measured personal beliefs in Study 3.

Because the studies are all cross-sectional firm causal claims cannot be made. Although there is theoretical and prior evidential basis for expecting meta-knowledge to impact individuals' behaviour and well-being, the opposite direction of influence could also be plausible. The relative strength of causality in each direction may be illuminated through future longitudinal studies of older people's well-being that could include measures of personal beliefs about their age group and ageing along with normative and meta-knowledge of age stereotypes. Experimental approaches may also be able to directly manipulate meta-stereotypic perceptions to test their potential to override effects of individuals' personal endorsement of particular stereotypes on their mood or short term well-being.

Our evidence does not directly examine the mechanisms by which age meta-stereotypes affect well-being. Beyond the negative consequences of perceived disrespect, devaluation, and discrimination on well-being (Schmitt *et al.* 2014; Vauclair *et al.* 2016; Vogt Yuan 2007), older individuals who fear being judged or discriminated against are likely to react with self-defeating behaviours and withdrawal from social activities, including engaging less in intergenerational contacts or adopting higher turn-over intentions, which can further obstruct their well-being (Cuddy, Norton and Fiske 2005; Fowler and Gasiorek 2020; Swift *et al.* 2017). At the societal level, negative societal age stereotypes are likely to justify and maintain patronizing practices towards older people such as, the denial of services, and their discrimination on the labour market. Though beyond the scope of this article, all of these are likely to contribute to the detrimental effects of age meta-stereotypes and societal stereotypes on older people's well-being.

The present evidence sheds light on strategies for overcoming negative effects of age stereotypes. A first set of strategies could focus on everyday settings in which age groups are not segregated and thus provide opportunities for intergenerational contact. Increased intergenerational contact helps to neutralise stereotype threat (Abrams, Eller and Bryant 2006),

and it may be that this is partly because positive contact helps to challenge negative meta-stereotypes when older people interact with younger people who do not perceive them as incompetent.

At the workplace, inclusive hiring strategies and programmes that aim at retaining older workers through job-sharing, part-time employment, or consulting roles lead to more age diversified work teams. To ensure that the interactions in age diversified work teams are indeed positive, older workers should be supported to maintain their status with training opportunities that are 'preventive', including continuous training, development and life long education, as well as 'remedial', such as interventions to overcome the lacking of specific skills (Walker 2002; Vauclair *et al.* 2015). Moreover, collaborating on tasks that focus on exploration, innovation, divergent thinking, and problem solving seem particularly beneficial for age diversified work teams, as younger and older workers are able to learn from each other (Mannix and Neale 2005). Since the context in which interactions take place provides the backdrop for positive evaluations of older workers, employers need to pay attention to avoid policies and narratives that reinforce generational competition, and instead, stress overarching common goals and promote an inclusive workplace culture that encourages collaboration, learning, openness, and respect (Mannix and Neale 2005; North and Fiske 2016).

In the health care setting, stereotypes of fragility and dependence are more likely to be confirmed through patients being ill or in dependent states (Swift *et al.* 2017). What is more, interactions are often characterized by status imbalance, such as an older patient interacting with a younger medical professional. In this context, training offered to health care providers may help to avoid patronizing speech, reduce behaviour that reinforces incompetence meta-stereotypes, and encourage respectful and empowering communication styles (Wiliams, Kemper and Hummert 2003).

Age-friendly communities and cities provide a physical and social environment that

enables older residents to maintain their mobility and independence and participate in volunteering, civic activities and participative decision-making processes (Neal, DeLaTorre and Carder 2016). Such environments increase the visibility of older people's potential and their willingness to take on roles of responsibility, which in turn, should be mirrored by higher competence evaluations in everyday interactions as well as in the local public sphere.

A second set of strategies could address the societal level by changing the imagery of older people in the media and advertisement and adapting the language used in communicating about older people in the public arena. Since normative beliefs are influenced by and influence institutions and policies (Eicher *et al.* 2016), institutions and policy makers need to take implicit as well as explicit measures to change these norms, such as through the choice of terms to refer to older individuals as well as their legal rights (Vauclair *et al.* 2016). In this way, equality legislations and antidiscrimination enforcement help older people not only by outlawing age discrimination, but by shaping normative climates towards becoming more inclusive.

Our findings provide partial evidence that in certain contexts, being aware of the warmth dimension of age meta-stereotypes may also contribute to older people's well-being. In the public sphere, this could be supported by highlighting older people's contributions to society as carers for their grandchildren, or by looking after dependent family members. Given that warmth evaluations often sustain low competence appraisals (Cuddy, Norton and Fiske 2005), attention will have to be paid to similarly portray the competence domain, for example, by emphasizing the diverse range of generative activities older people engage in to transmit their knowledge and know-how to younger generations, including capacity building, training, and mentoring younger people (Villar 2012).

Finally, our findings also point to the need to address the wider structural issues. For societal competence stereotypes to empower older people rather than translate into unrealistic societal expectations, an infrastructure has to be put in place, with equal opportunities to access

across all age groups (Swift *et al.* 2017). This would mean assuring pensions to enable financial security at old age, ensuring equal access to social and medical care and technology, investing in age-friendly infrastructure, and offering opportunities for life-long education.

References

Abrams, D., Eller, A. and Bryant, J. 2006. An age apart: The effects of intergenerational contact and stereotype threat on performance and intergroup bias. *Psychology and Aging,* **21**, 691-702.

Abrams, D., Swift, H.J. and Drury, L. 2016. Old and unemployable? How age-based stereotypes affect willingness to hire job candidates. *Journal of Social Issues*, **72***,* 105-21.

Bosson, J.K., Haymovitz, E.L. and Pinel, E.C. 2004. When saying and doing diverge. *Journal of Experimental Social Psychology,* **40**, 247-55.

Bradburn, N.M. 1969. *The structure of psychological well-being.* Aldine, Chicago.

Cuddy, A.J.C. and Fiske, S.T. 2002. Doddering but dear: Process, content, and function in stereotyping of older persons. In Nelson, T.D.(ed.), *Ageism: Stereotyping and Prejudice against Older Persons*. Cambridge, MA, MIT Press, 3-26.

Cuddy, A.J.C., Fiske, S.T. and Glick, P. 2007. The BIAS map: Behaviors from intergroup affect and stereotypes. *Journal of Personality and Social Psychology,* **92**, 631-48.

Cuddy, A.J.C., Norton, M.I. and Fiske, S.T. 2005. This old stereotype: The pervasiveness and persistence of the elderly stereotype. *Journal of Social Issues,* **61**, 265-83.

Deci, E.L. and Ryan, R.M. 2012. Motivation, personality, and development within embedded social contexts: An overview of self-determination theory. In Ryan, R.M.(ed.), *Oxford handbook of human motivation*. Oxford University Press, Oxford, 85-107.

Devine, P.G. 1989. Stereotypes and prejudice: Their automatic and controlled components.

Journal of Personality and Social Psychology, **56**, 5-18.

Diener, E., Suh, E.M., Lucas, R.E. and Smith, H.L. 1999. Subjective well-being: Three

decades of progress. *Psychological Bulletin,* **125**, 276-302.

Donlon, M., Ashman, O. and Levy, B.R. 2005. Revision of older television characters: A

stereotype-awareness intervention. *Journal of Social Issues,* **61**, 307–19.

Eicher, V., Penic, S., Glaeser, S., Martenot, A and Spini, D. 2016. Normative climates of

parenthood across Europe: Judging voluntary childlessness and working parents.

European Sociological Review, **32**, 135-50.

Elcheroth, G., Doise, W. and Reicher, S. 2011. On the knowledge of politics and the politics

of knowledge: How a social representations approach helps us rethink the subject of

political psychology. *Political Psychology,* **32**, 729-58.

European Social Survey (ESS) Round 4 Data. 2008. Data file edition 3.0. NSD - Norwegian

Centre for Research Data, Norway – Data Archive and distributor of ESS data for ESS

ERIC. Available online at

http://www.europeansocialsurvey.org/data/ESS4_version_notes.html [December 9,

2019].

Fiske, S.T., Cuddy, A.J.C., Glick, P. and Xu, J. 2002. A model of (often mixed) stereotype

content: Competence and warmth respectively follow from perceived status and

competition. *Journal of Personality and Social Psychology,* **82**, 878-902.

Fowler, C. and Gasiorek, J. 2020. Implications of metastereotypes for attitudes toward

intergenerational contact. *Group Processes & Intergroup Relations*, **23**, 48-70.

Frey, F.E. and Tropp, L.R. 2006. Being seen as individuals versus as group members:

Extending research on metaperception to intergroup contexts. *Personality and Social

Psychology Review*, **10**, 265-80.

Gordijn, E.H. and Boven, G. 2009. Loneliness among people with HIV in relation to locus of

control and negative meta-stereotyping. *Basic and Applied Social Psychology,* **31**, 109-16.

Gordijn, E.H., Vacher, L. and Kuppens, T. 2017. "To serve and protect" when expecting to be seen negatively: The relations between police officers' contact with citizens, meta-stereotyping, and work-related well-being. *Community & Applied Social Psychology*, **27**, 253-68.

Hox, J. 2010. *Multilevel analysis: Techniques and applications*. Routledge, New York.

Human Development Report 2009. *Overcoming barriers: Human mobility and development*. United Nations Development Programme, New York.

Keller, J. and Dauenheimer, D. 2003. Stereotype threat in the classroom: Dejection mediates the disrupting threat effect on women's math performance. *Personality and Social Psychology Bulletin,* **29**, 371-81.

Kim, J.E. and Moen, P. 2002. Retirement transitions, gender, and psychological well-being: A life-course, ecological model. *Journal of Gerontology: Psychological Sciences,* **57**, 212-22.

Kite, M.E., Stockdale, G.D., Whitley, B.R. and Johnson, B.T. 2005. Attitudes toward younger and older adults: An updated meta-analytic review. *Journal of Social Issues,* **61**, 241-66.

Lammers, J., Gordijn, E.H. and Otten, S. 2008. Looking through the eyes of the powerful. Power (or lack thereof) and metastereotyping. *Journal of Experimental Social Psychology,* **44**, 1229-38.

Lamont, R.A., Swift, H.J. and Abrams, D. 2015. A review and meta-analysis of age-based stereotype threat: negative stereotypes, not facts, do the damage. *Psychology and Aging,* **30**, 180-93.

Levy, B. 2009. Stereotype embodiment: A psychosocial approach to aging. *Current*

Directions in Psychological Science, **18**, 332–36.

Levy, B.R., Zonderman, A.B., Slade, M.D. and Ferrucci, L. 2009. Age stereotypes held
earlier in life predict cardiovascular events in later life. *Psychological Science,* **20**,
296-98.

Lyubomirsky, S. and Lepper, H. 1999. A measure of subjective happiness: Preliminary
reliability and construct validation. *Social Indicators Research*, **46**, 137-55.

Mannix, E. and Neale, M. 2005. What differences make a difference: The promise and reality
of diverse teams in organizations. *Psychological Science in the Public Interest: A
Supplement to Psychological Science,* **6**, 31-55.

Marques, S., Lima, M.L., Abrams, D. and Swift, H.J. 2014. Will-to-live in older people's
medical decisions: Immediate and delayed effects of aging stereotypes. *Journal of
Applied Social Psychology,* **44**, 399-408.

Marques, S., Swift, H.J., Vauclair, C.-M., Lima, M.L., Bratt, C. and Abrams, D. 2015. 'Being
old and ill' across different countries: Social status, age identification and older
people's subjective health. *Psychology & Health,* **30**, 699-714.

Neal, M.B., DeLaTorre, A.K. and Carder, P.C. 2016. Age-friendly Portland: A university-city
community partnership. *Journal of Aging and Social Policy,* **26**, 88-101.

Nelson, T.D. 2011. Ageism: The strange case of prejudice against the older you. In Wiener,
R. L. and Willborn, S. L.(eds), *Disability and ageing discrimination: Perspectives in
law and psychology*, Springer, New York, 37-42.

Ng, R., Monin, J.K., Allore, H.G. and Levy, B.R. 2016. Retirement as meaningful: Positive
retirement stereotypes associated with longevity. *Journal of Social Issues,* **72**, 69-85.

North, M.S. and Fiske, S.T. 2013. Subtyping ageism: Policy issues in succession and
consumption. *Social Issues Policy Review*, **7**, 36-57.

North, M.S. and Fiske, S.T. 2016. Resource scarcity and prescriptive attitudes generate subtle,

intergenerational older-worker exclusion. *Journal of Social Issues*, **72**, 122-45.

Osborne, J.W. 2007. Linking stereotype threat and anxiety. *Educational Psychology,* **27**, 135-54.

Owuamalam, C.K. and Zagefka, H. 2014. On the psychological barriers to the workplace: When and why metastereotyping undermines employability beliefs of women and ethnic minorities. *Cultural Diversity & Ethnic Minority Psychology,* **20**, 521-28.

Palmore, E.B. and Manton, K. 1974. Modernization and the status of the aged: International correlations. *Journal of Gerontology,* **29**, 205-10.

Perrig-Chiello, P. and Höpflinger, F. 2009. *Die Babyboomer. Eine Generation revolutioniert das Alter* [The baby boomers. A generation revolutionizes old age], Verlag Neue Zürcher Zeitung, Zurich.

Pinquart, M. and Sörensen, S. 2000. Influences of socioeconomic status, social network, and competence on subjective well-being in later life: a meta-analysis. *Psychology and Aging*, **15**, 187-224.

Preacher, K.J., Curran, P.J. and Bauer, D.J. 2006. Computational tools for probing interaction effects in multiple linear regression, multilevel modeling, and latent curve analysis. *Journal of Educational and Behavioral Statistics,* **31**, 437-48.

Ryan, R.M. and Deci, E.L. 2000. Self-dermination theory and the facilitation of intrinsic motivation, social development and well-being. *American Psychologist,* **55**, 68-78.

Saris, W. and Gallhofer, I. 2007. Can questions travel successfully? In Jowell, R., Roberts, C., Fitzgerald, S. and Eva, G.(eds), *Measuring attitudes cross-nationally: Lessons from the European Social Survey*. Sage, London, 53-78.

Schmitt, M.T., Branscombe, N.R., Postmes, T. and Garcia, A. 2014. The consequences of perceived discrimination for psychological well-being: A meta-analytic review. *Psychological Bulletin,* **140**, 921-48.

Schwartz, S.H. 2006. A theory of cultural value orientations: explication and applications. *Comparative Sociology,* **5**, 137-82.

Smith, J., Borchelt, M., Maier, H. and Jopp, D. 2002. Health and well-being in the young old and oldest old. *Journal of Social Issues,* **58**, 715-32.

Steele, C.M. and Aronson, J. 1995. Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology,* **69**, 797-811.

Swift, H.J., Abrams, D., Lamont, R.A. and Drury, L. 2017. The risks of ageism model: How ageism and negative attitudes toward age can be a barrier to active ageing. *Social Issues in Policy Research,* **11**, 195-231.

Swift, H.J., Abrams, D., and Marques, S. 2013. Threat or boost? Social comparison affects older people's performance differently depending on task domain. *The Journals of Gerontology: Series B: Psychological Sciences and Social Sciences,* **68**, 23-30.

Swift, H.J., Vauclair, C.-M., Abrams, D., Bratt, C., Marques, S. and Lima, M.L. 2014. Revisiting the paradox of well-being: the importance of national context. *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences,* **69**, 920-29.

Tajfel, H., and Turner, J.C. 1979. An integrative theory of intergroup conflict: The social identity theory of intergroup behaviour. In Austin, W.G. and Worchel, S.(eds), *The social psychology of intergroup relations*. Brooks/Cole, Monterey, CA, 33-47.

Vauclair, C.-M., Abrams, D. and Bratt, C. 2010. Measuring attitudes to age in Britain: Reliability and validity of the indicators. Department for Work and Pensions, UK. *Working Paper No 90*. Available online at https://www.gov.uk/government/publications/measuring-attitudes-to-age-in-britain-wp90 [December 9, 2019].

Vauclair, C.-M., Hanke, K., Huang, L.L. and Abrams, D. 2017. Are Asian cultures really less

ageist than Western ones? It depends on the questions asked. *International Journal of

Psychology,* **52**, 136-44.

Vauclair, C.-M., Lima, M.L., Abrams, D., Swift, H.J. and Bratt, C. 2016. What do older

people think that others think of them, and does it matter? The role of meta-

perceptions and social norms in the prediction of perceived age discrimination.

Psychology and Aging, **31**, 699-710.

Vauclair, C.-M., Marques, S., Lima, M.L., Bratt, C., Swift, H. and Abrams, D. 2015.

Subjective social status of older people across countries: The role of modernization

and employment. *The Journals of Gerontology, Series B: Psychological Sciences and

Social Sciences,* **70**, 650-60.

Villar, F. 2012. Successful ageing and development: the contribution of generativity in older

age. *Ageing and Society,* **32**, 1087-105.

Vogt Yuan, A.S. 2007. Perceived age discrimination and mental health. *Social Forces,* **86**,

291-311.

Vorauer, J.D., Main, K.J. and O'Connell, G.B. 1998. How do individuals expect to be viewed

by members of lower status groups? Content and implications of metastereotypes.

Journal of Personality and Social Psychology, **75**, 917-37.

Walker, A. 2002. A strategy for active aging. *International Social Security Review*, **55**, 121–

39.

Wiliams, K., Kemper, S. and Hummert, M.L. 2003. Improving nursing home communication:

an intervention to reduce elderspeak. *Gerontologist*, **43**, 242-7.

TABLE 1

Study 1: Hierarchical Multiple Regression Analyses (unstandardized coefficients; standard errors in brackets) on Well-being

	Model 1		Model 2		Model 3	
	B	(S.E.)	B	(S.E.)	B	(S.E.)
Intercept	5.11 (0.08)***		5.11 (0.08)***		4.98 (0.16)***	
Age Meta-Stereotypes						
Competence	0.14 (0.07)*		0.12 (0.07)#		0.12 (0.07)#	
Warmth	0.02 (0.06)		-0.03 (0.07)		-0.02 (0.07)	
Personal Beliefs						
Competence			0.06 (0.09)		0.06 (0.10)	
Warmth			0.11 (0.10)		0.11 (0.10)	
Control Variables						
Age					0.01 (0.01)	
Gender (Male = 0, Female = 1)					0.18 (0.18)	
R^2	3.8%		6.1%		6.7%	
ΔR^2			2.3%		0.6%	

*Note. # $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.*

TABLE 2

Study 2: Hierarchical Multiple Regression Analyses (unstandardized coefficients; standard errors in brackets) on Well-being

	Model 1		Model 2		Model 3	
	B	(S.E.)	B	(S.E.)	B	(S.E.)
Intercept	4.32	(0.03)***	4.32	(0.03)***	4.18	(0.10)***
Age Meta-Stereotypes						
Competence	0.12	(0.04)**	0.11	(0.04)**	0.09	(0.04)*
Warmth	-0.04	(0.04)	-0.07	(0.05)	-0.05	(0.04)
Personal Beliefs						
Competence			0.07	(0.05)	0.05	(0.05)
Warmth			0.05	(0.05)	0.03	(0.04)
Control Variables						
Age					0.03	(0.02)
Gender (Male = 0, Female = 1)					0.01	(0.06)
Retired					0.03	(0.07)
In relationship					0.17	(0.07)*
Financial satisfaction					0.14	(0.04)***
Education (Primary/secondary = 0)						
Higher vocational training					0.13	(0.08)#
University/tertiary degree					0.01	(0.07)
Religiosity					0.02	(0.02)
Self-rated health					0.32	(0.03)***
R^2	2.4%		3.9%		29.5%	
ΔR^2			1.5%		25.6%	

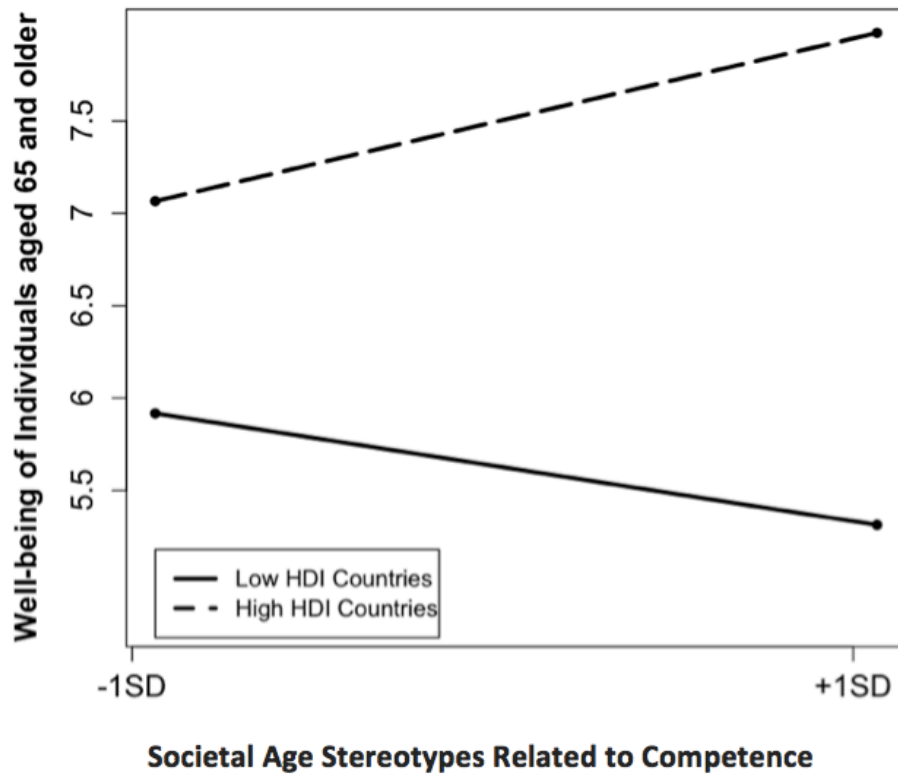*Note. # p < .10; * p < .05; ** p < .01 ; *** p <. 001.*

TABLE 3

Study 3: Unstandardized Multilevel Regression Coefficients and Standard Errors of Well-being of Individuals Aged 65 and Older

	Model 1 Individual predictors		Model 2 Contextual predictors		Model 3 Level-2 interaction		Model 4 Full Model with control variables	
Intercept	6.569		6.568		6.568		6.552	
Individual-level indicators								
Age Meta-Stereotypes: Competence	0.091	(0.023)***	0.091	(0.023)***	0.091	(0.023)***	0.063	(0.022)**
Age Meta-Stereotypes: Warmth	0.135	(0.030)***	0.134	(0.030)***	0.134	(0.030)***	0.118	(0.027)***
Socio-demographic and control variables								
Age							0.010	(0.003)**
Gender (1 = male)							-0.059	(0.051)
Education							0.022	(0.006)***
Financial dissatisfaction							-0.651	(0.053)***
Partner (1 = living with partner)							0.423	(0.043)***
Retired (1 = retired)							0.112	(0.041)**
Religiosity							0.075	(0.007)***
Self-rated health							0.512	(0.035)***
Country-level indicators								
Societal Age Stereotypes: Competence			-0.144	(0.312)	0.268	(0.293)	0.125	(0.244)
Societal Age Stereotypes: Warmth			0.037	(0.638)	-0.299	(0.566)	-0.258	(0.468)
HDI			19.116	(2.617)***	17.797	(2.035)***	11.673	(1.730)***
Country-level interaction								
Societal Age Stereotypes (Competence) x HDI					24.744	(7.750)**	11.639	(5.942)*
Variance components								
Individual-level	3.562	***	3.562	***	3.562	***	3.018	***
(% explained)	(0.9%)		(0.9%)		(0.9%)		(16.1%)	
Country-level	1.308		0.291	***	0.234	**	0.164	**
(% explained)	(2.3%)		(78.3%)		(82.5%)		(87.8%)	
Changes in Model Fit								
Deviance (df)	44,523.53 (5)		44,480.65 (8)		44,474.40 (9)		42,677.27 (17)	
Δ Deviance (Δdf)	99.65 (2) ***		42.88 (3) ***		6.25 (1) *		1796.89 (8) ***	

Note. * *p* < .05. ** *p* < .01. *** *p* < .001. Deviance (df) of Model 0 is 44,623.18 (3).

FIGURE 1

Well-being of Individuals aged 65 and older

Low HDI Countries
High HDI Countries

-1SD   +1SD

Societal Age Stereotypes Related to Competence

Simple Slope Analyses of Country-Level Interaction (Study 3)