

Empathic Concern and Perspective Taking: Linear and Quadratic Effects of Age Across the Adult Life Span

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Objective. We investigated linear and quadratic effects of age on self-reported empathy in three large cross-sectional samples of American adults aged 18–90 years.

Method. Participants completed subscales of the Interpersonal Reactivity Index (Davis, 1983), allowing us to independently assess an emotional component of empathy (“empathic concern”) and a cognitive component of empathy (“perspective taking”) across the adult life span.

Results. For both measures and in all three samples, we found evidence for an inverse-U-shaped pattern across age: Middle-aged adults reported higher empathy than both young adults and older adults. We also found a consistent gender difference: Women reported more empathy than men. We did not find systematic differences by ethnicity. However, neither gender nor ethnicity interacted with age effects.

Discussion. We discuss the inverse-U-shaped age pattern, in terms of aging versus cohort influences, and how it complements and extends the existing literature on empathy and age.

Key Words: Age differences—Emotional development—Empathic concern—Perspective taking.

EMPATHY is generally defined as the dispositional propensity to “experience perspectives and feelings more congruent with another’s situation than with [one’s] own” (Decety & Lamm, 2006, p. 1147). Previous research has typically focused on its prosocial correlates, both for the self and for others. For example, people who report higher empathy also report higher life satisfaction, emotional intelligence, and self-esteem (Eisenberg & Fabes, 1998; Mayer, Caruso, & Salovey, 2000; Richardson, Hammock, Smith, Gardner, & Signo, 1994). Interpersonally, they have richer social networks, are less aggressive, volunteer more, donate more to charity, and are more likely to help others (Davis, 1983; Grünh, Rebucal, Diehl, Lumley, & Labouvie-Vief, 2008; Taylor & Signal, 2005; Wilhelm & Bekkers, 2010).

By comparison, less research has focused on identifying people who report higher or lower empathy. To the extent that empathy facilitates the desirable outcomes mentioned earlier, it is of interest to examine how this disposition might vary across individuals. In particular, how does empathy vary across the adult life span? Given research suggesting that empathic responses and prosocial behavior (e.g. volunteering, donating to charities, and providing social support) are associated with psychological and physical health benefits (for a review, see Konrath & Brown, in press), understanding how empathy rises and falls across the adult life span may have important health implications for an aging population.

RESEARCH ON EMPATHY AND AGE

From a developmental perspective, empathy has mainly been studied in childhood and adolescence (Eisenberg & Fabes, 1998; Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992), showing greater progressions as children grow older (Damon & Eisenberg, 1998; Grusec & Lytton, 1988). Some life-span developmental psychologists have postulated that empathy develops even further into middle adulthood, and maybe even into old age (Erikson, Erikson, & Kivnick, 1986; McAdams & Olson, 2010); but it may not follow the same linear patterns as in youth.

From a theoretical perspective, Labouvie-Vief, Grünh, and Studer (2010) argued that empathy is a complex emotion that may show an inverse-U-shaped pattern across the adult life span. In particular, the dynamic integration theory (Labouvie-Vief, 2009) suggests that emotional representations are based on “basic cognitive representations” and develop similarly from simple schemes to more complex and integrated representations through experience. Thus, emotional representations and functions should show increases in early parts of the life span due to cognitive developments and should show more subtle increases in middle adulthood due to accumulation of life experiences. In old age, however, age-related declines in biological and cognitive functions may challenge adequate emotional representations. Thus, with increasing declines, older adults may fall back on simpler emotional schemes.

Indeed, in a cross-sectional study, Labouvie-Vief, DeVoe, and Bulka (1989) found an inverse-U-shaped age pattern in a qualitative task of describing the self: People in late-middle adulthood (about 50–60 years old) described themselves and their felt emotions in more comprehensive and nuanced terms than did young and older adults. Moreover, the same patterns may be reflected in the comparable age differences in terms of abilities related to more cognitive-based empathic responding, such as in perspective taking and social reasoning (Bailey, Henry, & von Hippel, 2008; Phillips, MacLean, & Allen, 2002).

Evidence for similar age patterns in “self-reported empathy,” however, is inconclusive. Two cross-sectional studies found no relationship between empathy and age among 363 Midwestern Americans between 18 and 87 years of age (born between 1903 and 1972; Diehl, Coyle, & Labouvie-Vief, 1996) and among 1,320 British adults between 16 and 89 years of age (born between 1897 and 1968; Eysenck, Pearson, Easting, & Allsopp, 1985). Another research report comparing 30 older adults (aged 60–80) with 30 younger adults (aged 20–40) found that older adults scored lower on empathy than younger ones (all born between 1919 and 1979); however, the effect disappeared when controlling for education (Phillips et al., 2002). Three cross-sectional studies found negative associations between age and empathy among 566 Midwestern Americans between 21 and 89 years of age (born between 1905 and 1982; Grühn et al., 2008) and 1,581 Canadians between 22 and 92 years of age (born between 1904 and 1965; Schieman & Van Gundy, 2000), suggesting that older adults report lower empathy than younger adults.

Similar patterns were observed in a longitudinal study that tracked self-reported empathy across a 40-year period in three separate samples, people born in the 1920s and 1930s; hierarchical linear modeling revealed a significant, albeit small, overall linear decline of self-reported empathy across adulthood (Helson, Jones, & Kwan, 2002). Grühn et al. (2008) tracked self-reported empathy over the course of 12 years in people between 14 and 87 years of age. Results from latent growth curve modeling were suggestive of cohort differences rather than maturation processes: Older cohorts reported lower empathy than younger cohorts, but empathy was relatively stable within cohorts. Thus, there was no evidence for intraindividual change that was related to age.

Current Investigation

Taken together, prior research provides a mixed pattern for age differences in self-reported empathy across the adult life span, even when considering similar research designs (i.e., cross-sectional versus longitudinal studies). The findings suggest that there are either no age differences, or that older adults report lower empathy than younger adults. It is important to note that none of these studies suggest that empathy is higher in older adults than in any other age group.

An alternative—but yet untested—view of this pattern is that there are nonlinear effects of age. Consistent with the notion by Labouvie-Vief et al. (2010) that emotional representations may peak in middle adulthood “due to age-related shifts in the efficiency and availability of biological, cognitive, and social resources,” an inverse-U-shaped pattern of self-reported empathy might be present (Grühn et al., 2008). Past studies may simply not have tested for quadratic effects or may not have had appropriate samples (i.e., in size or representativeness) to test for them.

The goal of the current paper was to supplement the literature by examining age differences in self-reported empathy among three large samples of U.S. American adults. Specifically, we investigated the linear and quadratic effects of age on two components of self-reported empathy: empathic concern and perspective taking. These components were measured by two subscales of the Interpersonal Reactivity Index (Davis, 1980, 1983). The 7-item empathic concern scale measures persons' other-oriented feelings of sympathy for the misfortunes of others, and as such represents an emotional component of empathy (e.g., “I often have tender, concerned feelings for people less fortunate than me.”). The 7-item perspective taking scale represents a cognitive or intellectual component, measuring people's tendencies to imagine others' points of view (e.g., “I sometimes try to understand my friends better by imagining how things look from their perspective.”). Notably, these scales are widely used, well established, and viewed as prototypic of emotional and cognitive empathy, respectively (Eisenberg & Miller, 1987). We hope that our analysis extends the literature by examining age-related effects on these highly valid and reliable measures (Davis, 1996; Grühn et al., 2008).

Consistent with findings by Labouvie-Vief et al. (1989), we hypothesized that both younger and older adults may report lower empathy than middle-aged adults, resulting in a curvilinear pattern across the life span. Thus, self-reported empathy may peak in late middle adulthood. To do this, we examined self-reported empathy in three large, cross-sectional samples with people aged between 18 and 90 years. Two of our samples were nationally representative samples of U.S. American adults. Given a lack of research in disentangling different components of empathy across the adult life span, we expected similar age patterns for empathic concern and perspective taking over the adult life span. If there were differences, we expected stronger or earlier declines in the cognitive component (perspective taking) than in the emotional component (empathic concern). Cognitive aspects of empathy might be more influenced by age-related cognitive declines than emotional aspects of empathy (Bailey et al., 2008; Phillips et al., 2002).

Finally, prior studies found consistently that women report higher empathy than men (Davis, 1980; de Corte et al., 2007). Although general sex differences were tangential to our main research question about age pattern,

Schieman and Van Gundy (2000) found that sex differences in self-reported empathy decreases in old age. Thus, the age pattern may differ for men and women. Given the size and representativeness of our samples, we were able to examine general sex differences in self-reported empathy and, more importantly, whether gender moderated potential age differences. Regarding ethnicity, Grühn et al. (2008) found no significant empathy differences between European and African Americans. However, ethnic differences might be present only among specific ethnic groups (Asian Americans or Hispanic Americans), might be small, or might change with age. The large sample sizes of the three reported studies provided an opportunity to reexamine potential ethnic differences in self-reported empathy. However, we did not have hypotheses for ethnic differences.

METHOD

Participants

We examined self-reported empathy in three large-scale samples (total $N = 75,263$). The first two samples stemmed from the General Social Survey (GSS; Davis & Smith, 2010), a nationally representative randomly sampled survey in the United States. In 2002 and 2004, empathic concern was assessed in the GSS. In 2002, the GSS assessed 1,353 U.S. adults between 18 and 89 years of age ($M = 46.63$, $SD = 17.56$, 52.3% women). In 2004, the GSS assessed 1,330 U.S. adults aged 18–89 years ($M = 45.95$, $SD = 17.07$, 53.2% women). The people in the GSS samples were born between the 1910s and 1980s. The third sample was our own online survey of 72,580 U.S. adults between 18 and 90 years of age, born between the 1920s and 1990s ($M = 38.37$, $SD = 13.33$, 43% women). In this survey, we assessed both empathic concern and perspective taking. Despite its large size, our online sample was not intended to be nationally representative, but the two GSS samples were nationally representative.

All three samples consisted predominantly of European Americans (GSS 2002: 79.7% European Americans, 14.2% African Americans, 2.0% Asian Americans, 2.4% Hispanic, and 1.7% others; GSS 2004: 80.1% European Americans, 11.6% African Americans, 3.9% Asian Americans, 2.8% Hispanic, and 1.7% others; Online: 87.1% European Americans, 2.1% African Americans, 6.0% Asian Americans, 2.1% Hispanic, and 2.7% others).

Measures

Participants completed the empathic concern (all samples) and perspective taking (online sample only) subscales of the Interpersonal Reactivity Index (Davis, 1983). Items were measured on a 5-point scale, ranging from “Does not describe me well” (1) to “Describes me very well” (5). Internal consistencies were high (empathic concern: $\alpha_{\text{GSS 2002}} = .75$, $\alpha_{\text{GSS 2004}} = .72$, $\alpha_{\text{Online}} = .83$; perspective taking: $\alpha_{\text{Online}} = .82$) and comparable to prior work (Davis, 1983; $.70 \leq \alpha \leq .78$).

Procedure

Details about the assessment procedure in the GSS for the first two samples are published elsewhere (Davis & Smith, 2010). The online survey for the third sample was posted in May 2010 on our academic, noncommercial, advertisement-free website. Many studies on age-related differences use large online volunteer surveys, producing validity and reliability akin to traditional methods (Gosling, Vazire, Srivastava, & John, 2004; Shitka & Sargis, 2006). Respondents voluntarily completed our survey in exchange for immediate feedback about their scores. The link was made accessible through many outlets, including search engines and other websites. Respondents first reported gender, year of birth, ethnic background, and country of residence, and then completed the empathy scales. No other information (e.g., education level) was reported. All procedures and responses were in English.

The GSS samples consisted entirely of U.S. American adults. For consistency, we included only those respondents from our online sample who reported their country of residence as the United States.

RESULTS

Our main research question concerned age differences in self-reported empathy. Results are organized corresponding to the two subscales: empathic concern and perspective taking.

Empathic Concern

To investigate age differences in empathic concern, we conducted linear regressions within each of the three samples. Empathic concern (seven items, composite score) was the dependent variable. Sex, ethnicity, and age were predictors. Sex and ethnicity were dummy-coded with European American women as the reference group. Age was centered. Because we expected that young adults and older adults would score lower than middle-aged adults, we included the quadratic term of age. We conducted the regressions in a hierarchical fashion, entering first sex, then ethnicity, and finally age and age-squared. (We also tested for interaction effects among the predictors. There was no consistent evidence for interaction effects. In particular, there was no empirical evidence for significant Age \times Sex interactions in predicting empathic concern and perspective taking.) We entered age and age-squared as the last step in the model to see the effect of age over and above the effects of sex and ethnicity. In light of consistent sex differences in prior studies, we entered sex first.

Results of the final regression models are reported in Table 1. Across the three large-scale samples, the pattern of findings was relatively consistent. In the first step, sex was a significant predictor: Women reported higher empathic concern than men. This effect was reasonably large in all three samples (adjusted $\Delta R^2_{\text{GSS 2002}} = .069$, adjusted $\Delta R^2_{\text{GSS 2004}} = .050$, adjusted $R^2_{\text{Online}} = .101$). In the second step,

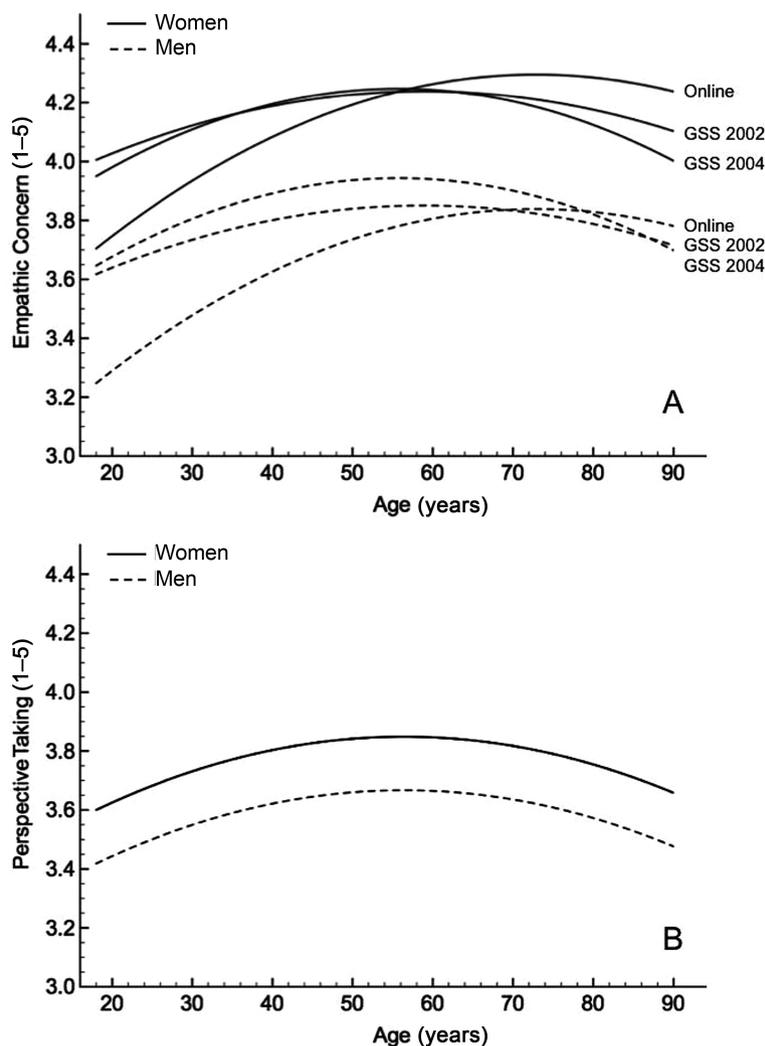


Figure 1. Estimated age trajectories for Empathic Concern (Panel A) and Perspective Taking (Panel B) separately for women and men (GSS = General Social Survey).

we entered ethnicity. Across the three samples, differences in ethnicity were inconsistent. In the GSS 2002 sample, there were no significant differences in terms of ethnicity. In the GSS 2004 sample, African Americans reported lower empathic concern than European Americans. In contrast, in the online survey, African Americans, Asian Americans, and especially Hispanic Americans reported higher empathic concern than European Americans. All of these effects, however, were small ($\Delta R^2_{\text{GSS 2002}} = .002$, $\Delta R^2_{\text{GSS 2004}} = .006$, $\Delta R^2_{\text{Online}} = .001$).

In the third step, we added the age and age-squared terms. Importantly, across the three samples, the effects of age were consistent. The linear effect of age was significant in all three samples, suggesting that empathic concern was higher in older than in younger adults. However, the linear effect was overshadowed by a significant effect of age-squared. This finding is consistent with our hypothesis that middle-aged adults might report higher empathic concern than

young adults and older adults. The effects of age over and above the effects of sex and ethnicity were small but consistent ($\Delta R^2_{\text{GSS 2002}} = .006$, $\Delta R^2_{\text{GSS 2004}} = .013$, $\Delta R^2_{\text{Online}} = .043$). The effects of sex and age on empathic concern are displayed in Figure 1A.

Perspective taking

Perspective taking was assessed only in the online survey and was not assessed in the GSS samples. We conducted a linear regression in the same way as for empathic concern. The effects for perspective taking (seven items, composite score) were similar to the effects for empathic concern (Table 1). Again, there was a significant effect of sex ($R^2 = .018$): Women reported higher perspective taking than men. There was one significant effect of ethnicity in that other ethnic groups reported higher perspective taking than European Americans. This effect was, however, small ($\Delta R^2 <$

Table 1. Empathic Concern and Perspective Taking Regressed on Sex, Ethnicity, and Age

	General Social Survey						Online Survey					
	Empathic concern, 2002			Empathic concern, 2004			Empathic concern			Perspective taking		
	B	SE	Beta	B	SE	Beta	B	SE	Beta	B	SE	Beta
Intercept	4.21	0.03		4.23	0.03		4.06	0.01		3.79	0.01	
Men	-0.39	0.04	-.27**	-0.30	0.04	-.23**	-0.50	0.01	-.29**	-0.18	0.01	-.23**
African American	-0.08	0.06	-.04	-0.11	0.06	-.05*	0.04	0.02	<0.01*	0.02	0.02	<.01
Asian Americans	-0.26	0.14	-.05	-0.17	0.09	-.05	0.02	0.01	<0.01*	0.01	0.01	<.01
Hispanic Americans	0.06	0.12	.01	-0.11	0.11	-.03	0.14	0.02	.03**	0.03	0.02	.03
Others	-0.03	0.15	-.01	0.19	0.14	.04	0.03	0.02	<0.01	0.03	0.02	.01*
Age	0.03	0.01	.08**	0.04	0.01	.11**	0.13	<0.01	.23**	0.06	<0.01	.11**
Age-squared	-0.01	<0.01	-.07*	-0.02	<0.01	-.11**	-0.02	<0.01	-.06**	-0.02	<0.01	-.05**

* $p < .05$, ** $p < .01$.

.001). Importantly, there was a significant effect of linear age and a significant effect of age-squared ($\Delta R^2 = .008$). The linear effect again suggests that older adults reported higher perspective taking than younger adults. As expected, the quadratic effect indicates that middle-aged adults reported higher perspective taking than young and older adults. The effects of sex and age on perspective taking are displayed in Figure 1B.

DISCUSSION

In recent years, there has been growing interest in age-related differences in emotional functions across the adult life span, ranging from trait effect (Grühn, Kotter-Grühn, & Röcke, 2010) to discrete social emotions like shame and guilt (Orth, Robins, & Soto, 2010). Along these lines, we attempted to examine age patterns of self-reported empathy in three large samples, given the importance of empathy in everyday social life and its relevance to interpersonal emotionality (Grühn et al., 2008), prosocial behaviors (Davis, 1983; Taylor & Signal, 2005; Wilhelm & Bekkers, 2010), and healthy aging (Konrath & Brown, in press). Moreover, prior research on the topic was lacking larger and representative samples on the widely used Interpersonal Reactivity Index (Davis, 1980, 1983), which could provide insight into age differences in distinct measures of emotion-based empathy (empathic concern) and cognitive-based empathy (perspective taking).

Specifically, empathy was expected to show an inverse-U-shaped function across the adult life span, with middle-aged adults scoring higher than young adults and older adults. Indeed, we found empirical evidence for this pattern in the case of both empathic concern and perspective taking in all three samples.

Aging Versus Cohort Effects

From a theoretical perspective, the dynamic integration theory argues that emotional representations follow an inverse-U-shaped function, with peaks in middle adulthood (Labouvie-Vief et al., 2010). Increasing levels of cognitive abilities and experience facilitate emotional functioning in

the first half of the life span, whereas cognitive declines diminish emotional functioning in the second half. Consistent with this idea, we found empirical evidence for an inverse-U-shaped age pattern in self-reported empathy. We found, in all three samples, a curvilinear age pattern for empathic concern and perspective taking, with peaks in middle adulthood. In particular, empathic concern measured in both phases of the General Social Survey as well as perspective taking measured in the online sample peaked around 50–60 years of age. We also found a quadratic effect for empathic concern in the online sample; however, the peak was in the older age range—around 70–80 years.

An open question is whether these age patterns were due to age-related changes or due to cohort effects. Grühn et al. (2008) found empirical evidence that age differences in self-reported empathy were due to cohort effects rather than aging effects. In our cross-sectional samples, we cannot clearly differentiate between aging effects and cohort effects. Thus, it might be that our nonlinear patterns are due to cohort differences that reflect generational influences. For example, U.S. Americans born between the 1950s and 1960s—the middle-aged people in our samples—were raised during historic social movements, from civil rights to various antiwar countercultures. It may be that today’s middle-aged adults report higher empathy than other cohorts because they grew up during important societal changes emphasizing the feelings and perspectives of other groups.

Similarly relevant for potential cohort effects, our findings also reveal that young adults in 2010 scored lower in empathic concern than young people nearly a decade ago in the GSS samples (Figure 1A). Though surprising at first, there is actually some empirical evidence that current cohorts of college students report lower empathy scores as assessed by the Interpersonal Reactivity Index than college students from previous cohorts (Konrath, O’Brien, & Hsing, 2010). This observation is further supported by findings that current young adults (i.e., people born in the 1980s–1990s, the young adults in our samples) report higher levels of narcissism (Twenge, Konrath, Foster, Campbell, & Bushman, 2008), individualism (Twenge, 2006), positive

self-views (Twenge & Campbell, 2008), and materialism (Schor, 2004) than young adults from previous cohorts. These traits are negatively linked to empathy and prosocial behavior (Vohs, Mead, & Goode, 2006; Watson, Biderman, & Sawrie, 1994). Thus, today's young people may report lower empathic concern and perspective taking than previous cohorts in a similar fashion.

As further support of potential cohort effects, our patterns match closely with previous studies on age and self-reported empathy when examining these prior samples by birth year rather than by age. Grühn et al. (2008) found that older adults (born in the early 1900s, starting in 1905) were less empathic than younger adults (mostly born in the 1960s); Phillips et al. (2002) found that older adults (born mostly in the 1920s, starting in 1919) were less empathic than younger adults (born mostly in the 1960s and 1970s); and Schieman and Van Gundy (2000) found that older adults (born in the early 1900s, starting in 1904) were less empathic than younger adults (born mostly in the 1950s and 1960s). In all of these cases, these prior "older adult" samples seem to be drawn from similar birth years as our "old" lower-empathy-level respondents, and the prior "younger adult samples" seem to be drawn from similar birth years as our "middle-aged" high-empathy-level respondents. The fact that no prior study on age and self-reported empathy examines people who were born after the year 1982 (Grühn et al., 2008) leaves open the possibility that empathy may be declining during these more recent years, which would have been impossible to detect in any prior study.

Although these differences between the GSS samples and the online sample are suggestive of cohort effects, we cannot rule out the possibility that the different assessment methods employed in these studies were contributing to these differences. Indeed, in a related but speculative vein, empathic concern peaked somewhat later in the online sample than it did in the GSS samples, which confuses a strict cohort-based interpretation because the temporal shift in age cohorts does not directly correspond. In other words, empathic concern peaked in the early- to mid-70s (age) in the online sample but at around 50–60 in the GSS samples, which leaves some overlap of people from the online sample who would be in their 60s during the time when the online data were collected (i.e., "not" among the cohort with peak empathic concern in 2010). Beyond cohort or aging effects, this discrepancy may even be a methodological artifact (e.g., the fact that the GSS samples were nationally representative, whereas the online sample was not; the possibility that the older adults in our online sample, who were freely using computers, may have been self-selected to exhibit stronger cognitive functioning to begin with). Ultimately, our findings suggest that aging and cohort effects are plausible, but the distinction cannot be fully teased apart with our current data.

Whether mostly due to aging or cohort effects, a primary implication of our findings is that older adults report less empathy than middle-aged adults. But are older adults really less empathic? The literature on the development of emotional functioning across the adult life span is mixed, suggestive of multidirectional processes for different components of emotional processing (Grühn et al., 2010). There is evidence for positive developments in old age. For example, in contrast to young adults, older people appear to maintain positive and fulfilling emotional lives to a greater extent (Mroczek, 2001), place a greater emphasis on emotional goals (Carstensen, Isaacowitz, & Charles, 1999), and report more agreeableness, conscientiousness, and social emotions (Orth et al., 2010; Soto, John, Gosling, & Potter, 2011).

To some extent, we replicate such findings if we focus on older adults' tendency to have higher emotional empathy (empathic concern) relative to their cognitive empathy (perspective taking; Figure 1A and B). However, the full curvilinear patterns across the life span suggest that older adults score lower in empathy than middle-aged adults, consistent with many of the previous studies on actual self-reported empathy that suggest a more negative perspective on the development of empathy in old age. Still, these mixed findings may indicate interactions between positive aging and age-related decline, which could decrease self-reported empathy while enhancing other emotion-related processes (e.g., regulating and maintaining positive mood by avoiding negative situations that induce empathy).

Gender and Ethnicity

Although tangential to our main research question, we found significant gender-based differences. Consistent with past studies (Davis, 1980; de Corte et al., 2007), women reported higher scores than men in empathic concern and perspective taking. Although there is some evidence for neuroanatomical and neurophysiological correlates of these gender differences in empathy (Cheng et al., 2009; Yang, Decety, Lee, Chen, & Cheng, 2009), studies comparing self-reported gender differences in empathy to other behavioral and physiological measures have found that the evidence for gender differences seems to be limited to self-report measures (Eisenberg & Lennon, 1983). It might be that our observed gender-based differences reflect motivational differences in self-report rather than actual differences in the ability to experience empathy (Zahn-Waxler, Cole, & Barrett, 1991). Nonetheless, it is interesting to compare the gender differences that we observed to our age effects: Differences in empathy appear to be more robustly related to gender (i.e., women reporting higher empathy than men) than to any single age bracket, perhaps offering strong support to gender differences in empathic responding (at least at the level of self-report).

In contrast, we found hardly any evidence for systematic differences in self-reported empathy by ethnicity. In the GSS samples, we found a significant effect that African Americans reported lower empathic concern than European Americans only in 2004. But in the online sample, African Americans—as well as Asian and Hispanic Americans—reported higher empathic concern than European Americans. In addition, people with these ethnicities reported higher perspective taking than European Americans. Overall, however, the effects of ethnicity are small and inconsistent. Relative to the majority of white European Americans, all other ethnic groups involved small sample sizes. Random fluctuations in the composition of these groups might easily produce significant effects by chance. Thus, these findings may not provide significant evidence for systematic differences in self-reported empathy by ethnicity.

Limitations

Our study would have benefited by assessing the educational background of participants. Previous research suggests that education is linked to empathy (Grühn et al., 2008; Phillips et al., 2002). Future research might explore potential effects of education on empathy that might interact with age or time points at which people undergo different educational experiences (Hojat et al., 2004).

On a practical level, our study is limited by the relatively small mean differences that we observed. Although the differences reported here are consistent with prior research on the topic (Konrath et al., 2010), what does a 0.2 difference near the midpoint of a scale of self-reported empathy suggest for differences in actual empathic responding in everyday life? Similarly, given the limitations of self-report measures, perhaps “any” differences that we observed are simply due to age differences in the perceived meaning of our self-report items. To address these issues, future research might examine whether we would find similar inverse-U-shaped age patterns for other empathy-related measures (e.g., actual sharing of others’ emotions: Richter & Kunzmann, 2011), or how these effects might be reflected downstream in behavior (e.g., higher volunteering rates of middle-aged Americans compared to young Americans: U.S. Bureau of Labor Statistics, 2011). Interestingly, one recent study found that older adults performed worse than younger adults on a “Seeing Eyes” test of detecting others’ emotions (Bailey & Henry, 2008), which may reflect part of the inverse-U pattern that we observed.

CONCLUSION AND FUTURE AVENUES

We found consistent empirical evidence for an inverse-U-shaped pattern of self-reported empathy across the adult life span. Thus, late middle-aged adults reported higher empathic concern, that is, the tendency to emotionally react to the experiences of others; and perspective taking, that is, the ability to take others’ viewpoints and understand their

beliefs, than younger and older adults. This effect might be due to aging or cohort effects, or some combination of both; and the current study cannot disentangle such causes. Future studies would benefit from examining empathy in a longitudinal design that would make it possible to disentangle the effects of age and cohort more systematically. If cohort effects play a role in self-reported empathy, an alternative route to examine this question might be cross-cultural comparisons. Different cultures may not have experienced similar cultural forces influencing individuals’ empathy. Thus, it is possible that empathy has different developmental patterns in different cultural contexts.

Nonetheless, the current data provide consistent evidence that middle-aged adults report more empathy than young adults and older adults. These patterns were observed among the largest and most representative samples of American adults in any study to date on the topic, using highly valid measures of self-reported empathy. Although much research has focused on age-related functions among people in their youth or in old age, here, we report a notable spike of empathy within middle-aged adults. Given the fundamental role of empathy in everyday social life and its many important prosocial correlates, more research is warranted to fruitfully examine potential age differences in empathic responding.

FUNDING

This project was supported by a National Science Foundation Graduate Research Fellowship awarded to the first author, and an American Association of University Women (AAUW) Fellowship awarded to the second author.

ACKNOWLEDGMENTS

We gratefully thank Laura King, Kali Trzesniewski, Sam Gosling, and the Ann Arbor American Association of University Women for helpful critiques on early drafts.

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