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Only Children in the 21<sup>st</sup> Century: Personality Differences between Adults With and Without  
Siblings are Very, Very Small

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### **Abstract**

Negative beliefs about only children suggest that they are spoiled and unlikable, with these early personality differences persisting across the lifespan. Early research found little support for the idea, yet, negative views towards only children remain prevalent. The current research re-visited the issue using a large national panel study of New Zealand adults ( $N = 20,592$ ) to assess mean differences in personality between those with and without siblings. Adults with no siblings reported significantly lower levels of conscientiousness and honesty-humility and higher levels of neuroticism and openness than adults with siblings; however, mean differences failed to reach the threshold of even a small effect size ( $|d's| = .08 - .11$ ). Beliefs about only children appear to contradict actual group differences.

*Keywords:* personality, Big-Six, only children, birth order

## Only Children in the 21<sup>st</sup> Century: Personality Differences between Adults With and Without Siblings are Very, Very Small

Throughout the 20<sup>th</sup> century, one-child families were a source of great concern; an uncharted territory where the long-term psychological effects of growing up without siblings was an unknown (see Falbo, 1977; Polit & Falbo, 1987). Research ultimately observed few differences between children and adults with and without siblings (Falbo, 1977; Polit & Falbo, 1987). Yet, beliefs about the spoiled, unlikable only child persist (Mancillas, 2006; Matthews, 2018). The continuation of these beliefs is particularly interesting given that fertility rates are dropping (United Nations, 2017), and one-child families are increasingly prevalent (Statistics New Zealand, 2014). Despite these modern demographic shifts, the association between only children and personality has not been investigated since the 1980s. Here, we aim to provide up-to-date data using a high-powered sample and personality measures that were lacking in earlier research. We investigate the mean differences in Big-Six personality among adults (ages 18-97) with and without siblings in a national panel sample of New Zealanders.

Why are only children theorised to differ from children with siblings? Only children are presumed to receive more focused attention and expectations from parents and family members, as well as have a greater number of financial and social resources allocated to them in the absence of siblings (Polit & Falbo, 1987; Roberts & Blanton, 2001). The absence of a sibling relationship or ‘sibling deprivation’ is also postulated to affect personality; the idea is that only children miss socialisation experiences important to personality development (Mancillas, 2006; Polit & Falbo, 1987; Roberts & Blanton, 2001). Together, these factors suggest that only children should be more spoiled and self-centered, lack social skills, and struggle with anxiety. Yet, they may also be more mature, due to socialising with adults rather than other children, do better academically as a result of their family’s concentrated

resources, and engage in more imaginative play due to their lack of siblings (Falbo, 1977; Polit & Falbo, 1987; Roberts & Blanton, 2001).

These beliefs about only children have persisted to the present. A recent Gallup poll of American adults found that just 3% would describe a one child family as ideal; in 1936, the preference for a one child family was 2% (Gallup, 2018). Research has found that only children are still commonly viewed as self-centered, disagreeable, lonely, and maladjusted (see Mancillas, 2006, for a review). Only children as a group are rated negatively by only children themselves, and by parents of only children, even as they rate themselves (or their child) relatively positively (Mancillas, 2006). Indeed, clinicians expect a poorer prognosis for adults without siblings than those with siblings (Stewart, 2004). The research reviewed here includes both children without siblings and adults without siblings (Mancillas, 2006), suggesting that being an only child is expected to contribute to a lifelong personality difference.

Despite these popular beliefs, reviews and meta-analyses in the 1980s found few differences between people with and without siblings (Falbo, 1977; Polit & Falbo, 1987). In a meta-analysis of research from 1926 to 1985, Polit and Falbo (1987) found no statistically reliable differences between children or adults with and without siblings in responses to personality measures such as extraversion, neuroticism, generosity, cooperativeness, leadership, and self-control. Contrary to expectations, where differences were found, only children were observed to exhibit higher self-esteem, better parent-child relationships, and greater achievement motivation. However, some recent research has found that only children were more narcissistic than participants who had siblings in a large sample of Chinese adults (Cai, Kwan, & Sedikides, 2012). While we might expect differing results in China following the one child policy, these results also raise the concern that earlier findings may have

suffered from Type II errors: differences might be so small as to be barely detectable without large samples.

Previous research into this topic was largely conducted prior to the 1980s and tended to suffer from small sample sizes and inconsistent personality measures (see Polit & Falbo, 1987). Combined with persistent negative beliefs (Gallup, 2018) and the increasing prevalence of one-child families (Statistics New Zealand, 2014), a robust re-examination of the association between personality and only children is in order. We use a large national panel sample of New Zealand adults ( $N = 20,592$ ) to examine differences in Big-Six personality between adults with and without siblings. The most notable negative beliefs about only children revolve around their self-centeredness and unlikability, suggesting they should be lower in agreeableness and honesty-humility. Other beliefs about only children suggest they may also be higher in neuroticism, conscientiousness, and openness, but lower in extraversion (Mancillas, 2006). However, given the null findings in older research (Polit & Falbo, 1987), we hypothesise that there will be, at most, only very small personality differences between those with and without siblings. Finally, previous research suggests effects (or lack thereof) are largely consistent across age groups, but this is based upon a limited number of adult samples (Polit & Falbo, 1987). Here, we test for differences between adults with and without siblings across the lifespan (and across gender) in order to investigate how personality differences may develop across age.

## **Method**

### **Sampling Procedure**

We analysed data from Time 8 (2016) of the New Zealand Attitudes and Values Study (NZAVS) – a multiyear study based on a national probability sample of New Zealand adults. Participants are sampled from the New Zealand electoral roll, which represents all citizens and permanent residents over 18 years of age who are eligible to vote (for full details

on the sampling procedure, see Sibley, 2018a). The Time 8 sample contained responses from 21,937 participants. Participants were posted a copy of the questionnaire, with a second postal follow-up two months later. Participants who provided an email address were also emailed and invited to complete an online version if they preferred. We report all data exclusions, manipulations, and analyses, and all measures available in the dataset can be viewed in the NZAVS Technical Documents (Sibley, 2018b).

### **Participants**

The mean age of the sample was 49.65 ( $SD = 13.91$ ) and 62.5% of the sample were women (men = 37.2%, gender diverse = 0.3%). In terms of ethnicity, 88.8% identified as New Zealand European, 11.3% identified as Maori, 2.6% identified as Pacific Nations, and 4.6% identified as Asian. Overall, 94.7% of participants had siblings. 29% of participants filled out an online version of the questionnaire, while the remaining 71% filled out a postal version. A total of 20,592 participants provided full responses to the relevant measures and were included in the analysis.

### **Materials**

**Personality.** Personality was measured using the Mini-IPIP6 (International Personality Item Pool; Sibley et al., 2011), a short-form adaptation of the Mini-IPIP (Donnellan, Oswald, Baird, & Lucas, 2006). Each trait was assessed using the mean of four items rated on a scale from 1 (very inaccurate) to 7 (very accurate). Extraversion was assessed by items such as “[I] am the life of the party” ( $\alpha = .75$ ), agreeableness was assessed by items such as “[I] sympathize with others’ feelings” ( $\alpha = .71$ ), conscientiousness was assessed by items such as “[I] get chores done right away” ( $\alpha = .68$ ), neuroticism was assessed by items such as “[I] have frequent mood swings” ( $\alpha = .72$ ), and openness to experience was assessed by items such as “[I] have a vivid imagination” ( $\alpha = .71$ ).

Additionally, four honesty-humility items were adapted in part from the Psychological Entitlement Scale (Campbell, Bonacci, Shelton, Exline, & Bushman, 2004): “[I] feel entitled to more of everything”, “[I] deserve more things in life”, and in part from the HEXACO honesty-humility scale (Ashton & Lee, 2009): “[I] would like to be seen driving around in a very expensive car”, and “[I] would get a lot of pleasure from owning expensive luxury goods” (all items reverse-coded;  $\alpha = .77$ ). This short-form measure of honesty-humility has been shown to have high reliability and construct validity in the New Zealand context and represents a distinct ‘sixth’ factor in models including the Big-Five (Sibley et al., 2011), has excellent test re-test stability (Milojev et al., 2013), and has a good test information function in analyses using Item Response Theory (Sibley, 2012). In sum, although only a short-form measure, the Mini-IPIP6 four-item measure of honesty-humility provides reasonable utility and is broadly comparable with the more comprehensive multi-item HEXACO measure when questionnaire space is limited, as it is in the NZAVS questionnaire.

**Sibling Status.** Participants were asked, “Do you have siblings?” (yes/no response).

**Age.** Participants were asked for their birth date, which was used to calculate age. To examine broad age differences, we categorised participants into 10-year age bands (18-25 years, 26-35 years, 36-45 years, 46-55 years, 56-65 years, 66-75 years, 76+ years).

## Results

We conducted a 2 (Siblings) x 7 (Age) MANOVA comparing mean HEXACO personality traits across participants with and without siblings and categorical age bands<sup>1</sup>. The main effect for age (was significant for conscientiousness, neuroticism, openness, and

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<sup>1</sup> An additional regression analysis was run to assess whether the use of categorical age bands may produce different results, however, the results remained the same and all interactions remained non-significant. Results are presented in Supplementary Table 1.

honesty-humility (results presented in Supplementary Table 2). Similarly, the main effect of sibling status was significant for conscientiousness ( $F(1,20578) = 6.21, p = .013, \eta p^2 = .000$ ), neuroticism ( $F(1,20578) = 9.81, p = .002, \eta p^2 = .000$ ), openness ( $F(1,20578) = 5.88, p = .015, \eta p^2 = .000$ ), and honesty-humility ( $F(1,20578) = 11.05, p = .001, \eta p^2 = .001$ ). No significant difference was found for extraversion ( $F(1,20578) = 0.28, p = .866, \eta p^2 = .000$ ) or agreeableness ( $F(1,20578) = 3.15, p = .076, \eta p^2 = .000$ ). However, the interaction between sibling status and age was not significant for any of the traits (see Supplementary Table 2). Means and standard deviations for each group are presented in Table 1 and Figure 1.

Participants without siblings reported lower levels of honesty-humility ( $M = 5.26, SD = 1.24$ ) than participants with siblings ( $M = 5.36, SD = 1.19, p = .001, d = .085$ ), as well as lower conscientiousness ( $M = 5.00, SD = 1.07$ ) than participant with siblings ( $M = 5.08, SD = 1.03, p = .013, d = .08$ ). Participants without siblings also reported higher levels of neuroticism ( $M = 3.59, SD = 1.18$ ) than participant with siblings ( $M = 3.46, SD = 1.14, p = .002, d = .11$ ), as well as higher openness ( $M = 5.02, SD = 1.16$ ) than participant with siblings ( $M = 4.93, SD = 1.11, p = .015, d = .08$ ). Finally, Bonferroni-corrected post-hoc tests indicated that younger participants consistently reported lower honesty-humility and conscientiousness than older participants, but higher neuroticism and openness (results presented in Supplementary Table 3).

We separately conducted a 2 (Siblings) x 2 (Gender) MANOVA comparing levels of honesty-humility across participants with and without siblings and men and women ( $N = 20,546$ ; sample sizes are slightly different to the previous analysis due to different missing data patterns). The main effect for gender was significant for all traits (results presented in Supplementary Table 4). As in the first analysis, the main effect for sibling status was significant for conscientiousness, neuroticism, openness, and honesty-humility. The interaction between sibling status and gender was not significant for any traits. A three-way



interaction between gender, age, and sibling status was not tested as sample sizes in some conditions were too small.

As in the previous analysis (but with rounding differences due to the slightly different sample), participants without siblings reported lower levels of conscientiousness and honesty-humility than participants with siblings, but higher levels of neuroticism and openness. Means for each group are presented in Table 1 and Figure 1. Women reported higher levels of extraversion, agreeableness, conscientiousness, neuroticism, and honesty-humility than men, but lower openness (results presented in Supplementary Table 5).

### **Discussion**

Beliefs about the selfish and difficult only child are widespread (Mancillas, 2006). Here, we investigated differences in self-reported Big-Six personality among only children and those with siblings using a large national panel study of adults. Results indicated that adults without siblings reported lower average levels of honesty-humility and conscientiousness and higher levels of neuroticism and openness than those who have siblings. Notably, such differences are constant across the adult life span and across genders. Thus, our findings suggest that previous research (e.g., Falbo, 1977; Polit & Falbo, 1987), which failed to observe reliable differences, may have been underpowered.

While statistically significant differences were observed, the overall results do not fit clearly with theory. Higher neuroticism among only children does fit with theories about the heightened expectations only children may face as the only descendant (Polit & Falbo, 1987; Roberts & Blanton, 2001; Stewart, 2004). Higher openness to experience may reflect the idea that only children learn to entertain themselves in the absence of siblings (Roberts & Blanton, 2001). However, only children are more typically characterized as disagreeable and unsociable (Mancillas, 2006; Matthews, 2018). We find neither of these effects here. Only children are also often viewed as being more ‘academic’ than children with siblings

(Mancillas, 2006) and measure higher in achievement motivation (Polit & Falbo, 1987), but here, we find that adult only children reported lower conscientiousness than their counterparts. The clearest result is that only children reported somewhat lower honesty-humility than those with siblings. Though this observation fits with the most common view of only children as self-centered and spoiled (Cai et al., 2012; Mancillas, 2006), the actual differences between only children and others are very small.

Thus, in addition to this unexpected pattern of results, observed mean differences were very small for all traits. By any standard of effect size (e.g., Cohen, 1988), the small differences in personality traits between adults with and without siblings would appear to be of little practical significance. Though we find statistically significant differences, we take these to reflect the fact that we have a very large sample for comparisons. Put differently, if you meet two adults, one who grew up with siblings and one who was an only child, there is a 52.5% chance that the only child will have the lower honesty-humility score out of the two. Compare, for example, that if you meet a man and a woman, there is a 92% chance that the man will be the taller out of the two (McGraw & Wong, 1992). Even if people were astute enough to naturally observe such a small personality difference, it would not justify the extent of the negative beliefs about only children. Thus, we draw the same conclusions as research from across the 20<sup>th</sup> century (Polit & Falbo, 1987): being an only child does not appear to contribute to a noticeably different personality.

### **Limitations and Future Directions**

One limitation of this research is that we measure personality and sibling status among adults. As a result, we cannot address whether or not there are personality differences among children which then fade over time. However, earlier research has found no personality differences among samples of children (Polit & Falbo, 1987). In the current research, the results demonstrate that being an only child at the very least does not lead to

lasting personality differences in adulthood. Furthermore, the effect sizes are steady across the adult lifespan, showing no evidence of a larger gap among younger participants as might be expected if differences existed during childhood. An avenue for future research would be to examine those traits where significant differences were found in childhood, such as achievement motivation (Polit & Falbo, 1987), and investigate whether this difference remains or fades over time.

A further limitation is our ability to generalise outside of the New Zealand context. As this research was conducted in a Western, individualist country, we expect results to be broadly comparable to other Western contexts as indicated by the similarity in findings between the current research and previous (mostly North American) research (e.g., Polit & Falbo, 1987). However, these results are weaker than those attained in China regarding narcissism (Cai et al., 2012) suggesting there are some cross-cultural differences in the strength of the effect.

## **Conclusion**

One-child families are increasingly prevalent (Statistics New Zealand, 2014), yet negative beliefs about only children persist (e.g., Matthews, 2018). These negative views are commonly held and may impact on, among other things, family planning decisions (Gallup, 2018; Mancillas, 2006) and patient perceptions among health professionals (Stewart, 2004). The current research robustly tested differences in Big-Six personality between adults with and without siblings in a large national panel sample, and found differences that, while statistically significant, did not rise to the level of a practical effect. Though negative perceptions of only children endure, the perception does not stack up against the empirical evidence (e.g., Polit & Falbo, 1987). We infer that any personality differences between adults with and without siblings are vanishingly small.

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Table 1

*Descriptive statistics for participants with and without siblings across 10-year age bands and gender.*

	<i>N</i>		Extraversion			Agreeableness			Conscientiousness			Neuroticism			Openness			Honesty-Humility		
	NS	S	NS	S	<i>d</i>	NS	S	<i>d</i>	NS	S	<i>d</i>	NS	S	<i>d</i>	NS	S	<i>d</i>	NS	S	<i>d</i>
<i>Age</i>																				
18-25	96	1157	4.14 (1.32)	3.91 (1.27)	.18	5.35 (1.07)	5.36 (1.02)	-.01	4.59 (1.18)	4.77 (1.09)	-.16	4.02 (1.33)	3.97 (1.23)	.04	5.40 (1.12)	5.21 (1.09)	.17	4.73 (1.33)	4.93 (1.24)	-.16
26-35	144	2342	3.96 (1.26)	3.91 (1.24)	.04	5.18 (1.03)	5.31 (0.99)	-.13	4.91 (1.16)	4.94 (1.11)	-.02	3.89 (1.14)	3.79 (1.18)	.09	5.24 (1.11)	5.06 (1.07)	.17	4.78 (1.19)	5.08 (1.21)	-.25
36-45	189	3626	3.94 (1.18)	3.98 (1.22)	-.03	5.34 (0.96)	5.33 (0.98)	.01	5.00 (1.08)	5.06 (1.07)	-.06	3.75 (1.14)	3.59 (1.13)	.15	5.11 (1.17)	5.01 (1.10)	.09	5.17 (1.22)	5.25 (1.21)	-.07
46-55	200	5207	3.83 (1.21)	3.90 (1.18)	-.06	5.33 (0.97)	5.34 (0.95)	-.01	4.98 (1.03)	5.13 (1.00)	-.15	3.70 (1.08)	3.44 (1.10)	.24	5.07 (1.13)	4.92 (1.10)	.14	5.24 (1.30)	5.36 (1.18)	-.10
56-65	241	5363	3.86 (1.11)	3.87 (1.12)	-.02	5.25 (1.03)	5.38 (0.93)	-.14	5.18 (1.06)	5.17 (1.00)	.01	3.48 (1.12)	3.28 (1.09)	.18	4.95 (1.19)	4.83 (1.14)	.11	5.50 (1.16)	5.53 (1.15)	-.02
66-75	143	1442	3.75 (1.06)	3.87 (1.05)	-.11	5.24 (0.94)	5.40 (0.92)	-.17	5.09 (0.95)	5.14 (0.98)	-.05	3.16 (1.13)	3.09 (1.04)	.06	4.77 (1.03)	4.77 (1.06)	.00	5.59 (1.10)	5.68 (1.11)	-.08
76+	82	360	3.87 (0.97)	3.86 (1.03)	.02	5.30 (0.89)	5.29 (0.94)	.02	5.02 (1.01)	5.18 (0.92)	-.16	2.95 (1.12)	2.97 (0.88)	-.02	4.46 (1.17)	4.56 (1.03)	-.09	5.64 (1.09)	5.76 (1.10)	-.11
Total	1095	1949	3.89 (1.17)	3.91 (1.17)	-.01	5.28 (0.99)	5.35 (0.96)	-.07	<b>5.00</b> <b>(1.07)</b>	<b>5.08</b> <b>(1.03)</b>	<b>-.08</b>	<b>3.59</b> <b>(1.18)</b>	<b>3.46</b> <b>(1.14)</b>	<b>.11</b>	<b>5.02</b> <b>(1.16)</b>	<b>4.93</b> <b>(1.11)</b>	<b>.08</b>	<b>5.26</b> <b>(1.24)</b>	<b>5.36</b> <b>(1.19)</b>	<b>-.08</b>
<i>Gender</i>																				
Male	442	7160	3.76 (1.13)	3.83 (1.16)	-.05	4.99 (0.98)	4.99 (0.95)	.00	4.92 (1.05)	4.96 (1.00)	-.04	3.42 (1.18)	3.25 (1.11)	.15	5.07 (1.14)	5.02 (1.08)	.04	5.10 (1.21)	5.16 (1.21)	-.05
Female	651	1299	3.98 (1.19)	3.95 (1.18)	.02	5.49 (0.94)	5.56 (0.90)	-.08	5.06 (1.08)	5.16 (1.05)	-.09	3.69 (1.16)	3.58 (1.13)	.10	4.98 (1.17)	4.87 (1.12)	.10	5.36 (1.25)	5.47 (1.17)	-.10
Total	109	1945	3.89 (1.17)	3.91 (1.17)	-.01	5.28 (.099)	5.35 (0.96)	-.07	<b>5.00</b> <b>(1.07)</b>	<b>5.09</b> <b>(1.03)</b>	<b>-.08</b>	<b>3.58</b> <b>(1.18)</b>	<b>3.46</b> <b>(1.14)</b>	<b>.11</b>	<b>5.02</b> <b>(1.6)</b>	<b>4.93</b> <b>(1.11)</b>	<b>.08</b>	<b>5.25</b> <b>(1.24)</b>	<b>5.36</b> <b>(1.19)</b>	<b>-.08</b>

*Note.* NS = No Siblings, S = Siblings. We tested for significant differences between those with and without siblings separately within each age category and gender. Bold indicates a significant main effect for sibling status ( $p < .05$ ), and a negative  $d$  indicates that only children scored lower on a trait than those with siblings.

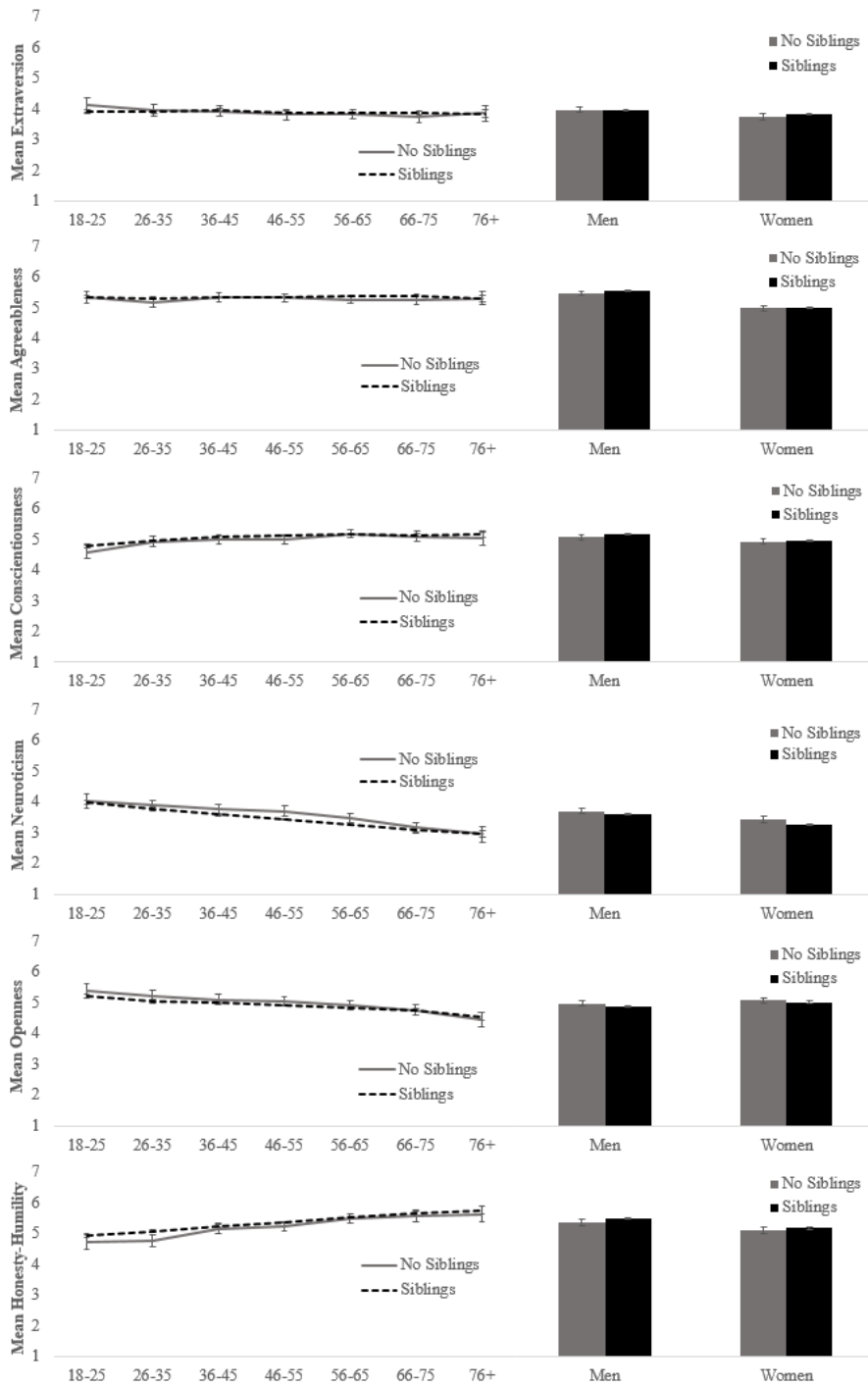


Figure 1. Mean levels of HEXACO personality traits across age bands (in years) and gender for those with and without siblings. Error bars represent 95% Confidence Intervals.

## Supplementary Table 1

*Results from a moderated curvilinear multiple regression predicting Big Six personality by sibling status, age, and the interaction term*

	Extraversion			Agreeableness			Conscientiousness			Neuroticism			Openness			Honesty-Humility		
	<i>b</i>	<i>se</i>	<i>t</i>	<i>b</i>	<i>se</i>	<i>t</i>	<i>b</i>	<i>se</i>	<i>t</i>	<i>b</i>	<i>se</i>	<i>t</i>	<i>b</i>	<i>se</i>	<i>t</i>	<i>b</i>	<i>se</i>	<i>t</i>
Sibling Status	.010	.037	0.261	<b>.066</b>	<b>.030</b>	<b>2.194</b>	<b>.093</b>	<b>.032</b>	<b>2.885</b>	<b>-.146</b>	<b>.035</b>	<b>-4.228</b>	<b>-.105</b>	<b>.034</b>	<b>-3.047</b>	<b>.123</b>	<b>.037</b>	<b>3.353</b>
Age	<b>-.005</b>	<b>.002</b>	<b>-2.320</b>	-.001	.002	-0.396	<b>.007</b>	<b>.002</b>	<b>3.728</b>	<b>-.017</b>	<b>.002</b>	<b>-8.445</b>	<b>-.013</b>	<b>.002</b>	<b>-6.680</b>	<b>.017</b>	<b>.002</b>	<b>8.197</b>
Age * Sibling Status	.003	.002	1.382	.002	.002	1.105	.000	.002	0.155	-.001	.002	-0.322	.004	.002	1.954	-.002	.002	-0.917

*Note.* Significant results ( $p < .05$ ) are bolded. Sibling status is coded as 0 = no siblings, 1 = siblings.  $N = 20,599$ .



## Supplementary Table 2

Results from a 7 (Age Bands) x 2 (Sibling Status) MANOVA predicting Big Six personality

	Main Effect: Age ( $df = 6, 20578$ )			Main Effect: Sibling Status ( $df = 1, 20578$ )			Interaction: Age * Sibling Status ( $df = 6, 20578$ )		
	<i>F</i>	<i>p</i>	$\eta p^2$	<i>F</i>	<i>p</i>	$\eta p^2$	<i>F</i>	<i>p</i>	$\eta p^2$
Extraversion	1.844	.086	.001	0.028	.866	.000	0.986	.433	.000
Agreeableness	0.745	.613	.000	3.149	.076	.000	0.880	.508	.000
Conscientiousness	<b>11.787</b>	<b>.000</b>	<b>.003</b>	<b>6.211</b>	<b>.013</b>	<b>.000</b>	0.716	.636	.000
Neuroticism	<b>45.351</b>	<b>.000</b>	<b>.013</b>	<b>9.807</b>	<b>.002</b>	<b>.000</b>	0.967	.445	.000
Openness	<b>19.991</b>	<b>.000</b>	<b>.006</b>	<b>5.879</b>	<b>.015</b>	<b>.000</b>	0.847	.533	.000
Honesty-Humility	<b>36.209</b>	<b>.000</b>	<b>.010</b>	<b>11.051</b>	<b>.001</b>	<b>.001</b>	0.876	.512	.000

Note. Significant results ( $p < .05$ ) are bolded.

Supplementary Table 3

*Descriptive statistics and difference scores from Bonferroni-corrected post-hoc tests of Big Six personality differences across 10-year age bands*

	18-25		26-35		36-45		46-55		56-65		65-76		76+	
	<i>M (SD)</i>	<i>d</i>	<i>M (SD)</i>	<i>d</i>	<i>M (SD)</i>	<i>d</i>	<i>M (SD)</i>	<i>d</i>	<i>M (SD)</i>	<i>d</i>	<i>M (SD)</i>	<i>d</i>	<i>M (SD)</i>	<i>d</i>
Extraversion	3.93 (1.27)	-	3.91 (1.25)	-.01	3.98 (1.22)	.06	<b>3.90</b> <b>(1.18)</b>	<b>-.07</b>	3.87 (1.12)	-.02	3.86 (1.05)	-.01	3.86 (1.02)	.00
Agreeableness	5.36 (1.02)	-	5.30 (0.99)	-.06	5.33 (0.98)	.03	5.34 (0.95)	.01	5.38 (0.94)	.04	5.38 (0.92)	.01	5.29 (0.93)	-.10
Conscientiousness	4.75 (1.10)	-	<b>4.94</b> <b>(1.11)</b>	<b>.16</b>	<b>5.06</b> <b>(1.07)</b>	<b>.11</b>	<b>5.12</b> <b>(1.00)</b>	<b>.06</b>	5.17 (1.00)	.05	5.13 (0.97)	-.04	5.15 (0.94)	.01
Neuroticism	3.98 (1.24)	-	<b>3.79</b> <b>(1.18)</b>	<b>-.15</b>	<b>3.60</b> <b>(1.13)</b>	<b>-.17</b>	<b>3.45</b> <b>(1.10)</b>	<b>-.13</b>	<b>3.29</b> <b>(1.09)</b>	<b>-.15</b>	<b>3.10</b> <b>(1.05)</b>	<b>-.18</b>	2.96 (0.93)	-.13
Openness	5.22 (1.09)	-	<b>5.07</b> <b>(1.07)</b>	<b>-.14</b>	5.02 (1.10)	-.04	<b>4.92</b> <b>(1.11)</b>	<b>-.09</b>	<b>4.83</b> <b>(1.14)</b>	<b>-.08</b>	4.77 (1.06)	-.05	<b>4.54</b> <b>(1.06)</b>	<b>-.22</b>
Honesty-Humility	4.91 (1.24)	-	<b>5.06</b> <b>(1.21)</b>	<b>.12</b>	<b>5.25</b> <b>(1.21)</b>	<b>.15</b>	<b>5.36</b> <b>(1.18)</b>	<b>.09</b>	<b>5.52</b> <b>(1.15)</b>	<b>.14</b>	<b>5.67</b> <b>(1.11)</b>	<b>.13</b>	5.74 (1.10)	.060

*Note.* We tested for significant differences between each age group and the previous age group. Significant results ( $p < .05$ ) are bolded. A negative  $d$  indicates that the mean trait level decreased with age (i.e., the trait scores were higher in the previous age group).

Supplementary Table 4

Results from a 2 (Gender) x 2 (Sibling Status) MANOVA predicting Big Six personality

	Main Effect: Gender ( $df = 1, 20542$ )			Main Effect: Sibling Status ( $df = 1, 20542$ )			Interaction: Gender * Sibling Status ( $df = 1, 20542$ )		
	<i>F</i>	<i>p</i>	$\eta p^2$	<i>F</i>	<i>p</i>	$\eta p^2$	<i>F</i>	<i>p</i>	$\eta p^2$
Extraversion	<b>21.646</b>	<b>.000</b>	<b>.001</b>	0.236	.627	.000	1.411	.235	.000
Agreeableness	<b>333.344</b>	<b>.000</b>	<b>.016</b>	1.709	.191	.000	1.159	.282	.000
Conscientiousness	<b>26.007</b>	<b>.000</b>	<b>.001</b>	<b>4.307</b>	<b>.038</b>	<b>.000</b>	0.824	.364	.000
Neuroticism	<b>71.651</b>	<b>.000</b>	<b>.003</b>	<b>15.197</b>	<b>.000</b>	<b>.001</b>	0.587	.444	.000
Openness	<b>12.338</b>	<b>.000</b>	<b>.001</b>	<b>5.153</b>	<b>.023</b>	<b>.000</b>	0.805	.370	.000
Honesty-Humility	<b>55.950</b>	<b>.000</b>	<b>.003</b>	<b>5.144</b>	<b>.023</b>	<b>.000</b>	0.501	.479	.000

Note. Significant results ( $p < .05$ ) are bolded.

Supplementary Table 5

*Descriptive statistics and difference scores for Big Six personality differences for men and women*

	Men	Women	
	<i>M (SD)</i>	<i>M (SD)</i>	<i>d</i>
Extraversion	<b>3.82</b> <b>(1.15)</b>	<b>3.96</b> <b>(1.18)</b>	<b>-.11</b>
Agreeableness	<b>4.99</b> <b>(0.96)</b>	<b>5.55</b> <b>(0.90)</b>	<b>-.61</b>
Conscientiousness	<b>4.96</b> <b>(1.00)</b>	<b>5.15</b> <b>(1.05)</b>	<b>-.19</b>
Neuroticism	<b>3.26</b> <b>(1.11)</b>	<b>3.59</b> <b>(1.14)</b>	<b>-.29</b>
Openness	<b>5.03</b> <b>(1.08)</b>	<b>4.87</b> <b>(1.12)</b>	<b>.14</b>
Honesty-Humility	<b>5.16</b> <b>(1.21)</b>	<b>5.46</b> <b>(1.18)</b>	<b>-.26</b>

*Note.* Significant results ( $p < .05$ ) are bolded.

A negative  $d$  indicates that men scored lower on a trait than women.