Cross-sectional age differences in personality traits from 23 to 79 in Japan

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Introduction

In Europe and the United States, some studies that explore age differences in the Big Five personality dimensions have explored in the past decade (Donnellan & Lucas, 2008; Jackson et al., 2009; Lehmann et al., 2013; McCrae et al., 1999, 2000; Soto et al., 2011; Srivastava et al., 2003). The main findings in these studies were as follows: (1) Agreeableness and Conscientiousness tend to increase with age. (2) Women score higher than men on Neuroticism, which also declines more rapidly in women than in men. (3) Although Extraversion scores tend to dip during adolescence, they do not substantially change with age. (4) Openness tend to increase between adolescence and middle life.

Walton et al. (2013) conducted a cross-sectional survey on the Big Five personality traits among Vietnamese. They found age differences in each personality dimension. These results partly contradict previous findings from sample in Europe and the United States. Thus, their study provides important evidence of the importance of age differences in personality in Asia. However, because of the small sample size (N = 349), their conclusions need to be examined further.

There is also no evidence of age differences in the Big Five personality dimensions in Japan. This study explores the effects of age and gender on each dimension in Japan by using a large cross-sectional dataset.

Method

Participants

The data come from the Preference Parameters Study of Osaka University’s 21st Century COE Program ‘Behavioral Macrodynamics’ and its Global COE project ‘Human Behavior and Socioeconomic Dynamics.’ Multistage stratified sampling was employed for data collection in order to represent the Japanese population. Participants were assessed in 2012. The participants were 4,588 Japanese (2,122 males and 2,466 females). Mean age was 53.5 years (SD = 12.9). The participants’ age ranged from 23 years to 79 years.

Measure

The data includes a Japanese version of Ten Item Personality Inventory (Oshio, Abe, & Cutrone, 2012). Responses were measured on a 7-point scale from 1 (disagree strongly) to 7 (agree strongly).

Table 1 Regression models of the effects of age and gender on the Big Five personality traits

<table>
<thead>
<tr>
<th></th>
<th>Extraversion</th>
<th>Agreeableness</th>
<th>Conscientiousness</th>
<th>Neuroticism</th>
<th>Openness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>B: 5.96</td>
<td>0.66</td>
<td>5.94</td>
<td>0.05</td>
<td>0.00</td>
</tr>
<tr>
<td>Age</td>
<td>B: -0.01</td>
<td>0.00</td>
<td>0.02</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Sex</td>
<td>B: 0.40</td>
<td>0.10</td>
<td>0.17</td>
<td>0.07</td>
<td>0.03</td>
</tr>
<tr>
<td>Age × Sex</td>
<td>B: 0.00</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Age²</td>
<td>B: 0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Age³</td>
<td>B: 0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>R² (min, max)</td>
<td>0.01 [0.09, 0.10]</td>
<td>0.03 [0.24, 0.26]</td>
<td>0.05 [0.52, 0.55]</td>
<td>0.02 [0.19, 0.20]</td>
<td>0.02 [0.19, 0.20]</td>
</tr>
</tbody>
</table>

Note: Age is mean-centered at each mean of age. Gender is coded as follows: male = 0, female = 1. R’s presented in the Table are calculated based on the average among 20 fake data sets. In brackets, numbers on the left are minimum R² values and those on the right are maximum values.

Results

To examine the effects of age and gender on each Big Five dimension, multiple regression analyses in which each dimension was predicted by age, gender, squared age, and these interactions, were conducted (Table 1 and Figure 1).

Extraversion

Only the effect of gender on Extraversion was significant (B = 0.40, p < .001), indicating that females score higher on Extraversion than males.

Agreeableness

Both the linear age effect (B = 0.02, p < .001) and gender effect (B = 0.17, p < .03) were significant. These results show that Agreeableness scores tend to increase with age and that females score higher than males on this trait.

Conscientiousness

The linear age effect (B = 0.04, p < .001) was significant. This indicates that Conscientiousness scores tend to increase with age.

Neuroticism

The interaction effect of linear age and gender was significant (B = -0.01, p < .05). As shown in Figure 1, among younger adults, women scored higher than men on this trait but among older adults, there were negligible gender differences.

Openness

Only the gender effect was significant (B = -0.60, p < .001), indicating that males’ mean score of the Openness are higher than females.

Conclusion

The present study show that Agreeableness and the Conscientiousness tend to increase with age, that there are gender differences in Extraversion and Openness, and that age and gender have an interactive effect on Neuroticism. These findings are similar to those from previous research in Europe and the United States. An interesting finding from this study is the absence of curvilinear age effect on any of the Big Five dimensions. However, linear slopes for age were estimated from mean scores on each dimension. Different developmental trajectories may be found if we follow each individual for an extended period. Thus, further longitudinal studies are needed in order to clarify the features of personality development among Japanese.

References

• Lehtinen, R. et al. (2011). Age and gender differences in motivational manifestations of the Big Five from age 16 to 60. Developmental Psychology, 47, 138-149.