Article

Development of a Japanese Version of the Brief Ageing Perceptions Questionnaire and Its Validity and Reliability

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Abstract: Background: Self-perceptions of aging are important predictors of physical and mental health, longevity, and quality of life. The Brief Ageing Perceptions Questionnaire (B-APQ) is the most promising scale of self-perceptions about aging and has been translated into many languages. This study aimed to develop a Japanese version of the B-APQ and examine its validity and reliability.

Methods: A web-based survey of 1500 people aged 65 and older was conducted in Japan. Of the participants, 651 were men and 849 were women. The average age was 72.97 years. Results: No significant distributional biases were found for any items of the Japanese version of the B-APQ. A confirmatory factor analysis (CFA) was conducted using the same model as the previous studies. The results of CFA showed that the goodness of fit indices met the acceptability criteria. Two-tailed Pearson correlations showed significant relationships between each factor of the Japanese version of the B-APQ as well as the cognitive and physical functioning, depression, and well-being of older adults. Conclusions: The Japanese version of the B-APQ has high internal consistency and significant factorial and construct-related validity. The Japanese version of the B-APQ is expected to be used to measure the self-perceptions of aging for further study in Japan.

Keywords: ageism; aging perceptions; self-perceptions; confirmatory factor analysis

1. Introduction

Population aging is a major problem in many countries. Japan began to see a super-ageing population earlier than other countries. The percentage of the population aged 65 and over was 29.1% in 2023. By 2070, one in 2.6 people will be 65 years old and over, and one in 3.9 will be 75 years old and over in Japan [1]. With the aging population, studies are increasingly focusing on the relationship between aging and quality of life, specifically physical and cognitive impairments [2]. Among the factors related to quality of life, older adults’ self-perceptions of aging are significant predictors of health, longevity, and lowered mortality [3–5]. Ageism is an aspect of the self-perception of aging that has been the focus of recent research. Ageism has been defined as “a process of systematic stereotyping and discrimination against people because of their old age” [6]. In addition, according to Palmore [7], ageism is “any prejudice or discrimination against or in favor of an age group”, and it refers to negative stereotypes, attitudes, and treatments based on them. Ageism has various negative effects on older adults, with higher psychological stress and lower subjective well-being [8] in those who perceive that they have been subjected to age discrimination. Age discrimination and exposure to age stereotypes are chronic sources of stress and increase the risk of chronic diseases [9]. Han and Richardson [10] also suggest that perceptions of being discriminated against based on age can influence depression by mediating self-perceptions of aging. Aging stereotypes also significantly predict life expectancy [11].

However, research on older adults’ perceptions of ageism in Japan is limited. One reason for this is the efficacy of measuring ageism. Based on Butler’s concept of ageism,
Fraboni [12] developed the Fraboni scale of ageism (FSA), which consists of three components: “avoidance”, “disposition”, and “discrimination”, Harada et al. [13] translated the FSA and developed a shortened Japanese version in Japan. The scale has been used in Japan in studies with younger generations, such as university students [14] and medical students [15]. However, this scale is not suited for older adults. Meanwhile, in Europe and the US, Baker et al. [16] developed the Ageing Perceptions Questionnaire (APQ), a multi-dimensional 32-item measure of aging perceptions based on the self-adjustment model by Leventhal et al. [17], which is used in various studies to measure older adults’ own experiences of ageism. The self-regulation model conceptualizes illness as a stressor, with people’s perceptions of an illness shaping how they respond to that illness, which ultimately determines outcomes, including morbidity and mortality [17,18]. Illness perceptions are assumed to have diverse content, including timeline (the duration or course of the illness), consequences (outcomes of illness, such as disability or death), and control (the extent to which an illness can be cured or managed) [19]. The APQ applies this framework to perceptions of aging as a potential stressor, positing the following seven dimensions: “timeline-chronic”, “timeline-cynical”, “consequences positive”, “consequence negative”, “control positive”, “control negative”, and “emotional representations”. The APQ has been used in various studies to measure older adults’ perceptions of ageism [16,20–22].

Considering the potential burden that might arise from the large number of items on the APQ, Sexton et al. [23] created the Brief Ageing Perceptions Questionnaire (B-APQ), a shortened version of the APQ. The B-APQ consists of 17 items and five dimensions: “time-line chronic”, “consequence positive”, “control positive”, “consequences and control negative”, and “emotional representations” [23]. The B-APQ is a statistically reliable and valid instrument that has since been translated into various languages [4,22,24,25]. Burton et al. [26] reviewed the content, reliability, and validity of various scales measuring stereotypes of aging and concluded that the B-APQ is the most promising scale. Therefore, this study aimed to develop a Japanese version of the B-APQ to measure older adults’ awareness of aging and to examine its validity and reliability.

2. Materials and Methods

2.1. Participants

A web-based survey was launched at the end of October 2022, targeting monitors held by an internet research company. A leading online research company in Japan, iBRIDGE Corporation (https://ibridge.co.jp/ (accessed on 1 July 2024)), had approximately 13 million registered participants at the time of the study. This study’s survey was limited to registered monitors aged 65 and older. According to the Statistics Bureau of Japan [27], the proportion of people aged 65 to 69 was 11.2% for men and 12.4% for women, while the proportion of people aged 70 and over was 34.1% for men and 42.4% for women. As such, the monitors in this study were also designated to have similar proportions. There were 1500 participants (651 men and 849 women) with a mean age of 72.97 years (SD = 4.94 years). This study was conducted after obtaining approval from the ethical review committee of the faculty of law, economics, and humanities at Kagoshima University (#39).

2.2. Measurements

2.2.1. Ageism

The B-APQ [23] was translated into Japanese to measure ageism. A double back-translation procedure was used. First, two translators each created a Japanese translation based on the English version of the scale. Second, a Japanese version of the scale was created by combining the two Japanese translations. Third, the items in the Japanese version were translated back into English by a third translator to recreate an English version of the scale. The expressions and contents of the original and back-translated English versions of the scale were carefully examined, confirming that the original scale and the English translation were almost the same. Fourth, based on the Japanese translation, the expressions were fine-tuned to make them suitable for the survey, and created the Japanese version of the
B-APQ. This scale asks respondents to answer items related to ageism, such as “I always classify myself as old” and “As I get older, I continue to grow as a person”, using a five-point Likert-type scale ranging from “1. Strongly disagree” to “5. Strongly agree”. The final version of the scale is provided in Supplementary Materials S1.

2.2.2. Cognitive and Daily Functions

The Dementia Assessment Sheet for Community-Based Integrated Care System 8-items: DASC-8 by Toyoshima et al. [28] assessed the cognitive and daily living functions of older adults needing daily care. This scale comprises three items measuring cognitive function, including Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL). Higher scores indicate a decline in cognitive function, ADL, and IADL. In this study, the scale scores used for analysis were calculated by adding the scores of all items. Internal consistency in this study was high ($\alpha = 0.78$).

2.2.3. Depression

The Japanese version of the K-6 [29] was used to measure depression. This scale measures depressive symptoms using a five-point scale. Higher scores indicate lower depression. Internal consistency in this study was $\alpha = 0.91$.

2.2.4. Well-Being

The Japanese version of the Subjective Well-Being Scale by Shimai et al. [30] was used to measure well-being. This scale requires a seven-point response to each item, ranging from “1. Very unhappy” to “7. Very happy”. Higher scores indicate higher subjective well-being. Due to survey limitations, only two items were used in this study, “Overall, I consider myself to be ()” and “I consider myself to be () compared to people my own age”, which are relatively easy to understand in an internet survey. Internal consistency in this study was $\alpha = 0.94$.

2.3. Analysis

After descriptive statistic calculations, confirmatory factor analysis was performed in order to affirm the factor structure of the Japanese version of the B-APQ in the present sample. To test the goodness-of-fit of the model, $\chi^2$ statistics, the Goodness of Fit Index (GFI > 0.90), Adjusted Goodness of Fit Index (AGFI > 0.90), Comparative Fit Index (CFI > 0.90), and Root Mean Square Error of Approximation (RMSEA < 0.08) were used. Next, Cronbach’s $\alpha$ of the Japanese version of the B-APQ was calculated to confirm reliability. Two-tailed Pearson correlational analyses were conducted between the validity scales and outcome measurements as follows: cognitive and physical functioning of older adults, caregiver depression, and caregiver well-being. Sample size calculation was performed based on the lowest correlation coefficient obtained in the correlational analysis ($r = 0.087$). As a result, when the statistical power was set at 0.8, the required sample size was 1034. Therefore, the amount of data in this study met the minimum sample size requirement. All analyses were performed using SPSS and AMOS version 27.0.1 (IBM Corp. Released 2020, Armonk, NY, USA).

3. Results

The response frequencies and distributions of the items in the Japanese version of the B-APQ are shown in Table 1. There were no items with mean values below 2.0 or above 4.0. The distribution showed that ‘control positive’ items were slightly biased toward positive responses, but there was no significant bias that could be problematic.
Table 1. Brief Ageing Perception Questionnaire (B-APQ), Japanese version: response frequencies and distributions.

<table>
<thead>
<tr>
<th>B-APQ Items</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timeline-Chronic</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. I always classify myself as old</td>
<td>15.8%</td>
<td>35.9%</td>
<td>31.2%</td>
<td>16.1%</td>
<td>1.0%</td>
<td>2.51</td>
<td>0.97</td>
<td>0.16</td>
<td>-0.72</td>
</tr>
<tr>
<td>2. I am always aware of the fact that I am getting older</td>
<td>5.5%</td>
<td>18.7%</td>
<td>33.5%</td>
<td>39.3%</td>
<td>3.0%</td>
<td>3.16</td>
<td>0.95</td>
<td>-0.49</td>
<td>-0.42</td>
</tr>
<tr>
<td>3. I feel my age in everything that I do</td>
<td>6.5%</td>
<td>23.8%</td>
<td>37.5%</td>
<td>29.7%</td>
<td>2.5%</td>
<td>2.98</td>
<td>0.95</td>
<td>-0.24</td>
<td>-0.55</td>
</tr>
<tr>
<td>Consequences Positive</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4. As I get older I get wiser</td>
<td>7.7%</td>
<td>31.7%</td>
<td>48.0%</td>
<td>11.6%</td>
<td>1.1%</td>
<td>2.67</td>
<td>0.82</td>
<td>-0.04</td>
<td>-0.02</td>
</tr>
<tr>
<td>5. As I get older I continue to grow as a person</td>
<td>6.1%</td>
<td>23.1%</td>
<td>49.6%</td>
<td>19.7%</td>
<td>1.6%</td>
<td>2.88</td>
<td>0.85</td>
<td>-0.20</td>
<td>-0.04</td>
</tr>
<tr>
<td>6. As I get older I appreciate things more</td>
<td>2.4%</td>
<td>8.8%</td>
<td>32.1%</td>
<td>49.6%</td>
<td>7.1%</td>
<td>3.50</td>
<td>0.84</td>
<td>-0.69</td>
<td>0.55</td>
</tr>
<tr>
<td>Consequences and Control Negative</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Getting older makes me less independent</td>
<td>3.3%</td>
<td>13.1%</td>
<td>45.1%</td>
<td>34.5%</td>
<td>4.1%</td>
<td>3.23</td>
<td>0.85</td>
<td>-0.38</td>
<td>0.18</td>
</tr>
<tr>
<td>12. As I get older I can take part in fewer activities</td>
<td>2.7%</td>
<td>10.4%</td>
<td>35.6%</td>
<td>46.9%</td>
<td>4.5%</td>
<td>3.40</td>
<td>0.84</td>
<td>-0.68</td>
<td>0.39</td>
</tr>
<tr>
<td>13. As I get older I do not cope as well with problems that arise</td>
<td>4.0%</td>
<td>21.4%</td>
<td>46.3%</td>
<td>26.2%</td>
<td>2.1%</td>
<td>3.01</td>
<td>0.85</td>
<td>-0.21</td>
<td>-0.19</td>
</tr>
<tr>
<td>14. Slowing down with age is not something I can control</td>
<td>2.7%</td>
<td>11.8%</td>
<td>33.2%</td>
<td>48.7%</td>
<td>3.7%</td>
<td>3.39</td>
<td>0.84</td>
<td>-0.73</td>
<td>0.27</td>
</tr>
<tr>
<td>15. I have no control over the effects that getting older has on my social life</td>
<td>2.6%</td>
<td>13.1%</td>
<td>44.7%</td>
<td>37.8%</td>
<td>1.9%</td>
<td>3.23</td>
<td>0.80</td>
<td>-0.53</td>
<td>0.15</td>
</tr>
<tr>
<td>Control Positive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. The quality of my social life in later years depends on me</td>
<td>2.1%</td>
<td>3.9%</td>
<td>28.1%</td>
<td>58.8%</td>
<td>7.2%</td>
<td>3.65</td>
<td>0.76</td>
<td>-1.01</td>
<td>1.92</td>
</tr>
<tr>
<td>9. The quality of my relationships with others in later life depends on me</td>
<td>1.8%</td>
<td>3.8%</td>
<td>27.1%</td>
<td>60.5%</td>
<td>6.9%</td>
<td>3.67</td>
<td>0.74</td>
<td>-1.04</td>
<td>2.04</td>
</tr>
<tr>
<td>10. Whether I continue living life to the full depends on me</td>
<td>1.8%</td>
<td>3.9%</td>
<td>29.1%</td>
<td>57.4%</td>
<td>7.8%</td>
<td>3.66</td>
<td>0.75</td>
<td>-0.89</td>
<td>1.68</td>
</tr>
<tr>
<td>Emotional Representations</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I get depressed when I think about how aging might affect the things that I can do</td>
<td>4.6%</td>
<td>20.4%</td>
<td>35.3%</td>
<td>36.1%</td>
<td>3.5%</td>
<td>3.14</td>
<td>0.93</td>
<td>-0.35</td>
<td>-0.47</td>
</tr>
<tr>
<td>16. I worry about the effects that getting older might have on my relationships with others</td>
<td>5.3%</td>
<td>29.0%</td>
<td>42.8%</td>
<td>21.9%</td>
<td>1.0%</td>
<td>2.84</td>
<td>0.86</td>
<td>-0.10</td>
<td>-0.48</td>
</tr>
<tr>
<td>17. I feel angry when I think about getting older</td>
<td>13.5%</td>
<td>41.4%</td>
<td>34.0%</td>
<td>10.1%</td>
<td>1.0%</td>
<td>2.44</td>
<td>0.88</td>
<td>0.26</td>
<td>-0.26</td>
</tr>
</tbody>
</table>

3.1. Confirmatory Factor Analysis

Next, similar to Sexton et al. [23], confirmatory factor analysis was conducted to establish factorial validity (Figure 1). In Figure 1, the numbers imposed on lines show the standardized factor loading of each item and the standardized covariance between factors. Factor loadings for all items exceeded 0.4, confirming a five-factor structure that could be simply interpreted. The results showed that the model’s goodness of fit included \( \chi^2 (109) = 1319.735 \) (\( p < 0.001 \)), GFI = 0.901, AGFI = 0.862, CFI = 0.906, and RMSEA = 0.086, values, which are considered acceptable. The internal consistency of each factor was calculated: timeline-chronic, \( \alpha = 0.80 \); consequences positive, \( \alpha = 0.76 \); consequences and control negative, \( \alpha = 0.91 \); control positive, \( \alpha = 0.85 \), and \( \alpha = 0.73 \) for emotional representations.
Figure 1. Confirmatory factor analysis of the B-APO Japanese version.

3.2. Construct Validity

Two-tailed Pearson correlation analyses were conducted to test the construct validity of the Japanese version of the B-APQ with cognitive and physical functioning, depression,
and well-being (Table 2). There were significant correlations between all factors of the B-APQ and those variables. Specifically, strong associations with cognitive and physical functioning were found for timeline-chronic (r = 0.176, p < 0.001), consequences and control positive (r = −0.181, p < 0.001), and emotional representation (r = 0.171, p < 0.001) factors. Depression was strongly associated with emotional representations (r = 0.379, p < 0.001); well-being was strongly associated with consequences positive (r = 0.264, p < 0.001), control positive (r = 0.258, p < 0.001), and emotional representations (r = −0.260, p < 0.001).

Table 2. Pearson correlation between the dimensions of the B-APQ Japanese version and health status of older adults, depression, and well-being.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cognitive and Physical Functioning</th>
<th>Depression</th>
<th>Well-Being</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-APQ Japanese version</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timeline-Chronic</td>
<td>0.176 ***</td>
<td>0.252 ***</td>
<td>−0.147 ***</td>
</tr>
<tr>
<td>Consequences Positive</td>
<td>−0.087 **</td>
<td>−0.126 ***</td>
<td>0.264 ***</td>
</tr>
<tr>
<td>Consequences and Control Negative</td>
<td>0.105 ***</td>
<td>0.219 ***</td>
<td>−0.094 ***</td>
</tr>
<tr>
<td>Control Positive</td>
<td>−0.181 ***</td>
<td>−0.125 ***</td>
<td>0.258 ***</td>
</tr>
<tr>
<td>Emotional Representations</td>
<td>0.171 ***</td>
<td>0.379 ***</td>
<td>−0.260 ***</td>
</tr>
</tbody>
</table>

** p < 0.01, *** p < 0.001; B-APQ: Brief Ageing Perceptions Questionnaire.

4. Discussion

In this study, a Japanese version of the B-APQ was developed, and its reliability and validity were analyzed. First, the distribution of each item in the Japanese version was checked, and no items were found to be highly skewed, indicating that the scale is applicable in surveys targeting the Japanese population. In general, if the distributions are highly skewed, ceiling and floor effects occur, rendering the scale meaningless. However, this scale was almost normally distributed, except for some items measuring positive responses. Comparing the response frequencies in this study with those of Sexton et al. [23], responses to the Japanese version were more neutral for almost all factors, indicating a preference for intermediate responses [31]. The mean scores for each item and factor differed significantly from surveys in Western countries, such as those of Sexton et al. [23] and Slotman et al. [22], revealing cultural differences. A series of studies about subjective well-being by Wirtz et al. [32] suggested that East Asians and Westerners use different cultural theories to construct and reconstruct their life experiences. For example, Westerners appeared to be more motivated to recall positive rather than negative effects, whereas the reverse appeared to be the case for East Asians [33]. In comparison with surveys in Asia, the distribution of scores in the survey by Wang et al. [4] differed from this study, indicating that cultural differences exist even within Asia. Recently, Fong and Wang [34] compared unfavorable attitudes towards older adults in Japan, Singapore, and Hong Kong PRC. They reported that only 6.1% of people in Japan agreed with the statement that “older adults are a burden on society”, but this statistic reached 18.3% in Hong Kong PRC and 16.3% in Singapore.

On the other hand, the mean scores for ‘Control Positive’ in this study were quite similar to Wang et al. [4], suggesting that the awareness of it being one’s own responsibility regarding how to live one’s life in old age is equally prevalent in Japan and Taiwan.

Next, as in previous studies [4,22,23,25], confirmatory factor analysis established factorial validity in this study. The GFI and CFI values met the acceptability criteria, although the AGFI and RMSEA values did not show a good fit for the data. Sexton et al. [23] reported the fit indices of the B-APQ; CFI = 0.968, RMSEA = 0.043, and Jaafar et al. [25] also reported the fit indices of the B-APQ in Malaysia; CFI = 0.959, RMSEA = 0.044. Assuming that further studies will continue to demonstrate the validity of the B-APQ Japanese version, the goodness-of-fit in this study is not considered very good but not low enough to reject the measurement model.
Other studies that developed translated versions, such as Slotman et al. [22], used the B-APQ and the Aging Perceptions Questionnaire Short Version (APQ-S) to check their reliability and validity. They concluded that the use of the B-APQ could facilitate data gathering and analyses to a greater extent, but it contains several points of concern. For example, by combining the original dimensional of APQ, it is impossible to discern the independent influences of original factors on the outcome measures [22].

In the Sexton et al. [23] study, mobility activity was positively associated with timeline-chronic, consequences and control negative, and emotional representation, while the factors of consequence positive and control positive were negatively related. The results of the correlation analysis with cognitive and physical functioning in the present study showed exactly the same results. Also, as in Sexton et al.’s study [23], the relationship between depression and the B-APQ was positive for timeline-chronic, consequences and control negative, and emotional representation, and negative for consequences positive and control positive, which were negatively associated with the APQ. In addition, the factor with the strongest correlation was emotional representations, which is consistent with previous studies.

Wang et al. [4] reported that all factors of the B-APQ were significantly correlated with WHO-QOL. Although somewhat conceptually different in the present study, subjective well-being was found to be significantly correlated among all factors of the Japanese version of the B-APQ. These results may indicate that the Japanese version of the B-APQ has sufficient construct validity and is a scale that can be used for international comparisons of self-perceptions of aging.

**Limitations**

This study had some limitations. First, the participants in this study were registered with an Internet research company; the data are also considered to be quite limited. According to the 2021 edition of the White Paper on Information and Communications, the usage rate of smartphones and tablets declines with increasing age, reaching 73.4% for those aged 60 to 69 and dropping to 40.8% for those aged 70 and older [35]. Kelfve et al. [36] reported that web-based surveys of older adults have lower response rates among women and those with health problems. However, Kelfve et al. [36] also reported that response rates of web-based surveys have increased over paper-based surveys in recent years because of the lower burden of answers. Although internet use is expected to increase further among older adults, sampling bias should be considered when interpreting the results of this study.

Second, the original version of the APQ or APQ-S was not used in this study due to the burden on respondents caused by answering a large number of questions. However, if a translated version were to be developed in each country, the original APQ should be used first to confirm its reliability and validity. Nevertheless, since many surveys are designed to use multiple measures rather than just a single measure, the shortened version will likely be used more often. Burton et al. [26] reviewed 40 measures of self-directed aging stereotypes in older adults and reported that the B-APQ demonstrates reasonable psychometric properties that would benefit from further use and testing. Since multiple surveys need to be conducted before the participants start aging in order to investigate the impact of self-perceptions of aging on health and quality of life, a scale that can be measured in a short timeframe, such as the B-APQ, is likely to be in high demand in the future.

Third, this study was cross-sectional, preventing any conclusions regarding directionality from cultural and life-span developmental perspectives. Nationally representative longitudinal data are needed to examine self-perceptions of aging further. Despite these limitations, the strength of this study includes the demonstration of psychometric properties and the applicability of the Japanese version of the B-APQ.
5. Conclusions

This study developed the Japanese version of the B-APQ, one of the scales measuring perceptions of aging, and clarified its reliability and validity. In comparison with previous studies, our results indicate that some differences in self-perceptions of aging exist among Western countries, Asia, and Japan. However, the Japanese version of the B-APQ has high reliability and validity, reasonable goodness of fit to the data, and significant correlation with outcome measures. Due to its low respondent burden, it is likely to be useful in other research settings. Further study is required to examine the details of cultural influences and transitions from life-span developmental perspectives for self-perceptions of aging.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/jal4030014/s1, File S1: The Japanese version of Brief Ageing Perception Questionnaire.

Author Contributions: Conceptualization, K.A. and K.T.; methodology, K.A. and K.T.; software, K.A.; validation, K.A.; formal analysis, K.A.; investigation, K.A. and K.T.; resources, K.A.; data curation, K.A.; writing—original draft preparation, K.A.; writing—review and editing, K.A.; visualization, K.A.; project administration, K.A.; funding acquisition, K.A. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement: This study was conducted after obtaining approval from the Ethical Review Committee of the Faculty of Law, Economics and Humanities, Kagoshima University (#39).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data will not be shared because of confidentiality-based restrictions imposed by the Ethical Review Committee of the Faculty of Law, Economics and Humanities, Kagoshima University, unless requested through an administrative procedure.

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References


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