Do Happy American and Japanese Adults Become Similar in Psychological Traits as They Age?

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Abstract

As happiness has been a popular topic, philosophers and researchers as well as lay people have continued to discuss it. The potential factors which lead to happiness may be influenced by culture and age. Referring to previous findings on distinctive characteristics between Western and Eastern cultures and age effects on psychological traits and well-being, the present study examined potential similarities and differences among age groups of American and Japanese adults with different levels of happiness. The age groups studied consisted of those aged 35-49, 50-64, and 65-79. It was hypothesized that psychological traits including independence, interdependence, extraversion, and neuroticism become more similar between American and Japanese adults as they age and this tendency is stronger for happy adults. The results for all these traits failed to support the hypothesis. Although significant main effects were found in happiness level for all the traits and in nationality for all the traits except neuroticism, no common trends of age-related effects and interactions were observed among the four traits. While this study could provide practical implications, it included several limitations. Future research should retest the hypothesis with more refined methodologies.
HAPPINESS OF AMERICAN AND JAPANESE ADULTS

MONTCLAIR STATE UNIVERSITY

Do Happy American and Japanese Adults Become Similar in Psychological Traits as They Age? /

by

Masahiro Toyama

A Master's Thesis Submitted to the Faculty of Montclair State University In Partial Fulfillment of the Requirements For the Degree of Master of Arts May 2016

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DO HAPPY AMERICAN AND JAPANESE ADULTS BECOME SIMILAR IN PSYCHOLOGICAL TRAITS AS THEY AGE?

A THESIS

Submitted in partial fulfillment of the requirements
For the degree of Master of Arts in Psychology

by
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Montclair, NJ
2016
# Table of Contents

Abstract .......................................................................................................................... 1

Thesis Signature Page .................................................................................................... 2

Title Page ....................................................................................................................... 3

Table of Contents .......................................................................................................... 4

Introduction ..................................................................................................................... 6

Potential Variables Related to Happiness .................................................................... 9

  Independence and Interdependence ..................................................................... 9

  Potential Age Effects on Culturally Distinctive Traits and Well-Being ............. 11

  Personality and Potential Age Effects on Personality and Well-being .......... 13

  Distinctive Traits of “Happy” People ................................................................. 15

Current Study ............................................................................................................... 15

Hypothesis ..................................................................................................................... 16

Method .......................................................................................................................... 17

Participants .................................................................................................................... 17

  MIDUS Series ....................................................................................................... 17

  Datasets for this study ......................................................................................... 18

  Age ......................................................................................................................... 18

  Demographics ...................................................................................................... 19

Definitions .................................................................................................................... 20

  Interdependence and independence ................................................................ 20

  Extraversion and neuroticism ............................................................................ 20
Do Happy American and Japanese Adults Become Similar in Psychological Traits as They Age?

Happiness has been a popular topic since ancient times: philosophers such as Aristotle, Epicurus, and Aristippus have discussed happiness and today’s researchers also continue to study the construct (McMahan & Estes, 2012; Ryff, 1989). Happiness could have been defined in a variety of ways as even lay people have often discussed it and conceptualized its nature (McMahan & Estes, 2012), and researchers have developed constructs such as subjective well-being (e.g., Diener, Oishi, & Lucas, 2003) and psychological well-being (e.g., Ryff, 2014) in order to define happiness. The potential factors which lead to subjective or psychological well-being, or happiness, seem to vary across individuals, and the significance of those factors may be different depending on the environment or culture in which they are living and on their maturity or developmental stage. Happiness seems to be a complex construct which needs to be studied comprehensively. This study aimed to address a general research question as to how potential factors, especially psychological factors, are related to happiness among different cultural and age groups.

Culture seems to be able to impact happiness or well-being. While objective factors, such as the wealth of a nation, may affect the well-being of people living in the nation determining the degree to which their basic human needs such as food and shelter can be fulfilled, the values they have could also influence their well-being (Diener et al., 2003). As values may vary across cultural groups, conceptions and experiences of well-being, which seem to be affected by their values, may change in cultural contexts.
HAPPINESS OF AMERICAN AND JAPANESE ADULTS

(Karasawa et al., 2011). What people in one culture value may not be valued by those in another culture, and such values and related factors may impact the happiness of people from the two cultures in a different way. Previous studies suggested that the values people in a certain culture tend to have could predict their happiness or subjective well-being (Novin, Tso, & Konrath, 2013).

There seem to be distinctive characteristics between Western and Eastern cultures, which are considered individualistic- and collectivistic-oriented cultures respectively (Novin et al., 2013). An example of individualistic-oriented culture is American culture, and one of collectivistic-oriented cultures is Japanese culture. People in these two cultures may have different values and related traits (e.g., Americans being more independent; Japanese people being more interdependent), which can impact their happiness (Karasawa et al., 2011; Novin et al., 2013). For example, emphasizing social harmony is an important value in Japanese culture, which is distinctive from the emphasis of American people on individualism and autonomy, and achieving independence without prioritizing their social relationships may not lead to happiness in Japan.

Japanese people may need to take a different approach, which should be acceptable in their society, in order to become happy while maintaining their values. Different social expectations for aging adults in the two countries may also influence people and their well-being differently (Karasawa et al., 2011). Japanese people seem to have more positive views about aging and respect older people, compared to Americans, who may have more negative attitudes toward older populations (Karasawa et al., 2011). Japanese cultural contexts may provide different meanings of aging from those in the United States
and be more benign for older people living there. In turn, such cultural contexts may change their experiences in the different countries, which may facilitate their development of psychological traits in distinctive ways. The older populations of the two countries, especially Japan, have been growing dramatically (Ryff et al., 2014), and such social attitudes toward older people may have a greater impact on their overall well-being in the two countries.

In addition to cultural influence, age and maturity may be potential factors that change what makes people feel happy. As they age, people would need to tackle new developmental challenges, for example, establishing relationships with their partners, having and raising their children, seeing their children leave home for an independent life, and preparing for and living in retirement. Even if people remain single without having any children, their values and related psychological traits could change as they age, and what used to make them feel happy in the past may no longer continue to do so. While young adults may place a greater emphasis on self-development, older adults are more likely to emphasize emotional experience and contribution to others, which may be associated with challenges in their developmental stage (McMahan & Estes, 2012).

Although interpretations about happiness may change depending how it is defined, research has indicated that American adults have higher levels of hedonic well-being (e.g., subjective well-being) as they age (Karasawa et al., 2011). In other words, older American adults feel happier than younger ones despite the negative social context for them described earlier.

While both culture and age seem to affect what leads to happiness, “happy”
people may have distinct traits or characteristics unique to them. While there may be some universal traits that help people maintain their happiness regardless of their age or culture, other traits which happy people have may affect their happiness in a different way depending on their age and culture. In this study, potential psychological traits of American and Japanese adults of different ages that could lead to happiness are examined with consideration for their distinctive cultural characteristics.

Potential Variables Related to Happiness

A number of studies (e.g., Karasawa et al., 2011; Novin et al., 2013; Ryff et al., 2014) have addressed several aspects of happiness between American and Japanese adults and investigated variables, such as independence, interdependence, and some personality traits, which are associated with happiness or well-being. In addition, aging seem to potentially change those psychological traits, which may also influence well-being, and some studies examined age effects on psychological traits and well-being.

Independence and Interdependence

Independence and interdependence are two traits that potentially differ between American and Japanese adults, and these traits have been commonly studied in research involving the two national populations.

Novin et al. (2013) studied potential differences in pathways to subjective well-being across cultures and examined the pathways of American and Japanese adults using secondary datasets from the two countries. The authors addressed different characteristics and psychological traits of individualistic- and collectivistic-oriented cultures. The authors reviewed the literature suggesting that self-related factors (i.e., factors related to
independence) might be associated with higher levels of subjective well-being for individualistic-oriented groups while other-related factors (i.e., those related to interdependence) might predict higher levels of well-being for collectivistic-oriented groups. Novin et al. (2013) took into account the different emphasis of American and Japanese cultures on independence and interdependence respectively as well as individual differences within each culture in self-construal, or “how the self in relation to others is viewed” (p. 996). The authors analyzed pathways of independent self-construal and interdependent self-construal leading to subjective well-being and found that these pathways were similar regardless of culture, through which independent and interdependent self-construals had positive direct effects on subjective well-being. In addition, the results showed some distinctive indirect effects of interdependent self-construal in the two cultures.

While Novin et al. (2013) found similarities and differences between adults from the two cultures, they did not address possible changes that occur over time in the psychological traits and pathways to subjective well-being, or potential age effects on these factors, which was one of the limitations of the study. As people age, their traits and pathways to happiness may change, and cultural factors may also facilitate or moderate those changes. In addition, Novin et al. (2013) pointed out that while the levels of interdependent self-construal were higher than those of independent self-construal among Japanese participants, the levels of the two types of self-construals were not different among American participants, which implied that American adults might be not only independent but also interdependent. With the results and implications, Novin et al.
(2013) suggested that the age of their American participants in their study might influence the results as the sample consisted of middle-aged adults who seem likely to be more concerned about their families and other relationships compared to younger adults. This increase in their concerns about relationships may illustrate Erickson’s psychosocial stage of middle-aged adults (i.e., generativity) (McMahan & Estes, 2012). Future research should address potential age effects on these factors.

**Potential Age Effects on Culturally Distinctive Traits and Well-Being**

As the social structure is changing in both the United States and Japan because of the rapid growth of the older populations in the two countries (Ryff et al., 2014), age may have become an important factor when studying the happiness and related psychological traits of people living in these countries. Research has examined potential age effects on well-being and related factors for American and Japanese adults and other populations.

Karasawa et al. (2011) addressed potential changes due to aging in multiple aspects of well-being, including eudemonic and hedonic well-being, among midlife and older adults in the United States and Japan by analyzing datasets from the two countries. The authors examined cultural tendencies specific to Western and Eastern cultures (e.g., independence versus interdependence) and included related variables such as autonomy and positive relationships with others in their analyses. The authors divided the sample from each country into four age groups and compared the results among age and cultural subgroups. Their raw score analyses indicated that American adults rated both their levels of autonomy and positive relationships with others higher than Japanese adults. However, their results with ipsatized analyses revealed different results for the latter variable.
Ipsatized analyses are those in which each respondent's mean of ratings for a specific scale is compared with his/her mean for all related scales including that scale while the difference between the means is divided by his/her standard deviation for all the items (Karasawa et al., 2011). The authors selected this analysis strategy to examine a specific component of well-being relative to overall well-being at the individual level considering potential cultural differences in ratings of the self between American and Japanese adults. The ipsatized scores indicated that the ratings of Japanese adults on positive relationships with others (i.e., interpersonal well-being) relative to their overall well-being were significantly higher than those for Americans, which corresponds to the prevailing view about cultural differences between the two cultures. However, these differences in interpersonal well-being were observed only among the two younger groups. The ipsatized analyses also showed that American adults rated themselves higher than Japanese adults on autonomy overall, and older groups rated themselves higher than younger groups in both Japan and the United States. In addition, the results showed different tendencies among other variables between age groups in the sample for each country, which suggested that age could affect the variables in different ways.

As these results implied that traits and aspects of psychological well-being could change as the individual ages, factors that affect well-being may change throughout adulthood. Apparently, traits that are considered culturally different, such as autonomy (or independence) and positive relationships with others (or interdependence), become more similar between adults from the two cultures as they get older. This seemed to indicate that Japanese adults tend to have a greater emphasis on interdependence in
general compared to American adults, but the emphasis of Japanese adults decline as they age while older American adults have higher levels of interdependence than younger American adults. Novin et al. (2013) suggested that it might be possible that Japanese adults become more independent and interdependent at the same time, especially as they age, as they found a strong relationship between their independent and interdependent self-construals in their results for Japanese middle-aged participants. In contrast, American adults may become more interdependent during middle adulthood, while engaging in their family and relational duties, than their younger counterparts (Novin et al., 2013). Ryff et al. (2014) also pointed out the possibility that older American adults might become free from their cultural norms, which require them to be independent, and then become less independent while Japanese adults become less interdependent without being concerned about cultural norms as they age. The authors suggested that this possibility about potential changes in the influence of cultural norms should be examined in future research.

Personality and Potential Age Effects on Personality and Well-being

In addition to independence and interdependence, certain personality traits such as extraversion and neuroticism may be associated with well-being (Diener et al., 2003; Ryff, 2014; Schimmack, Radhakrishnan, Oishi, Dzokoto, & Ahadi, 2002; Soto, 2015). Schimmack et al. (2002) suggested that personality could affect subjective well-being and the influence on well-being, especially its cognitive component (e.g., life satisfaction) which might be moderated by cultural factors. In addition, personality may be indirectly related to other factors which potentially influence well-being. For example, while social
relationships during adulthood could consistently affect well-being (Fuller-Iglesias, Webster, & Antonucci, 2013), the personality trait of extraversion, or having “greater feelings of sociability” (Diener et al., 2003, p. 407), seems to be associated to social relationships. Interactions in social relationships may change as adults age potentially due to their social maturity, familiarity, and contact frequency as well as cultural traditions (Akiyama, Antonucci, Takahashi, & Langfahl, 2003), and extraversion and/or other personality traits, which could also be influenced by culture, may play an important role in maintaining good social relationships.

While some studies have emphasized the stability of personality traits, other studies have suggested that personality continues to develop across the lifespan (Lucas & Donnellan, 2011). Some personality traits, which could affect well-being, may change through experiences of age-related changes in life circumstances or major life events throughout adulthood (Luhmann, Orth, Specht, Kandler, & Lucas, 2014; Ryff et al., 2014). Recent meta-analyses showed potential age-related shifts in key psychological traits and suggested that personality traits might develop along with changes in the roles and responsibilities of adults as they age (Ryff et al., 2014). Soto (2015) also examined concurrent and prospective relations of the Big Five personality traits with subjective well-being and found that personality traits and well-being could affect each other in a reciprocal manner. While changes in personality traits may affect the well-being of aging adults, those personality traits may impact their well-being differently depending on their age or developmental stage. In other words, some personality traits may enhance the well-being of younger adults, but these same traits may have neutral or even negative
effects on that of middle-aged or older adults. When examining changes in personality traits and well-being during adulthood, the interaction of age and personality traits on well-being may also need to be considered.

**Distinctive Traits of “Happy” People**

The above mentioned studies on American and Japanese adults addressed potential differences by culture and/or age in variables related to well-being. These results and implications lead to a further question as to how “happy” adults of different age groups in each country are different from those who were “average” or “unhappy.” Happy adults may have distinct psychological traits that help them maintain their happiness according to their culture and developmental stage.

If there are such psychological traits which happy adults tend to have, what are the traits? Do those traits vary across cultures, or are there any universal traits that happy people in any culture have? Do the effects of those traits on their well-being change as they age? If researchers succeed in answering these questions and identifying traits or characteristics unique to happy adults, the results can help develop interventions that enhance such traits and facilitate happiness in unhappy or average adults. Findings of those studies can be used to improve people’s lives in the aging society.

**Current Study**

The current study examined potential differences in happiness, or subjective well-being such as “positive affect, lack of negative affect, and life satisfaction” (Diener et al., 2003, p. 404), and other related variables among different age groups in the context of culture. For this cross-cultural study, the United States and Japan were selected to
represent one country from an individualistic-oriented culture and one from a collectivistic-oriented culture respectively. This study addressed potential factors that distinguish happy American and Japanese adults in different ages. More specifically, the research question to be answered was three-fold: How different and similar are the psychological traits which affect happiness among adults from the United States and Japan, among different age groups, and among adults with different levels of “happiness” in each subgroup?

In this study, groups of individuals of each nationality with higher levels of subjective well-being (the happy group) were compared with those who had average and lower levels of subjective well-being (the average group and unhappy group respectively). Potential differences in psychological traits, including independence, interdependence, and the selected personality traits of extraversion and neuroticism, by nationality (the United States or Japan), age (three age groups), and levels of “happiness” (three levels: higher, average, or lower levels of subjective well-being) were examined. The results were analyzed in order to answer the research question and test the following hypothesis.

**Hypothesis**

Previous studies suggested that psychological traits potentially related to well-being may change as people age, and some of their results and implications suggested that traits which are considered culturally distinctive may become similar between American and Japanese adults as they age. In addition, happiness levels, or levels of subjective well-being, may predict the levels of those psychological traits which
American and Japanese adults have, and there may be interactions of nationality, age, and happiness level.

The hypothesis in this study was that psychological traits including independence, interdependence, extraversion, and neuroticism become more similar between American and Japanese adults as they age and this tendency is stronger for adults with higher levels of subjective well-being compared to those with average or lower levels of subjective well-being. In other words, it was hypothesized that American and Japanese adults, especially happy adults of the two countries, become similar in psychological traits as they age.

Method

Participants

In this study, secondary data analyses were conducted using datasets from the Midlife Development in the United States (MIDUS) Series.

MIDUS Series. Datasets from the MIDUS series, publicly available at the website of the Inter-university Consortium for Political and Social Research, were used in this study. The MIDUS study was a national survey first conducted in 1995/96 and aimed to examine the age-related effects of behavioral, psychological, and social factors on the health and well-being of the national population in the United States (University of Wisconsin - Madison, 2011). Since the original study (MIDUS I) was completed, the second and third waves of longitudinal follow-up studies of the original MIDUS samples (MIDUS II and MIDUS III respectively) have been conducted. The MIDUS series also include a sample from Japan called the Midlife Development in Japan (MIDJA) study,
which consisted of a probability sample of Japanese adults from the Tokyo metropolitan area, comparable to the samples from American adults in the MIDUS studies (Ryff et al., 2011). MIDJA was initiated in 2008 after several projects of MIDUS II were conducted, and MIDJA’s dataset was comparable to MIDUS II’s. These datasets from the United States and Japan included the variables of subjective well-being, independence, interdependence, the Big Five personality traits, and many other variables which could be related to physical and psychological health.

Datasets for this study. The American sample of this study came from the Biomarker study or Project 4 of the MIDUS II (Ryff, Seeman, & Weinstein, 2013). The sample consisted of 1,255 adults aged 34 to 84. Because the personality traits related to this study were measured in Project 1 of MIDUS II (N = 4,963; Ryff et al., 2012), the data of the personality traits were extracted from Project 1 by using ID numbers for participants in the MIDUS II projects. The Japanese sample was from the MIDJA study (Ryff et al., 2011), which consisted of 1,027 adults aged 30 to 79 and included all the variables to be used in this study, which could be compared with those of the American sample in MIDUS II.

Age. Considering different age ranges between the two samples, only the data of the variables from adults aged 35 to 79, including 1,216 American adults and 918 Japanese adults, were selected. The data of seven American adults and eight Japanese adults were further removed in the selection process of happiness groups described below. The samples were divided into three age groups each consisting of adults aged 35-49 (younger adults), 50-64 (middle-aged adults), and 65-79 (older adults). The numbers
Happiness of American and Japanese Adults

of the three age groups in each nationality are illustrated in Table 1.

Table 1

<table>
<thead>
<tr>
<th>Age and Happiness Groups of American and Japanese Adults (aged 35 to 79)</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Adults</td>
</tr>
<tr>
<td>Happy</td>
</tr>
<tr>
<td>Age 35-49</td>
</tr>
<tr>
<td>(36.9%)</td>
</tr>
<tr>
<td>Age 50-64</td>
</tr>
<tr>
<td>(42.4%)</td>
</tr>
<tr>
<td>Age 65-79</td>
</tr>
<tr>
<td>(39.4%)</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>(39.7%)</td>
</tr>
</tbody>
</table>

Note. The percentage in parentheses for each subgroup indicates the proportion of its happiness group out of the total number of the participants in its nationality and age group.

Demographics. Out of the selected samples, the American sample consisted of 521 males (43.1%) and 688 females (56.9%), and the Japanese sample consisted of 448 males (49.2%) and 462 females (50.8%). With regard to the race/ethnicity of the American sample, although the dataset from Project 4 of MIDUS II did not include the variable of race/ethnicity, the information could be extracted from Project 1 (N = 4,963; in which 90.1% of the participants were White) by matching ID numbers. While the racial/ethnic information for 195 respondents, who did not participate in Project 1, was missing, the remaining data showed that 92.6% (939 out of the remaining 1,014) were White; only small proportions of other races were included in the dataset: 27 Black
and/or African American (2.7%), 14 Native American or Alaska Native Aleutian
Islander/Eskimo (1.4%), three Asian (0.3%), 28 “Other” (2.8%), two “Don’t Know”
(0.2%), and one “Refused” (0.1%). Racial/ethnic information was not obtained in MIDJA
probably because Japan is a relatively racially homogeneous country, and the researchers
might assume that there were not large racial/ethnic differences in the Japanese sample.
MIDUS series were national surveys in the United States while the data from five
metropolitan areas were oversampled (ICPSR, 2016). MIDJA data were collected from
Japanese adults in the Tokyo metropolitan area and did not include data from adults in
any other metropolitan or rural areas (Ryff et al., 2011).

Definitions

The variables that were analyzed in this study, including independence,
interdependence, the two personality traits of extraversion and neuroticism, and
happiness, referred to definitions in previous studies.

**Independence and interdependence.** As possibly cultural-related variables
between American and Japanese adults, independence and interdependence refer to how
they view themselves as separate and unique from others and lying in social contexts,
respectively (Novin et al., 2013).

**Extraversion and neuroticism.** Out of the Big Five personality traits, a number
of previous studies suggested that extraversion and neuroticism might be associated with
happiness or subjective well-being (e.g., Diener et al., 2003; Schimmack et al., 2002),
and the two traits were selected for analyses in this study. Extraversion referred to
sociality and outgoingness (Lucas & Donnellan, 2011); neuroticism referred to emotional
instability and negativity (Turiano et al., 2012).

**Happiness.** While the definition of happiness varies across studies, being happy was defined in this study as having a high level of subjective well-being, or how individuals cognitively and affectively evaluate their life (Novin et al., 2013).

In order to have different groups of the American and Japanese samples by level of happiness or subjective well-being, the scores for the Subjective Happiness Scale (Ryff et al., 2011) were used. For this scale, the participants in MIDUS II indicated how much they agreed with the statement that “compared to most of my peers, I consider myself to be more happy [sic],” and those in MIDJA answered the translated version of the item in Japanese (Ryff et al., 2011). They selected answer options: 1 Strongly disagree; 2 Disagree; 3 Slightly disagree; 4 Neutral; 5 Slightly Agree; 6 Agree; 7 Strongly Agree. Out of the adults aged 35 to 79, 1,209 American adults and 910 Japanese adults selected their option, and only their data were analyzed in this study. The means (and standard deviations in parentheses) of their scores in this scale were $M = 4.88$ (SD = 1.43) for American adults and $M = 4.91$ (SD = 1.22) for Japanese adults, and there were no significant difference between the two nationalities, $t_{2,117} = .55, p = .58$. In this study, adults who chose either “6 Agree” or “7 Strongly Agree” were considered “happy”; those who chose either “4 Neutral” or “5 Slightly Agree” (i.e., around the means of the two nationality groups) were considered “average”; those who chose “1 Strongly disagree,” “2 Disagree,” or “3 Slightly disagree” were considered “unhappy.” The distribution of respondents in three happiness groups for each nationality and age group are summarized in Table 1.
Measures

MIDUS II and MIDJA included the following scales for the dependent measures of independence, interdependence, extraversion, and neuroticism, and their scores of the selected American and Japanese samples were used for the analyses in this study.

Independence and interdependence. The Singelis Self-Construal Scale included both Independence and Interdependence subscales (Ryff et al., 2011). While three versions for each subscale (which were translated in Japanese) were available in MIDJA, the scores for the 7-item version of independence and 10-item version of interdependence also included in Project 4 of MIDUS II were used in this study. The participants rated themselves for each item from 1 (strongly disagree) to 7 (strongly agree), and the mean of the items in each subscale were obtained as their score in the MIDUS II and MIDJA studies. Examples of the items for independence were “I am the same person at home that I am at work or in other social settings” and “It is important to have my own ideas”; examples for interdependence were “It is important for me to maintain harmony or smooth relationships within my group” and “If people in my family fail, I feel responsible” (Ryff et al., 2011). Ryff et al. (2013) and Ryff et al. (2011) reported Cronbach’s alpha reliability coefficients of these scales: the alphas of the independence scales were .67 and .66 and those of interdependence were .69 and .72 for the total samples of Project 4 of MIDUS II and MIDJA respectively.

Personality traits. Scales for the Big Five personality traits, including extraversion and neuroticism, were also included in Project 1 of MIDUS II and MIDJA studies (Ryff et al., 2011). In the scales (which were translated into Japanese for MIDJA),
the participants answered with ratings from 1 to 4 how much self-descriptive adjectives related to each personality trait described. Because the directions of coding used in MIDUS II and MIDJA were opposite (i.e., 4 for “not at all” and 1 for “a lot” in MIDUS II; 1 for “not at all” and 4 for “a lot” in MIDJA), ratings for MIDUS II were reverse coded so that high scores reflect high standing (Ryff et al., 2011). The Extraversion scale had five adjectives (i.e., outgoing, friendly, lively, active, and talkative), and the Neuroticism had four adjectives (i.e., moody, worrying, nervous, and calm [reverse-coded]). The mean of the ratings for adjectives in each scale was calculated to obtain scores while ratings for one of the adjectives for neuroticism were reverse coded. Cronbach’s alpha reliability coefficients of the extraversion scales were .76 and .83, and the alphas of the neuroticism scales were .74 and .51 for the total samples of Project 1 of MIDUS II and MIDJA respectively (Ryff et al., 2012; Ryff et al., 2011).

Research Design

In this study, secondary data analyses were conducted for the selected datasets from MIDUS II and MIDJA including the independent variables of nationality, age, and happiness level and dependent variables of independence, interdependence, extraversion, and neuroticism. A between-subjects design was employed to assess the effects of nationality (American or Japanese adults), age (younger adults, middle-aged adults, or older adults), and happiness level (higher, average, or lower levels of subjective well-being) on each of the dependent measures.

Data Analysis Strategy

Descriptive statistics were obtained for all the dependent measures to describe
mean differences with their standard deviations among age and happiness groups of the two nationalities, and then a 2 (nationality) x 3 (age) x 3 (happiness level) factorial ANOVA was conducted for each dependent measure of psychological traits in order to determine whether there were any significant differences in the variables among the nationality, age, and happiness groups. There were missing data in the variables for the two nationality samples, and these participants were just removed from the analyses without replacement. This strategy was selected rather than to try to impute missing data because of the difficulties of data imputation. Post hoc analyses followed the ANOVAs as appropriate to tease apart specific outcomes and test the hypothesis or answer the research question.

Results

Using STATISTICA suite of analytic software, the results of descriptive statistics, factorial ANOVAs, and post hoc tests were obtained after removing missing data in the selected variables for the analyses.

Missing Data

There were missing data for the dependent measures: in the American sample, two for independence, 199 for extraversion, and 199 for neuroticism were missing out of 1,209 respondents; in the Japanese sample, six for independence, four for interdependence, three for extraversion, and four for neuroticism were missing out of 910 respondents.

The relatively large numbers of the missing data for extraversion and neuroticism in the American sample were for the same 199 respondents, and almost all (195) of the
HAPPINESS OF AMERICAN AND JAPANESE ADULTS

respondents, who participated in Project 4 of MIDUS II, were not included in its Project 1. The age (M = 50.46, SD = 10.13) and happiness level (M = 4.68, SD = 1.59) of the 199 respondents were significantly different from those of the remaining respondents (N = 1,010; age: M = 54.56, SD = 10.99; happiness level: M = 4.92, SD = 1.39) though the mean happiness level of the remaining respondents remained similar to that of the Japanese sample.

The missing data were removed, and the data except for theirs in each variable were used for the subsequent analyses of descriptive statistics and ANOVA.

Descriptive Statistics, ANOVA, and Post Hoc Test

Independence. The descriptive statistics for independence are summarized in Table 2. A three-way ANOVA for independence revealed main effects for nationality (F(1, 2,093) = 147.00, p < .001) and happiness level (F(2, 2,093) = 61.24, p < .001). This suggests that American adults and happier American and Japanese adults tend to be more independent in general than their counterparts. A significant nationality by age interaction effect was also obtained, F(2, 2,093) = 7.26, p < .001. Mean comparisons among the three age groups of the two nationalities in each happiness group are illustrated in Figure 1, and different directions of age effects on independence can be observed. There appeared to be trends in which older American adults were more independent than younger Americans while the independence levels of Japanese adults declined or remained similar as they aged. No significant main effect of age or other interactions were found.
### Table 2

**Means (and Standard Deviations in Parentheses) of Independence**

<table>
<thead>
<tr>
<th></th>
<th>American Adults</th>
<th></th>
<th>Japanese Adults</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Happy</td>
<td>Average</td>
<td>Unhappy</td>
<td>Happy</td>
</tr>
<tr>
<td>Age 35-49</td>
<td>5.30</td>
<td>5.08</td>
<td>4.75</td>
<td>5.01</td>
</tr>
<tr>
<td></td>
<td>(0.84)</td>
<td>(0.80)</td>
<td>(0.92)</td>
<td>(0.75)</td>
</tr>
<tr>
<td>Age 50-64</td>
<td>5.51</td>
<td>5.15</td>
<td>4.81</td>
<td>4.81</td>
</tr>
<tr>
<td></td>
<td>(0.77)</td>
<td>(0.73)</td>
<td>(0.91)</td>
<td>(0.65)</td>
</tr>
<tr>
<td>Age 65-79</td>
<td>5.61</td>
<td>5.13</td>
<td>4.98</td>
<td>4.89</td>
</tr>
<tr>
<td></td>
<td>(0.72)</td>
<td>(0.72)</td>
<td>(0.73)</td>
<td>(0.82)</td>
</tr>
</tbody>
</table>

*Note.* Scores were means of the seven items with ratings from 1 (strongly disagree) to 7 (strongly agree) for the Independence subscale of the Singelis Self-Construal Scale; the maximum score would be 7.00 (Ryff et al., 2011).

**Figure 1.** Mean comparisons for levels of independence
Fisher's LSD post hoc test at the $p < .05$ level showed that middle-aged and older American adults in the happy group had significantly higher levels of independence than younger Americans, as well as any other groups of American and Japanese adults. On the other hand, there were no significant differences among the age groups of American adults in the average or unhappy group. No significant differences by age were observed among Japanese adults in the three happiness groups except the average group, in which younger adults were more independent than middle-aged adults, while there was a trend in which younger Japanese adults showed higher levels of independence. Younger and older Japanese adults in the happy group were more independent than any other happiness groups of Japanese adults. Middle-aged Japanese adults in the happy group were not different from younger Japanese adults in any happiness group while they showed higher levels of independence than middle-aged and older Japanese adults in the other happiness groups.

**Interdependence.** The means and standard deviation for interdependence are summarized in Table 3. A three-way ANOVA for interdependence revealed main effects of nationality ($F(1, 2,097) = 150.08, p < .001$) and happiness level ($F(2, 2,097) = 36.46, p < .001$): overall, older Americans and happier American and Japanese adults showed higher levels of interdependence compared to their counterparts. No significant main effect of age or interactions were found. Mean comparisons among the age groups of the two nationalities in each happiness group are illustrated in Figure 2.
Table 3

Means (and Standard Deviations in Parentheses) of Interdependence

<table>
<thead>
<tr>
<th>Age</th>
<th>American Adults</th>
<th>Japanese Adults</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Happy</td>
<td>Average</td>
<td>Unhappy</td>
<td>Happy</td>
<td>Average</td>
<td>Unhappy</td>
</tr>
<tr>
<td>Age 35-49</td>
<td>5.23 (0.71)</td>
<td>5.06 (0.67)</td>
<td>4.89 (0.88)</td>
<td>4.92</td>
<td>4.68</td>
<td>4.44</td>
</tr>
<tr>
<td>Age 50-64</td>
<td>5.35 (0.62)</td>
<td>5.12 (0.55)</td>
<td>5.03 (0.70)</td>
<td>4.84</td>
<td>4.64</td>
<td>4.67</td>
</tr>
<tr>
<td>Age 65-79</td>
<td>5.37 (0.68)</td>
<td>5.10 (0.54)</td>
<td>5.18 (0.70)</td>
<td>5.01</td>
<td>4.83</td>
<td>4.31</td>
</tr>
</tbody>
</table>

Note. Scores were means of the 10 items with ratings from 1 (strongly disagree) to 7 (strongly agree) for the Interdependence subscale of the Singelis Self-Construal Scale; the maximum score would be 7.00 (Ryff et al., 2011).

Figure 2. Mean comparisons for levels of interdependence
Fisher’s LSD post hoc test at the $p < .05$ level indicated that American adults had higher levels of interdependence than Japanese adults in the happy and average groups. There were no significant difference between younger American adults and middle-aged Japanese adults in the unhappy group while the other combinations of American and Japanese subgroups in the same happiness group were different from each other. There were no significant differences among the three age groups of each nationality in each happiness level except the unhappy group of American adults and the average happiness group of Japanese adults. Among American adults, while each of the younger and middle-aged groups in the happy group had higher levels of interdependence than their counterpart in the average or unhappy group, there was no difference between older adults in the happy and unhappy groups. On the other hand, among Japanese adults, each age group of the younger and older adults in the happy group were more interdependent than those of the same age groups in the average and unhappy groups while no significant difference was found between middle-aged adults in the happy and unhappy groups.

**Extraversion.** The means and standard deviation for extraversion are summarized in Table 4. A three-way ANOVA for extraversion revealed main effects of nationality ($F(1, 1,899) = 420.99, p < .001$) and happiness level ($F(2, 1,899) = 94.26, p < .001$). This shows that Americans and happier American and Japanese adults are likely to have higher levels of extraversion than their counterparts. Significant interactions of nationality by age interaction ($F(2, 1,899) = 3.60, p < .05$) and nationality by happiness ($F(2, 1,899) = 7.94, p < .01$) were also observed. Mean comparisons among the age groups of the two nationalities in each happiness group are illustrated in Figure 3. The
directions of age effects appear to be opposite between American and Japanese adults: older American and Japanese adults showed higher and lower levels of extraversion respectively. No significant main effect of age or other interactions were found. Fisher’s LSD post hoc test at the p < .05 level indicated that American adults were generally more extraverted than Japanese adults while there were no significant differences among unhappy American adults and happy Japanese adults (except older ones). Among American adults, middle-aged and older adults in the happy group were more extraverted than younger adults in the same happiness group while there were no differences among the age groups in the average happiness group or among those in the unhappy group. Happy Japanese adults showed higher levels of extraversion than other Japanese groups of any age. Younger Japanese adults were more extraverted than older Japanese adults in the happy or average group.

Table 4

<table>
<thead>
<tr>
<th></th>
<th>American Adults</th>
<th>Japanese Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Happy</td>
<td>Average</td>
</tr>
<tr>
<td>Age 35-49</td>
<td>3.17</td>
<td>3.06</td>
</tr>
<tr>
<td></td>
<td>(0.58)</td>
<td>(0.56)</td>
</tr>
<tr>
<td>Age 50-64</td>
<td>3.34</td>
<td>3.06</td>
</tr>
<tr>
<td></td>
<td>(0.51)</td>
<td>(0.56)</td>
</tr>
<tr>
<td>Age 65-79</td>
<td>3.43</td>
<td>3.13</td>
</tr>
<tr>
<td></td>
<td>(0.44)</td>
<td>(0.50)</td>
</tr>
</tbody>
</table>

Note. Scores were means of the five items with ratings from 1 to 4 (how well the adjective of each item described the participant) for the scale of extraversion in Project 1 of MIDUS II and MIDJA; the maximum score would be 4.00 (Ryff et al., 2011).
Neuroticism. The descriptive statistics for neuroticism are summarized in Table 5. A three-way ANOVA for neuroticism revealed main effects of age ($F(2, 1,898) = 34.02, p < .001$) and happiness level ($F(2, 1,898) = 53.13, p < .001$), which shows a trend in which older or happier American and Japanese adults have lower levels of neuroticism than younger or unhappier ones. No significant main effect of nationality or interactions were found. As can be seen in Figure 4 of mean comparisons, similar mean differences were observed in each happiness group between American and Japanese adults.
Table 5

Means (and Standard Deviations in Parentheses) of Neuroticism

<table>
<thead>
<tr>
<th>Age</th>
<th>American Adults</th>
<th>Japanese Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Happy</td>
<td>Average</td>
</tr>
<tr>
<td>35-49</td>
<td>2.04</td>
<td>2.20</td>
</tr>
<tr>
<td></td>
<td>(0.70)</td>
<td>(0.62)</td>
</tr>
<tr>
<td>50-64</td>
<td>1.84</td>
<td>1.99</td>
</tr>
<tr>
<td></td>
<td>(0.54)</td>
<td>(0.52)</td>
</tr>
<tr>
<td>65-79</td>
<td>1.67</td>
<td>1.94</td>
</tr>
<tr>
<td></td>
<td>(0.51)</td>
<td>(0.55)</td>
</tr>
</tbody>
</table>

Note. Scores were means of the four items with ratings from 1 to 4 (how well the adjective of each item described the participant) for the scale of neuroticism in Project 1 of MIDUS II and MIDJA; the maximum score would be 4.00 (Ryff et al., 2011).

Figure 4. Mean comparisons for levels of neuroticism
Discussion

The purpose of this study was to address potential cultural and age effects on happiness during adulthood in American and Japanese adults. Considering the literature suggesting that culturally distinctive traits, such as independence and interdependence, and personality traits could change during adulthood, it was hypothesized that psychological traits would become more similar between American and Japanese adults as they age and this trend would be stronger for happy adults compared to average and unhappy adults. More specifically, using the secondary data from MIDUS II and MIDJA, this study aimed to examine whether there were differences in dependent measures including independence, interdependence, extraversion, and neuroticism among three age groups of American and Japanese adults with three different levels of happiness or subjective well-being.

The results indicated that main effects of happiness level were found for all the dependent variables, which suggests that American and Japanese adults with different levels of happiness tend to have different levels of independence, interdependence, extraversion, and neuroticism. However, different combinations of main effects and interactions were observed among these four variables, and in general, the results do not seem to demonstrate the age effects as hypothesized.

Trend in Independence

As previous studies (e.g., Ryff et al., 2014) suggested, the present study also found that American adults were generally more independent than Japanese adults as a main effect of nationality was found. The results also indicated a significant interaction of
HAPPINESS OF AMERICAN AND JAPANESE ADULTS

nationality by age. Figure 1 shows a trend in which the older American adults are, the more independent they are while the independence levels of Japanese adults remain similar or even decline during their adulthood. The independence levels of middle-aged and older American adults in the happy group were the highest. This suggests that independence seems to become more important for American adults in maintaining their happiness during their middle and later adulthood. Although the results also suggest that happy Japanese adults tend to be more independent than average and unhappy Japanese adults, aging does not seem to make independence more important for happiness. The trend in Figure 1 even shows that independence may become less important as Japanese adults age. These results did not support the hypothesis for independence: American and Japanese adults do not seem to become similar in independence as they age, and their differences may become larger as American adults appear to become more independent during their middle and later adulthood.

Trend in Interdependence

While interdependence has been considered to be a trait which Japanese people emphasize (e.g., Ryff et al., 2014), the results of this study indicated that American adults had higher levels of interdependence than Japanese adults as there was a main effect of nationality. Although American adults may be actually more interdependent, there may be another interpretation about this difference, which is discussed later. Based on the results of this study, aging does not seem to facilitate interdependence of either American and Japanese adults as there were no main effects of age or age-related interactions. As a main effect for happiness level was found, levels of interdependence were generally
higher in the happy group than in the average and unhappy groups, which was seen in Figure 2. While interdependence may be important for both American and Japanese adults to maintain their happiness, the results did not show that this trait becomes more important as they age. These results fail to support the hypothesis for interdependence.

**Trend in Extraversion**

The results indicated that almost all of the groups of American adults were more extraverted than any groups of Japanese adults, which suggests that extraversion is a unique characteristic of American adults compared to Japanese adults. In addition, there was an interaction of nationality by age and, as shown in Figure 3, trends of age effects appear different between American and Japanese adults. While American adults seem to become more extraverted as they age, older Japanese adults appear to be less extraverted. However, even though older Japanese adults in the happy group were less extraverted than younger ones in the same group, they still had higher levels of extraversion than Japanese adults of any age in the average and unhappy group. While extraversion also seems to be an important personality trait for happiness in both cultural groups, the results suggest that American and Japanese adults may become rather more different in this personality trait as they age, which is contrary to the hypothesis.

**Trend in Neuroticism**

As previous studies (e.g., Diener et al., 2003) suggested, the results of this study also indicate that neuroticism may be negatively related to happiness. As shown in Figure 4, happier American and Japanese adults showed lower levels of neuroticism in comparison with average or unhappy adults as indicated by the main effect of happiness.
As there was also a main effect of age, American and Japanese adults appear to have lower levels of neuroticism as they age. The results suggest that neuroticism may be a universal trait, or at least a common personality trait between the two nationalities, associated with happiness. Younger American and Japanese adults seem to be similar in neuroticism and remain similar as they age. This indicates similar trends and age effects in neuroticism between happy American and Japanese adults but does not support the hypothesis as their similarity starts in younger ages.

**Implications of the Current Study**

Compared to previous studies, this study had an advantage in which it addressed both effects of age and happiness level on the psychological traits of different cultural groups. When taken together, the results of this study fail to support the hypothesis that American and Japanese adults become similar in psychological traits as they age. Happy American and Japanese adults generally showed higher levels of independence, interdependence, and extraversion and lower levels of neuroticism compared to average and unhappy counterparts, which supports the findings of previous studies on the importance of these psychological traits for subjective well-being. The results of this study also showed that no common trends of age-related effects and interactions were observed among these four types of psychological traits. Even though the findings of this study do not support the proposed hypothesis, they are important for future research and the practical application for promoting happiness. These findings suggest that while all the traits could universally affect happiness regardless of age and culture, they could influence aging adults of two different cultures in a distinctive manner. If the trends
found in this study can be generalized to the whole populations of American and
Japanese adults, these results can be used to identify psychological traits desirable for
each cultural and age group in promoting their well-being and help focus on developing
the traits for that specific group. However, before drawing any conclusion, some
concerns and limitations in this study, which may prevent its findings from being
generalized, remain to be addressed.

Limitations and Future Directions of Research

In this study, American adults generally showed higher levels of all the dependent
variables except neuroticism than Japanese adults. While independence and extraversion
may be considered to be cultural characteristics of American adults, it seems
counterintuitive that Japanese adults have lower levels of interdependence as it is
considered to be a trait which they value. In addition, it may be worthy of attention that
Japanese adults showed similar levels of neuroticism to their American counterparts.
Compared to the other three traits, neuroticism is generally regarded as a negative trait.
Independence and interdependence may sound more positive than dependence, and
extraversion, or sociability, may be considered more positive than introversion in both the
United States and Japan. MIDUS and MIDJA used self-administered questionnaires and
relied on self-reports of participants, and it is possible that American adults overstated
their conditions more positively or Japanese adults understated their positive conditions
with more negative ratings. As modesty is a virtue which Japanese people tend to
emphasize, which could influence their self-evaluation (Karasawa et al., 2011), Japanese
participants may have reported lower levels of those relatively positive traits than their
actual levels. In contrast, as neuroticism is considered to be a negative trait, they may have reported their actual levels of this trait in MIDJA, without understating their status, which was similar to those of American participants. However, it is also possible that although the levels of neuroticism were actually different between Japanese and American participants, their reported levels remained apparently similar due to the effects of Japanese participants' modesty or other cultural values. Also, the degree of modesty may change as Japanese adults become older. If this is the case, their self-evaluation may become more different from their actual levels of each psychological traits due to such age-related change, which can make it difficult to compare the results based on self-reports from American and Japanese participants.

Potentially related to the modesty that Japanese participants might have, Table 1 showed larger proportions of average happiness groups among Japanese participants compared to those among American participants: while 57.8% out of all Japanese participants were in the average happiness groups, only 44.6% out of all American participants were in the same happiness groups. As a result, the proportions of the happy and unhappy groups were lower among Japanese participants than among American participants while the means of subjective well-being were similar between the two nationalities. Similar tendencies in the proportions of happiness groups were observed in each of the three age groups. This may suggest that Japanese adults are more likely to have average levels of happiness or rather report average levels of happiness while attempting to avoid “sticking out,” possibly due to their modesty, even though they actually feel happier or unhappier. In the latter case, however, negative implications of
unhappiness also seemingly affected Japanese participants’ reports, which was not observed in the case of neuroticism.

Considering these findings that contradict implications of previous studies and the prevailing view about Japanese cultural characteristics (e.g., emphasis on interdependence), it may not have been appropriate to assess Japanese adults’ levels of certain psychological traits using self-administered questionnaires such as ones used in MIDJA. In order to reduce potential confounding factors such as modesty and other Japanese values, other types of measures may be needed to more accurately examine these psychological traits of Japanese adults. In addition, as direct translations from English to Japanese for such measures may lead to having different meanings for Japanese people, who prefer modest phrases, potential effects of translation on results of the measures must also be considered.

Another limitation of this study concerns the selection of the samples. While MIDUS series were national surveys, they may not have represented the national population. MIDUS included an oversample of five metropolitan areas (ICPSR, 2016), and in the dataset from Project 4 of MIDUS II which was used in this study, more than 90% of respondents were White, which does not reflect the racial proportion in the United States. In addition, there were relatively large numbers of missing data of extraversion and neuroticism, which might have affected the results as they were significantly different in age and happiness level from those of the respondents who were measured with the scales for the personality traits. On the other hand, the sample of MIDJA consisted of Japanese adults in the Tokyo metropolitan area, which is an urban
area, and did not include participants from other urban and suburban areas or rural areas in Japan. These selection biases in both MIDUS and MIDJA may have influenced the results of this study, and the tendencies in the traits which the results indicated may not be typical to the general population of each nationality.

Furthermore, while different age groups were compared in this study, other factors than age, or cohort effects, may have led to their having different levels of psychological traits among the age groups. In order to accurately examine whether the hypothesis about age-related changes in psychological traits between American and Japanese adults can be supported, it would be necessary to continue to assess the psychological traits of the same American and Japanese individuals for several decades in longitudinal studies. The dataset from the third wave of MIDUS (MIDUS III) is now available (ICPSR, 2016). The first follow-up study of MIDJA (MIDJA II) has been conducted (University of Wisconsin - Madison, Institute on Aging, 2011) though the dataset of MIDJA II is not yet publically available. Using these and subsequent datasets in addition to those from MIDUS II and MIDJA will enable researchers to study the same American and Japanese individuals at different ages and examine differences or similarities in age effects on their psychological traits and happiness. Due to this limitation of possible cohort effects, the results of this study alone could not answer the research question as to whether American and Japanese adults become similar as they age, and follow-up studies using longitudinal data are needed to support or disconfirm the results.

Future research needs to consider these limitations and improve methodologies to
retest the hypothesis or reconfirm the findings of this study that suggests distinctive trends among cultural and age groups.

**Conclusion**

The results of this study supported findings of previous studies on happiness and related psychological traits while indicating that independence, interdependence, extraversion, and neuroticism were associated with happiness or subjective well-being in two nationality groups. However, the results did not support the proposed hypothesis that American and Japanese adults, especially happy adults of the two countries, become similar in these psychological traits as they age. While levels of neuroticism were similar between American and Japanese adults of each age and happiness group, the trends of the other three traits appeared different among the age and happiness groups of the two nationality groups. American and Japanese adults appear to become more different in independence and extraversion as they age while they seem to maintain their differences in interdependence during their adulthood. Overall, American adults showed higher levels of interdependence than Japanese adults, which seems to contradict prevailing view about differences of the two cultures. Furthermore, modesty, which Japanese adults tend to value, may have influenced their responses in the self-administered questionnaires of MIDJA. Although the findings of this study examining both potential effects of age and happiness level, which previous studies did not address, could provide practical implications, this study included several limitations, and the hypothesis needs to be retested with more refined methodologies. If future research also fails to support it, researchers should identify more accurate trends of culturally distinctive traits and their
age effects on happiness, which will help develop interventions specific for each cultural and age group to facilitate their happiness.
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