

The Relationship between Acculturation Attitudes and Depression among Japanese Persons Living in Brazil

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Abstract

We focused on depression in Japanese people living in Brazil and a bidimensional model of acculturation that considered individuals' orientation toward their home and Brazilian culture. We also assessed the relevance of Berry's four-cell typology of acculturation (integration, assimilation, separation, and marginalization). We predicted that mental health would be more stable if individuals maintained contact with both cultures.

Participants (55 male, 61 female) were all born in Japan and had been exposed to their own culture before moving to Brazil. A questionnaire survey was conducted. Results showed that individuals who oriented toward Brazilian culture showed significantly lower rates of depression. Individuals who oriented toward their own culture did not show any relation with depression. When the four acculturation types were compared, the integration group participants had the lowest rate of depression, followed by the assimilation group. The separated and marginalized groups had the highest rates of depression.

Keywords: acculturation, Brazil, Japanese people living in Brazil, depression,

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Introduction

Current Status of All Overseas Japanese People and Japanese Residents of Brazil

According to the Research and Statistics 2014 summary version provided by the Ministry of Foreign Affairs Bureau of Consular Affairs Policy Division on the number of overseas Japanese residents, there are 1,258,263 Japanese individuals residing in foreign countries. This estimate includes residents of foreign countries for three months or more, and permanent residents. There was an increase of 8,686 people from the previous year (0.7%); this was the greatest increase since this statistical survey was initiated in 1968. In the flow of internationalization, Japanese people are moving globally.

Among all Japanese individuals living overseas, about 4.5% (56,217 people) are residents of Brazil. Brazil has the second largest number of Japanese permanent residents, behind only the United States. The Japanese-Brazilian community consists of Japanese permanent residents and their descendants, and includes about 1.3 million people (Japanese Immigrant History Museum of Brazil, 2008), or 1.4 million of those identified as Japanese-Brazilian (Hagiuda, 2006). Indeed, the Japanese words “Nikkei” (Japanese-Brazilian), “Issei” (first generation), and “Nisei” (second generation) have become integrated in Brazil. Furthermore, “Japones garantido” (We can trust Japanese, because they are Japanese) has become a common phrase (Japanese Immigrant History Museum of Brazil, 2008). This demonstrates that Japanese people have been accepted and established in Brazil.

A motivation of Japanese individuals to go to Brazil is the immigration policy of the Japanese government since 1908. Nearly 40% of Japanese individuals living overseas resided in Brazil at one time. The current number of Japanese residents in Brazil is about 38% of its peak value (1975; 146,488 people). However, there are many Japanese individuals who are long-term, temporary residents; these individuals are completing language study abroad or overseas appointments. The number of Japanese individuals in Brazil is the seventh-largest representation of Japanese people worldwide.

With the long history of immigration to Brazil, there is a large-scale Japanese community in Brazil. Thus, it appears necessary to conduct psychological research on Japanese individuals living in Brazil.

The Point at Issue

There is little research documenting the psychological characteristics of Japanese individuals living in Brazil; however, there are many studies investigating this issue in North America. For instance, Deguchi (2010), Shiga (2014), and Asakura et al. (2004) conducted studies in the US. They investigated the attitudes and thoughts about host and ethnic cultures among Japanese individuals and their descendants. However, many anthropological studies have been conducted about Japanese individuals living in Brazil. While these studies examined the psychology of Japanese immigrants and their descendants in the acculturation process, they did not utilize rigorous psychological methodology.

There are some psychological studies of Japanese people in Brazil. For instance, Tanahara (1979) conducted a comparative study of psychological and personality traits among Japanese college students in Brazil and Okinawa. In addition, Shibata (1974) conducted a comparative study of the mental health of Japanese persons living in urban areas, suburban areas of Sao Paulo, and those living in rural areas of Japanese-Brazilian colonies (Japanese communities). In these studies, the relation between the general standard of living in immigrant destinations, individuals' personality traits, the incidence of mental and physical disease, and fitness to the host society were considered. The results of these studies indicated that Japanese immigrants living in suburban areas had lower mental health functioning than those living in rural areas. The researchers indicated that this was likely due to the fact that Japanese persons living in suburban areas expected to have a higher standard of living. Moreover, Japanese immigrants often have strong sense of nostalgia for their home country as well as separation anxiety from Japan. Thus, it appears that there is a need to understand mental health and acculturation in this population. However, these studies were conducted 30–40 years ago; thus, the concepts examined in these studies have become outdated.

However, Kang et al. (2009) recently examined Korean-Brazilians' mental health. Moreover, Lincoln et al. (2007) recently investigated Japanese-Brazilians' mental illness. These studies verified the poor mental health of immigrants and their descendants, as well as the potential prognosis of mental illness. However, there has not been extensive research with Japanese individuals.

Psychological Study of Immigrants in the Western Cultures

In Western cultures, there is an extensive literature on the psychological adjustment of immigrants. In particular, Sam and Berry's (1995) distinguished study is widely known for the investigation of the role of acculturation attitudes in immigrants' adaptation. The same researchers also introduced their well-known bidimensional model of acculturation; this model considers individuals' orientation toward their ethnic and host culture. Specifically, this bidimensional model incorporated two dimensions—host and ethnic—divided participants into four groups based on the median of the host and ethnic dimensions. This model has been applied widely (Berry, 1997; Ward & Kenny, 1994; Ting-Toomey, 2000) and includes four types of acculturation attitudes: separation, integration, assimilation, and marginalization. Berry (1997) indicated that the “separation” group prefers tradition and the retention of ethnic characteristics; they do not adhere to the norms and values of the host culture. The “integration” group maintains their ethnicity while simultaneously accepting the host culture and social customs. The “assimilation” group does not maintain their ethnic norms and values, and instead they integrate as members of the host society. Finally, the “marginalization” group does not interact with either the ethnic group or the host mainstream society. Previous research (Berry, 1997; Jang et al., 2007; Ward & Kenny, 1994) has shown that the “integration” group demonstrates stable acculturation. Therefore, it would be expected that individuals who maintain strong orientations to both the ethnic and host culture will demonstrate good mental health.

In the current study, we anticipated that Japanese immigrants in Brazil would have constructed a stable life, and would have achieved a certain degree of cultural change over time. However, there are no existing reports on the relation between acculturation attitudes and the mental health of Japanese immigrants in Brazil. Furthermore, it is not clear whether similar results obtained in Western cultures would be obtained with Japanese individuals living in Brazil. Indeed, the specific features of the acculturation process that involve the features of Brazilian society or Japanese ethnicity have not been examined.

In a previous study, we utilized semi-structured interviews to explore cross-cultural acceptance and the process of adaptation among 21 Japanese individuals living in X city, Brazil from 2010 to 2011 (Sako, 2013). While we observed that the basic acculturation structure of Japanese individuals living in Brazil were similar, there were some differences.

We found that individuals who reported positive feelings and attitudes toward Brazil achieved adaptive psychological states. Furthermore, we found that those who maintained a moderate amount of Japanese culture could incorporate Brazilian culture appropriately and maintained good mental health.

In this study, we targeted a larger number of Japanese individuals living in Brazil than in our previous research. We also measured the relationship between high- and low-host ethnic orientations and psychological health using Berry's (1997) framework. Specifically, we employed a bidimensional model of acculturation considering orientation toward ethnic and Brazilian culture; we divided the participants into four groups based on the median of each dimension. We sought to verify whether individuals achieve optimal mental health when their orientations toward both their ethnic and host culture are high. We focused on depressive tendencies, since they have often been noted in the mental health of immigrants. For instance, given the psychological changes associated with immigration, Bhugra and Ayonrinde (2004) reported that depression is a common outcome for immigrants. Therefore, in this study, we sought to elucidate the relationship between acculturation and depressive tendencies among Japanese individuals living in Brazil.

Hypothesis

We expected that those individuals who were classified as in the "integration" group, or those that possessed a bicultural orientation characterized as high affiliation with both the ethnic and the host group, would show the lowest depressive tendencies of the four types of acculturation attitudes among Japanese individuals living in Brazil

Method

Setting

Data were collected from the provincial capital of southern Brazil, Z city. This city is known as a city of immigrants; there are many of descendants from both Japan and European countries, including Germany, Italy, Poland, and Ukraine. There are 1.75 million people living in Z city, including 45,000 Japanese-Brazilian (Hagiuda, 2006) and 4,000 Japanese individuals (Ministry of Foreign Affairs Bureau of Consular Affairs Policy Division, 2014). After Sao Paulo, Z city has the second-largest population of Japanese residents in Brazil.

There are functioning Japanese organizations, such as the Japanese Association, from whom we obtained cooperation with our investigation. Therefore, we chose Z city as the study setting.

Participants

We administered a questionnaire to Japanese adults in Z city, Brazil. We defined “Japanese” as individuals who were born in and have experienced living in Japan. In addition, in order to be eligible for participation, they had to have lived in Brazil for more than three months. The length of stay was based on the Ministry of Foreign Affairs of Japan criteria that define long-term residents as those who remain abroad for more than three months.

Participants included 128 Japanese individuals; however, 12 were excluded because more than three items were missing on their questionnaires. Therefore, a total of 116 participants (55 male, 61 female) had valid responses. Participants’ ages ranged from 20 years to over 80 years old. The age structure was as follows: 20s ($n = 5$), 30s ($n = 21$), 40s ($n = 19$), 50s ($n = 19$), 60s ($n = 14$), 70s ($n = 10$), and 80s and above ($n = 28$). The distribution of time in Brazil was as follows: 1–5 years ($n = 35$), 6–10 years ($n = 14$), 11–20 years ($n = 5$), 21–30 years ($n = 10$), 31–40 years ($n = 6$), 41–50 years ($n = 6$), over 51 years ($n = 40$). Seventy-two people (62%) intended to live in Brazil permanently, 33 people (28%) were scheduled to return to Japan, and 11 people (10%) were undecided.

Procedure

We recruited participants from June to October 2013 at event venues, such as the Japan Festival. We asked individuals to participate on the spot and collected their responses accordingly. We also asked for cooperation from Japanese companies, religious groups (e.g., Christianity, Jodo-shu, and Konko-kyo), and Japanese organizations that were acquainted with the investigators. It was assumed that some of the respondents did not speak Japanese daily; therefore, the investigation request form was provided in both Japanese and Portuguese. The questionnaire was only presented in Japanese, but it was represented phonetically for all of the kanji. For all participants other than Japanese sojourners, the investigator or Japanese staff paid attention during investigation to identify any difficulty understanding the sentences in Japanese. We provided support by reading questions aloud if it was desired. After the investigation, we compensated all participants with a piece of stationery (e.g., a brush pen).

Measures

The Composition of the Questionnaire

For the unity of understanding among the respondents, the following question was included at the beginning of the questionnaire since the terms “Japanese” “Japanese-Brazilians,” and, “Issei” need to be clearly distinguished, because these classifications vary from person to person. Specifically, “Japanese” was defined as Japanese individuals who stayed in Brazil for more than three months. These individuals were born in and grew up in Japan, prior to moving to Brazil and living there as Japanese nationals. “Issei” (first generation) was defined as individuals who were born in and grew up in Japan, but moved to Brazil and were nationalized as Brazilian. Finally, “Japanese-Brazilian” was defined as Issei who were naturalized in Brazil, as well as and Brazilian-born Japanese descendants. We also assessed demographic characteristics, including gender, age, age at the time of travel, length of residence, nationality, and individuals’ future plans of residence (intention to live in Brazil or Japan).

Survey items

The survey consisted of 13 paired host and ethnic items that examined attitudes and ideas about friendship, customs, nationality, diet, and lifestyle (e.g., I have a close Brazilian friend or I have a close JP or Nikkei friend). Each of the items was scored on a 5-point Likert-type scale (1 = *completely disagree*, 5 = *completely agree*). In order to sort the items into two dimensions, each question was asked twice: once for host and once for ethnic orientation. For the host items, questions were phrased as follows, “How much interest do you have in adapting to the host country, and to what extent have you acted towards this interest?” For the ethnic items, the questions were phrased as follows, “How much interest do you have in maintaining your own ethnic culture or customs, and what extent have you acted towards this interest?” The first author constructed these items for a Japanese sample residing in Brazil based on previous research (Lee & Tanaka, 2011). Following Sam and Berry (1995), participants completed seven depressive tendency items that assessed hope or joy about their current life or their future in general.

Ethical Considerations

We indicated in writing that the questionnaire was unregistered. Furthermore, participants were informed that their responses would be processed statistically, and that the results would not be used for any purpose other than this study.

Results

Factor Structure of the Acculturation Attitudes and Depressive Tendencies Acculturation Attitudes

In order to examine the potential impact of host and ethnic items on one another, exploratory factor analysis (EFA) was conducted for both the host and ethnic items (Table 1). Based on the eigenvalues and scree plot, attenuation was detected. Therefore, we adapted a two-factor structure and subjected this to factor analysis. Specifically, EFA with varimax rotation was performed using the principal-factor method with two factors.

Table 1

Host- and Ethnic-Orientation Items

Items	Factor 1	Factor 2
I have close Brazilian friends	.817	-.080
It is possible to behave naturally when I am with BR	.702	.035
I am well informed about Brazilian politics and society through Brazilian magazines or newspapers	.609	-.127
I participate positively in gatherings with BR	.573	.249
I have adjusted to Brazilian lifestyles	.559	.035
I feel that I almost no different from BR	.496	.100
I don 't mind attaining Brazilian citizenship because I live in Brazil	.428	-.178
I celebrate Brazilian national holidays and anniversaries	.401	.204
I participate positively in gatherings with JP and Nikkei	.063	.626
Marriage among JP and Nikkei is acceptable to me	.008	.510
I have close JP and Nikkei friends	.143	.411
Retaining one 's JP citizenship is desirable	-.210	.393
Variance explained	23.7%	9.5%

Note. BR = Brazilian; JP = Japanese.

Ceiling effects were observed on the nine ethnic items. However, our previous research (Sako, 2013) has indicated that some of the topics are frequently mentioned when comparing host and ethnic orientations, namely relationships, marriage, and nationality. Thus, we retained those items and removed the other five that demonstrated a ceiling effect. Then, we conducted the factor analysis. After removing the four factor loadings of .35 or less and the factor loadings that were over .35 on both factors, the first factor that emerged was “Host-orientation.” This factor implies that individuals perceived almost no difference between themselves and BR. Moreover, they shared similar attitudes and ideas as individuals from the host country; $\alpha=.80$. Then, three factor loadings of .35 or less and a factor loading of over .35 on both factors were deleted in the second factor. This factor was labeled “Ethnic-orientation,” and refers to individuals with a positive attitude towards JP and Nikkei; these individuals report that the attitudes and ideas of the country of origin are a priority; $\alpha = .52$.

Depressive tendencies

For the seven items about depressive tendencies, we conducted EFA (principal factor method). Based on the eigenvalues and the scree plot, attenuation was detected. Therefore, we utilized a one-factor structure and subjected this to factor analysis. EFA with varimax rotation was performed using the principal factor method with one factor (Table 2). There were no factor loadings of .35 or less; thus, all items were retained. Seven items on one factor (e.g., constantly feeling gloomy and anhedonia) were regarded as “depressive tendency.” $\alpha = .85$.

Table 2

Depressive Tendency Items

Items	Factor
Sometimes I feel that there is no hope and don't want to do anything	.90
I often feel depressed without reason	.78
I do not have fun or hope	.77
Sometimes I feel depressed and want to be in bed all day long	.67
I often feel sad without reason	.58
Sometimes I think life has no meaning	.57
My life is a quite miserable	.43
Variance explained	53.7%

Correlations between the Orientation Factors and Depressive Tendencies

Descriptive statistics and correlations for the two orientation variables and depressive tendencies are shown in Table 3. A significant correlation was found between host-orientation and depressive tendencies.

Table 3

Correlations between Orientation and Depressive Tendencies

	<i>M</i>	<i>SD</i>	Host-oriented	Ethnic-oriented	Depressive tendencies
Host-oriented	2.98	0.84	1		
Ethnic-oriented	3.98	0.72	0	1	
Depressive tendency	1.41	0.63	-.255**	-.105	1

Note. ** $p < .01$

The Effect of High and Low of Ethnic/host Orientation on Depressive Tendencies

We divided ethnic and host orientation into two groups based on a median split of the scale scores. Then, we compared the effect of depressive tendencies by high and low ethnic/host orientation using a two-factor analysis of variance (ANOVA). The main effect of depressive tendency was observed for the low host-oriented group ($F(1, 114) = 10.07, p < .01$), thereby indicating that the low host-oriented group had a higher depressive tendency (Table 4).

Table 4

ANOVA for Host and Ethnic Orientation on Depressive Tendencies

		Ethnic (<i>M</i> (<i>SD</i>))		Host	<i>F</i>	
		Low	High		Ethnic	Interaction
Host (<i>M</i> (<i>SD</i>))	Low	1.52 (.09)	1.49 (.08)	10.07**	.94	.33
	High	1.29 (.10)	1.16 (.08)			

Note. $N = 114$ ** $p < .01$

Comparison of depressive tendencies by the four acculturation types

Following Berry's (1987) method, we divided participants into four groups using the bidimensional model of acculturation. Groups were defined by values higher (or lower) than the median. Participants with low host and ethnic tendency were assigned to the marginalization group ($n = 25$), those with high host and low ethnic scores were assigned to the assimilation group ($n = 25$), those with low host and high ethnic scores were assigned to the separation group ($n = 34$), and those with high host and ethnic scores were assigned to the integration group ($n = 32$). To account for the bias attributable to the different numbers in each group, we utilized the chi-square test. There were no differences observed in number of people by group ($\chi^2(3) = 2.28, p > .05$).

The scatterplot of the four groups of participants is shown in Figure 1. All participants chose over level 2 of ethnic-orientation, so the median score was 3.98 ($SD = .72$), which is relatively high. In contrast, host orientation was scattered more widely.

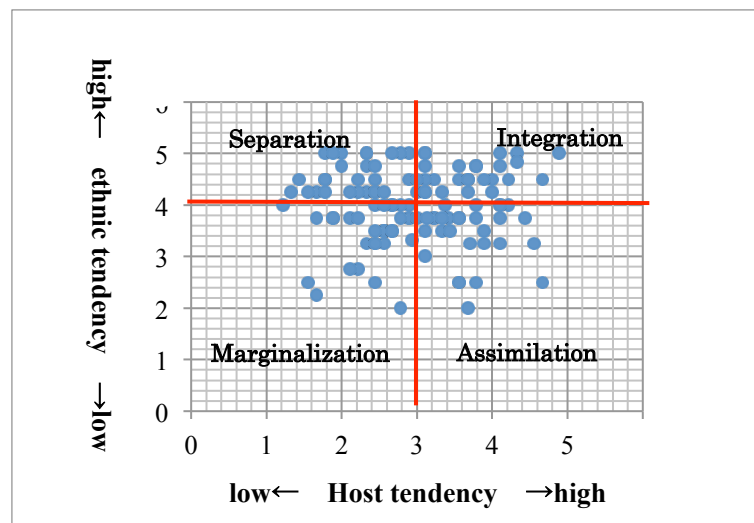


Figure 1: The scatter plot of the four groups

The attribute information for each of the four categories is shown in Table 5. There were no significant relations between the variables, except that the number of participants in the assimilation, marginalization, and separation groups differed by nationality.

Table 5
Attributes of the Four Categories

	Gender (<i>N</i> = 109)		Future residence (<i>N</i> = 109)			Nationality (<i>N</i> = 108)			Length of residence (In years; <i>N</i> = 109)		
	M	F	BR	JP	U	JP	BR	B	≤ 10	11–40	≥ 41
Assimilation	14	12	19	4	3	18	6	2	9	7	10
Integration	16	17	21	9	3	28	5	0	12	7	14
Marginalization	13	8	9	10	3	20	1	0	13	3	5
Separation	7	22	16	10	2	28	0	0	15	3	11
Total	50	59	65	33	11	94	12	2	49	20	40

Note. M = male; F = female; BR = Brazilian; JP = Japanese; U = unknown; B = both.

Multiple comparisons were analyzed using Tukey's HSD. For depressive tendency, there was a significant difference between integration and both marginalization and separation ($p < .05$). This implies that those employing integration as a strategy demonstrated the lowest depressive tendency ($F(3, 113) = 3.97$).

Table 6
One-Way ANOVA for Acculturation Attitudes on Depressive Tendencies

	Assimilation (<i>n</i> = 25)		Integration (1) (<i>n</i> = 32)		Separation (2) (<i>n</i> = 34)		Marginalization n(3) (<i>n</i> = 25)		<i>F</i>	Multiple x comparis on
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Depressive tendency	1.45	0.76	1.11 *	0.24	1.58 *	0.70	1.56*	0.65	3.97*	(1) < (2), (3)

Note. * $p < .05$; ** $p < .01$

Conclusion

In this study, only host orientation had a main effect on depressive tendency, while ethnic orientation did not. Furthermore, participants in this study were more ethnic-oriented. This may be attributed to the Japanese lifestyle built up by indigenous Japanese people. Specifically, the Japanese-Brazilian community has Japanese-style houses, restaurants, food shops, and the ability to converse in Japanese. This allows for maintaining Japanese customs and ethnic orientation. However, the key point in maintaining one's mental health was adapting to the host society and culture, not to maintain an ethnic orientation.

Our hypothesis was partially supported by the analysis of the four types of acculturation attitudes; specifically, depression in the integration type was significantly lower than it was in the other three types. In other words, participants who adopted assimilation and integration acculturation strategies—that is, those with high host orientations—did not significantly differ in depressive tendencies. There was only a significant difference in depressive tendencies between those who adopted integration strategies and those who adopted separation or marginalization strategies, both of which have low host orientation.

This finding is consistent with the findings of a study of Koreans living in Japan (Lee & Tanaka, 2012); specifically, in this study, those who reported differences between high and low host orientation was a main effect predictor of depressive tendencies. Although there are some differences between these two studies, namely between the host society (Japan vs. Brazil) and ethnicity (Japanese vs. Korean), the current study and the study by Lee and Tanaka (2012) demonstrate the role of host orientation in maintaining good mental health.

Comparative studies using the same four types of acculturation attitudes have produced different results, and often this depends on the survey used in the study. For instance, Ward and Kenny (1994) investigated New Zealand public officials who reside abroad; they concluded that individuals adopting integration had lower depressive tendencies than did those characterized as the assimilation type.

Furthermore, there were no significant differences between the other two types. In another study of Korean-Americans by Kim et al. (2007), the integration type had significantly lower depressive tendencies and anxiety symptoms than the separation type.

In the present study, the advantage of an integration acculturation type was also

confirmed in Japanese-Brazilian individuals. However, across these studies, the link between integration acculturation type and mental health characteristics differed by study. This was despite the fact that all of these studies showed the advantage of the integration acculturation type. The cause of this difference must be explored in future studies.

When considering the results of the present study it is necessary to consider the history surrounding immigrants in Brazil and the fact that Brazil is a multi-ethnic nation. Maeyama (2001) referred to the social image of Brazil as a racially democratic country, with a structure that has rapidly assimilated immigrants across cultures. In other words, Brazil seems to accept immigrants as Brazilian. Saito (1978) indicated that the Japanese community is not segregated in Brazil; however, this is not the case for Japanese immigrants in the United States. Furthermore, the Japanese community in Brazil is not closed; it is connected to all facets of Brazilian society.

In addition, Shiga (2005) interviewed 22 Japanese women in New York and indicated that their acculturation attitudes generally fell into either the integration or separation types. Moreover, participants in this study were more likely to be a part of the separation group unless they attempted to build relationships with locals. It is easy for Japanese persons to be separated in New York because they can easily obtain Japanese ingredients and information. Indeed, Japanese women living in New York could live as though they were living in Japan. Thus, they can live without connecting to the host society if desired.

In contrast, in Brazil, it is difficult to separate from the host society due to the societal structure that ties immigrants to Brazilian culture across multiple levels. Therefore, even if they chose to be separated, Japanese immigrants living in Brazil are inevitably conscious of their relationship with Brazilian society. This may play a role in worsening mental health. Alternatively, long-term Japanese residents of Brazil may have descendants who have already prospered; indeed, they may have houses and properties in Brazil. Moreover, it is not easy to travel to Japan due to the cost and to time restraints.

Thus, they may experience a strong sense of nostalgia and experience the feeling of wanting to return to Japan, but not being able to go back. This might cause an increase in depressive tendencies. Marginalization is the acculturation type that does not permit a sense of belonging to either the ethnic or the host society.

Thus, a sense of dissatisfaction may come from the feeling that they have “no place”; this may impair mental health.

The findings from this study suggest that the relationship with the host society plays an important role in mental health stability among Japanese people living in Brazil. This finding supports previous work from Western cultures. However, when the nature of acceptance into the host society is considered, unresolved questions remain regarding the previously mentioned study about Koreans in Japan (Lee & Tanaka, 2011). Indeed, Japan is considerably different than the multi-ethnic Brazil. Although Koreans in Japan are readily able to return to their country, it is unclear why the results of that study were consistent with the findings of this study.

There are two remaining themes that require further investigation. First, we must examine more detailed attributes such as age, the future plans, and length of residence with larger samples. The relation between acculturation attitudes and mental health should also be investigated by age, age when they traveled to the host country, and differences in social background. The attitudes and ideas of travelers may continue to change with time. Thus, it may be ideal to examine mental health among new Japanese immigrants simultaneously with historical populations.

Second, future studies should consider different classifications of culture as a target for acculturation. Maeyama (2001) suggested that people who live in Japanese-Brazilian communities may think about Japan as a foreign country. Furthermore, these individuals may have built a new dimension of Japan, such as a “New Japan,” which called a Nikkei colonia (community).

The social structure of Brazil for Japanese individuals is a double structure; specifically, it comprises Brazilian society and Japanese-Brazilian society. It also consists of Japanese immigrants and their descendants. In the current study, we focused on acculturation to Brazilian society and analyzed two axes of acculturation: host and ethnic. In future work, we will focus on the acculturation attitudes of the intermediate society (“Nikkei culture”) and the relations to mental health.

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Appendix A

Table 1

A Comparison of the Medians and Correlations of Each item for Ethnic and Host Tendencies

	Items	Ethnic		Host		Correlation
		Media n	SD	Media n	SD	
1	Use Japanese/Portuguese without problem	5	1.05	2	1.43	.081
2	Good understanding of the politics and society of JP/BR	4	1.09	3	1.33	.169 *
3	Often eat JP/BR meals at home	5	0.97	3	1.38	-.148
4	When I eat out, I want to eat JP meal/other meal	4	1.22	3	0.97	-.437 ***
5	Have close JP/BR friends	5	1.1	3	1.54	-.016
6	It is possible to behave naturally around JP/BR individuals	5	0.97	4	1.23	.488 ***
7	Participate positively in gatherings with JP /BR	4	1.23	3	1.33	.217 *
8	I agree with getting married to a JP/BR individual	4	1.09	4	1.07	.518 ***
9	I perceive myself as JP/BR	5	0.79	2	1.15	-.311 ***
10	It is acceptable to have JP/BR citizenship	4	1.05	2	1.4	-.300 ***
11	I introduce myself as JP/am perceived as a Nikkei by surrounding people	5	1.18	3	1.38	-.131
12	I live following the JP and Nikkei / BR life-style	4	1.2	4	1.1	-.213 *
13	I celebrate JP and Nikkei /BR national holidays and anniversaries	2	1.33	3.5	1.19	.087
Total		55.8	14.27	39.5	16.5	-.288

Note. JP = Japanese; BR = Brazilian. Eight items had significant relations with both ethnic and host items. Items 1, 5, and 13 had no relation. Ethnic items showed a high rate except item 13.

* $p < .05$, *** $p < .001$

Appendix B

Questionnaire items (No involved items were excluded)

To all Japanese and Japanese-Brazilian participants, we would like to thank you for cooperation with this questionnaire. There are no mistakes or correct answers. Please answer as you find appropriate.

Basic representation:

Japanese: Defined as Japanese individuals who have stayed in Brazil for more than 3 months. These individuals were born and grew up in Japan before moving to Brazil and were living there with Japanese nationality.

Issei (first generation): Defined as individuals who were born and grew up in Japan, but then moved to and were nationalized as Brazilian.

Japanese-Brazilian: Issei and Brazilian-born Japanese descendants.

I. Demographic characteristics: Choose one response for each question. If you choose “other” for Q6 and Q8, please complete details in the blank. You do not need to write your name.

1. Gender a) male b) female
2. Generation a) 20s b) 30s c) 40s d) 50s e) 60s f) 70s g) over 80s
3. Age at the time of travel a) under 10 b) 11–20 c) 21–30 d) 31–40 e) over 41
4. Length of residence a) 1–5 yrs. b) 6–10 yrs. c) 11–20 yrs. d) 21–30 yrs.
e) 31–40 yrs. f) 41–50 yrs. g) over 51 yrs.
5. Future plans a) Permanent resident b) Return to Japan c) Undecided
6. Nationality a) Japan b) Brazil c) Other ()
7. Marital status a) Married b) Unmarried
8. Please answer only if you are married, your partner is...
a) Japanese b) Japanese-Brazilian c) Brazilian d) other ()

II. For the following question, how much do you think each fits with you?

(5-point Likert-type scale: 1 = completely disagree, 2 = disagree, 3 = neither, 4 = agree, 5 = completely agree)

- 1) I can talk comfortably in Japanese.
- 2) Including writing and reading, I can use Portuguese comfortably.

- 3) I am familiar with the politics, and society of Japan through Japanese people and TV.
- 4) I am well informed about Brazilian politics and society through Brazilian-magazines or newspapers.
- 5) I eat Japanese food as well as Western and Chinese cuisine, like typical Japanese family.
- 6) I often eat Brazilian food at home.
- 7) I want to eat Japanese meal when I go out alone.
- 8) I want to eat a meal other than Japanese food when I go out alone.
- 9) I have close Japanese and Nikkei friends.
- 10) I have close Brazilian friends.
- 11) It is possible to behave naturally when I am with Japanese and Nikkei people.
- 12) It is possible to behave naturally when I am with Brazilian people.
- 13) I participate positively in gatherings with Japanese and Nikkei people.
- 14) I participate positively in gatherings with Brazilian people.
- 15) Marriage between Japanese and Nikkei people is acceptable to me.
- 16) Marriage between Japanese/Nikkei and Brazilian people is acceptable to me.
- 17) I feel that I am Japanese.
- 18) I feel that I am almost no different from Brazilians.
- 19) Retaining one's Japanese citizenship is desirable
- 20) I don't mind obtaining Brazilian citizenship because I live in Brazil.
- 21) I tell surrounding people that I am a Japanese individual who was born and who grew up in Japan.
- 22) I think that I am indistinguishable from Brazilian-born Japanese-Brazilians to surrounding people.
- 23) I live following the Japanese life style.
- 24) I have adjusted to the Brazilian lifestyles.
- 25) I celebrate Japanese national holidays and anniversaries.
- 26) I celebrate Brazilian national holidays and anniversaries.
- 39) My life is a quite miserable.
- 40) Sometimes, I think life has no meaning.
- 41) I often feel sad without reason.
- 42) Sometimes, I feel that there is no hope and don't want to do anything.
- 43) I do not have fun or hope.
- 44) I often feel depressed without reason.
- 45) Sometimes, I feel depressed and want to be in bed all day long.