



The Moderating Role of Psychological Essentialism in the Link between Threat to Symbolic Purity and Exclusionary Attitudes toward Foreigners



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Purity is a component of morality, which relates to perceptions of cleanliness (i.e., physical aspect) and divinity (i.e., symbolic aspect). Purity violations threaten one's traditional values and beliefs and motivate people to recover purity by avoiding something atypical. Like the physical aspect of purity, violating the symbolic aspect of purity can lead people to recover the purity status by excluding out-group members. However, this link is possibly influenced by psychological essentialism, which is the degree of one's perceptions about a clearly built boundary between social categories (e.g., men and women). Therefore, this study investigated the moderating role of essentialist beliefs in the relationship between purity-related morality in a symbolic sense and exclusionary attitudes toward foreigners. Two experimental studies were conducted in Japan, where immigrants play an essential role in securing the working-age population because of its recent "super-aged" situation. It was predicted that only lower essentialists would be sensitive to the threat, but not higher essentialists. The results did not support the hypothesis in the expected direction, but some valuable implications and suggestions for future research were made. In particular, this study revealed that symbolic purity may play a role in intergroup relations.

Key words: morality, culture, psychological essentialism, purity, exclusion

Introduction

The recent coronavirus disease (COVID-19) pandemic resulted in people who contracted the virus experiencing physical symptoms,

such as fever and coughing. Foreigners are sometimes regarded as a signal of the physical threat, as they are often the source of viruses and, in some of the worst cases, become victims of hate crimes (Shimkhada & Ponce, 2022). As the presence of foreigners reminds

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in-group members of unknown pathogens, in-group members often feel threatened by and avoid contact with foreigners. Disease avoidance mechanisms explain intergroup attitudes (Faulkner et al., 2004). This is because foreigners have historically been associated with disease, as they have often been blamed for causing epidemics. Therefore, the association between foreigners and diseases often leads people to be xenophobic. During the COVID-19 pandemic, studies reported increased negative attitudes toward foreigners (Sorokowski et al., 2020).

As Japan is considered a “super-aged society” (Iijima et al., 2021), it is beginning to turn to foreigners to bolster its labor force. Indeed, Japan’s position on and acceptance of immigrants has recently garnered considerable attention (Ministry of Foreign Affairs of Japan, 2023; The Japan Times, 2023). Although the number of foreigners working in Japan has increased consistently (Ministry of Health, Labour, and Welfare, 2023; Nakata, 2017), they are occasionally treated unfairly and feel discriminated against (Lee, 2018; Ministry of Justice, 2017; see also Liu-Farrer, 2024). Empirical studies exploring anti-foreigner attitudes held by Japanese people have focused on the pathogen-avoidance system (Tado’oka et al., 2023).

Global psychosocial research indicates that anti-immigrant/anti-foreigner attitudes are related to individuals’ perceptions of the uncleanliness of immigrants (Grigoreva & Rottman, 2022). Faulkner et al. (2004) showed that self-reported and manipulated vulnerability to disease predicts prejudice toward foreign outgroups, which can be considered an adaptive strategy to avoid potentially harmful pathogens. Huang et al. (2011) showed that vaccinated participants were likely to have fewer stereotypes when exposed to flu priming. These findings suggest that in-group members are motivated

to restore cleanliness when in-group cleanliness is threatened. As a result, they exclude out-group members (i.e., foreigners) because these members signify pathogens that may harm in-group members.

These exclusionary attitudes also make sense from an evolutionary perspective. Human beings are considered to have evolved a behavioral immune system (BIS), a mechanism that motivates them to avoid out-group members (Schaller, 2006). According to this theory, specific stimuli, such as others’ atypical or unfamiliar features (out-group members on many occasions), provoke negative cognitions (e.g., automatic inferences about disease-related features) and emotions (e.g., disgust). These cognitive and emotional responses lead to the avoidance of those stimuli and, consequently, the social exclusion of those possessing the stimuli. A stimuli’s physical traits that imply the presence of an infectious disease (e.g., rotten food-like smell, wound) cause avoidance because avoidance is an effective strategy for not contracting diseases (Kramer & Bressan, 2021). The effect of non-infectious disease-related and “invisible” traits is unclear. Dawydiak et al. (2020) found a positive correlation between sensitivity to disgust and the stigmatization of individuals with mental health conditions (i.e., invisible and atypical cues). Atypical traits that lead in-group members to avoidance can take symbolic forms that are socially learned. Indeed, Kusche and Barker (2019) argued that the BIS is not triggered by potentially disgusting cues, such as the presence of foreigners, but is socially learned so one can identify atypical cues in one’s culture. Targets’ “atypical” features that evoke disgust can involve symbolic uncleanliness, such as heterodoxical religious beliefs (Erickson et al., 2022; Litman et al., 2019). Thus, an in-group member socially acquires values about what is symbolically clean or dirty through interactions with other

in-group members because in-group symbolic cleanliness can be included in an inclusive set of values about cleanliness and uncleanness within a group (Aznar et al., 2023; Rottman & Kelemen, 2012).

Within Haidt's moral foundations theory (Haidt, 2012), this set of values is called the purity foundation. The accumulated literature on the purity foundation demonstrates that violations of this foundation are associated with disgust. Disgust sensitivity is related to purity-related moral judgments rather than other moral domains (Wagemans et al., 2018). For example, people from disgust-eliciting groups are judged harshly for behaviors violating the purity foundation (Masicampo et al., 2014). This foundation is represented by physical cleanliness and symbolic divinity, which are used as the standards for moral judgment (Graham & Haidt, 2010; Preston & Ritter, 2012). While the physical cleanliness of the purity foundation is something people can detect by how something looks, the symbolic aspect of this foundation is the value of respect for the divine, which is intangible.

Based on the assumption that the opposite of cleanliness is dirtiness (which evokes disgust), past research has mainly investigated the physical aspects of the purity foundation and found that physically dirty out-group members are less trusted and preferred (Grigoreva & Rottman, 2022; Masicampo et al., 2014; Rottman et al., 2020). However, experimental research on the symbolic aspect of the purity foundation is lacking in moral psychology (Gray et al., 2022; Zhong & House, 2014). Symbolic purity involves intangible values, such as religion and tradition; sensitivity to symbolic purity is vital to keep members to the values underlying their culture. Regarding the physical aspect, the psychological motivation to recover purity may cause individuals to selectively adhere to the

ingroup and exclude foreign out-group members (Huang et al., 2011; Masicampo et al., 2014). Applying this effect of the physical aspect of the purity foundation to exclusionary attitudes toward foreigners, observing or experiencing a violation of the symbolic aspect would cause individuals distress because a violation of the symbolic aspect could mean that a target is atypical even when this is not detected physically. That is, the signal (i.e., a violation of the symbolic aspect) can activate one's motivation to exclude out-group members. In this context, symbolic impurity works as a symbolic threat. Symbolic threats, which are considered threats to one's beliefs, values, morality, ideas, religion, and worldviews (Ponce de Leon et al., 2022), are powerful factors that influence intergroup bias (see Riek et al., 2006 for a review). They have been found to be associated with negative attitudes toward out-group members (e.g., Landabur et al., 2024; Martínez et al., 2022; Stephan et al., 2005). However, few studies have purposefully specified the concepts covered in the symbolic threats they have measured, which may blur the interpretation of their results. In this study, the symbolic threat is set as symbolic impurity. To test the abovementioned premise, the idea that violating an individual's symbolic purity signals something atypical, the link between symbolic impurity and exclusionary attitudes toward foreigners should be investigated.

However, the relationship between a symbolic purity violation and exclusionary attitudes toward foreigners is possibly influenced by individual differences. Psychological essentialism could be a factor that contributes to the relationship because the concept implies one's perceptions of exclusionary frameworks. Psychological essentialism relates to the attribution of social categories to some innate "essence" (Haslam et al., 2000). This "essence" is believed to be innate and unchangeable. Psy-

chological essentialism is the tendency to regard certain social categories as inherent and permanent. In other words, psychological essentialism means making a dichotomous and immutable boundary between social categories (e.g., between men and women) (Roberts et al., 2017). For example, saying “Japanese people must be punctual” is an example of essentialist beliefs. Research has found a positive association between psychological essentialism and increased stereotyping and out-group discrimination (Zagrean et al., 2024). The perceptions of those who are high in psychological essentialism lead them to see their ingroup (“us”) and outgroup (“them”) as mutually exclusive (Moftizadeh et al., 2020). Tsukamoto and Fiske (2018) showed that manipulating immigrant stereotypes did not affect individuals with strong essentialist beliefs. In their Study 3, individuals with weaker essentialist beliefs were found to be more vulnerable to the impact of perceived immigrant threat to their ingroup (i.e., Americans). This indicates that essentialist beliefs manifest as barriers against external threats. High essentialists have robust tendencies against external threats because they are motivated to maintain the status quo (Hussak & Cimpian, 2015), which is related to political conservatism. Indirect evidence shows that the manipulation of essentialist levels held by conservatives failed, possibly because they had a too strong essentialist belief to be affected by experimental materials (Hoyt et al., 2019). Thus, manipulating threats to purity may influence only those who hold non-essentialists’ exclusionary attitudes, not those who hold strong essentialist beliefs.

Therefore, this study aimed to test the moderating role of essentialist beliefs in the relationship between purity and exclusionary attitudes. It was predicted that participants, who were low in psychological essentialism, would exhibit significantly higher levels of exclusion-

ary attitudes toward foreigners in an impurity condition than in a neutral condition. However, no difference would be observed for those high in psychological essentialism. In other words, the boundary between their ingroup and the foreigners (i.e., outgroup) perceived by people with high psychological essentialism is too strong to be affected by the presence of a threat.

This study is novel because it empirically investigated the moderating role of psychological essentialism in the relationship between symbolic purity as a symbolic threat and attitudes against out-group members. Even when the violation of symbolic purity is provided, individual differences in the perceptions of Japaneseness may influence the acceptance of out-group members. Thus, this study is valuable to existing research because it can help suggest practical approaches to sensitive and real-life issues (e.g., diversity and inclusion) among Japanese people. This study’s findings could give clues regarding important issues related to stereotypes and discrimination that may hinder the development of a diverse society.

Study 1

Study 1 was conducted with a university student sample. The exclusionary attitudes toward foreigners of those in the symbolic impurity and neutral conditions were compared, considering the moderating effect of psychological essentialism. The materials, including the scales and scenarios, and data for Studies 1 and 2 are available online at <https://osf.io/thu2g/>.

Participants

A power analysis with G*Power indicated a required sample size of 138 (effect size = 0.15, $\alpha = 0.05$). We aimed to recruit at least 150

participants to allow for exclusions. The final sample consisted of 166 (57 men, 107 women, and two others) Japanese undergraduates with a mean age of 18.25 years enrolled in large classes at a large Japanese private university ($SD = 0.99$). Participation was voluntary and no financial compensation was given to the participants. All the procedures of this study were approved by the Research Ethics Committee of Toyo University (P230005). Participants were excluded if 1) any procedural problems occurred during the experiment, 2) they answered the attention check items incorrectly, 3) they did not follow the instructions, or 4) they were not of Japanese nationality.

Measures

Psychological Essentialism

We used the five items by Pherson et al. (2009) to measure psychological essentialism (PE). These items were translated into Japanese, and the word "English" in the original measure was changed to "Japanese." The five items are as follows: "From our ancestry, something deep in the heart clearly distinguishes the Japanese from other nations," "It is our Japanese blood that basically makes us who we are throughout our lives," "Something in our blood has defined the Japanese character throughout history," "The Japaneseness in our blood makes us prefer to stick together," and "Japaneseness isn't in the blood" (reverse coded). Participants rated the items on a Likert scale ranging from 1 (not at all) to 9 (strongly agree). The Cronbach's alpha of the scores of the five items was .72.

Exclusionary Attitudes toward Foreigners

We used five items to measure exclusionary attitudes on a Likert scale ranging from 1 (not

at all) to 7 (strongly agree): 1) an item on participants' degree of anxiety about immigrants coming to Japan as used in Kitamura et al. (2020); 2) an item on foreigners' long-term stay in Japan as used in Mifune and Yokota (2018) (Study 3); and 3) three items on accepting attitudes toward foreigners residing in Japan to work, seek asylum, or marry a Japanese individual, based on Mifune and Yokota (2018) and Yamagata et al. (2021). Because attitudes toward foreigners intending to stay in Japan long-term were of interest in this study, the items concerning such foreigners (i.e., not those who come to Japan for tourism) were selected from items used in previous research. As these items were not from one scale, they were analyzed independently.

Experimental Manipulations

There were two experimental conditions: an impurity and a neutral condition. Participants were randomly assigned to either condition. Because there has been no research in which manipulation was performed to explore symbolic purity, we developed an impurity scenario. The scenario described a situation in which the participant and a friend went for a New Year's visit to a Japanese Shinto shrine, which is a popular New Year destination for many Japanese people. In this scenario, the friend violated most shrine etiquette (e.g., not washing hands or being noisy). The scenario read:

You and your friend planned to go out for the 2023 New Year. Upon meeting up with your friend, you decided to visit a Japanese Shinto shrine. After googling a Shinto shrine nearby, you went there. At the shrine, your friend did not bow before crossing the entrance gate. Too busy talking, your friend forgot to wash their hands and mouth. Talking loudly, your friend walked in the center of the approach

to the worship hall. At the worship hall, your friend did not toss any coins and shook a rope to ring a bell too many times. Your friend did not bow or join their hands in prayer in front of their body but only made wishes. After the New Year's visit, you chatted with your friend over coffee at a café and said goodbye. (244 characters in Japanese)

In contrast, the neutral scenario described a situation in which the participant and friend went to a movie. The scenario read:

You and your friend planned to go out for the 2023 New Year. Upon meeting up with your friend, you decided to watch a movie. After googling a movie theater nearby, you went there. Because there was a movie playing that looked interesting to both of you, you both purchased tickets and drinks and went inside the theater. Before the movie started, you listened to your friend talking about their current situation. Your friend talked about the events they experienced recently and how they felt about those events. After watching the movie, you chatted over coffee with your friend at a café and said goodbye. (243 characters in Japanese)

Manipulation Check

To check if the manipulation was successful, participants were asked to rate their impressions about the scenarios they read through 23 items: 12 purity-related ones (e.g., "pure," "clean," "elegant") and 11 impurity-related ones (e.g., "dirty," "infectious," "blasphemy"). Participants rated the items on a Likert scale from 1 (not at all) to 7 (strongly agree). Administering the manipulation check items immediately after the impurity or neutral scenarios could lead participants to properly attribute their impressions to the scenarios and may not influence the dependent variables. Therefore, the manipulation check items were presented after the dependent variables.

Procedure

To prevent participants from discovering the study's aim, we first asked them to respond solely to the items on individual differences (i.e., psychological essentialism) and their demographic information. One week later, we presented them with one of the scenarios and the dependent variables. The experimenters provided participants with the URL and QR code of the web survey, and participants completed the survey on their laptops or smartphones. Upon being presented with the scenarios, following the procedure in Zhong et al. (2010) (Study 2), participants were asked to read the scenario and type all the sentences into a blank box to ensure they had read the scenario carefully.

Results and Discussion

Manipulation Check

Welch's *t*-tests revealed significant differences between the impurity ($n = 84$, $M = 3.39$, $SD = 0.60$) and neutral ($n = 82$, $M = 1.43$, $SD = 0.53$) conditions ($t[162.71] = -22.40$, $p < 0.01$) for the impurity-related manipulation check items. For the purity-related manipulation check items, Welch's *t*-test results were also significant between the impurity ($M = 1.92$, $SD = 0.63$) and neutral ($M = 2.62$, $SD = 0.73$) conditions ($t[159.24] = 6.70$, $p < 0.01$). Therefore, the manipulation was successful. The descriptive variables and their correlations are presented in Table 1.

Hypothesis Testing: Effect of Essentialist Beliefs

Multiple regression analyses were performed with the five dependent variables of attitudes toward foreigners (Table 2). The predictors were

Table 1 *Correlation matrix for psychological essentialism (PE) and the dependent variables in Study 1 (n = 166)*

Variable (M, SD)	PE	1	2	3	4
PE (4.27, 1.54)					
1) Anxiety about immigrants coming to Japan (3.78, 1.68)	-0.10				
2) Only Japanese people should live in Japan (1.95, 1.19)	0.08	0.50**			
3) Accepting attitudes toward foreigners staying in Japan for work (4.81, 1.51)	0.05	-0.40**	-0.32**		
4) Accepting attitudes toward foreigners seeking asylum (4.19, 1.44)	0.08	-0.23**	-0.12	0.27**	
5) Accepting attitudes toward foreigners staying in Japan to marry (6.36, 0.88)	-0.06	-0.10	-0.35**	0.27**	0.18*

Note. The correlations are irrespective of conditions.

** $p < 0.01$, * $p < 0.05$.

Table 2 *Results of the multiple regression analyses for the variables predicting each dependent variable in Study 1*

Dependent Variable	Predictor	β	t	95% CI	R^2
Anxiety about immigrants coming to Japan	Condition	0.03	0.40	[-.12, .19]	0.01
	PE	-0.11	-1.37	[-.26, .05]	
	Condition*PE	0.03	0.37	[-.13, .19]	
Only Japanese should live in Japan	Condition	-0.005	-0.07	[-.16, .15]	0.007
	PE	0.08	1.06	[-.07, .24]	
	Condition*PE	-0.03	-0.43	[-.19, .12]	
Accepting attitudes toward foreigners staying in Japan for work	Condition	0.05	0.58	[-.11, .20]	0.01
	PE	0.06	0.73	[-.10, .21]	
	Condition*PE	-0.08	-1.01	[-.24, .08]	
Accepting attitudes toward foreigners seeking asylum	Condition	-0.01	-0.08	[-.16, .15]	0.01
	PE	0.07	0.84	[-.09, .22]	
	Condition*PE	0.08	0.95	[-.08, .23]	
Accepting attitudes toward foreigners staying in Japan to marry	Condition	-0.05	-0.58	[-.20, .11]	0.006
	PE	-0.06	-0.79	[-.22, .09]	
	Condition*PE	0.02	0.21	[-.14, .17]	

Note. Abbreviations: CI, confidence interval; PE, psychological essentialism. Higher scores indicate greater affirmative attitudes for each of the dependent variables.

the condition, average score for the PE items, and interaction between the condition and average PE score. No significant effects were observed.

This study's hypothesis was not supported, despite successful manipulation. Regarding the limitations of Study 1, we used a sample composed only of undergraduate students, most of whom were first-year students. They may not have sufficient knowledge of the political and social issues regarding incoming foreigners. Uehara and Tsutsui (2021) found that Japanese university students did not have accurate knowledge of refugees in Japan and were not interested in refugees' situations. Indeed, Schemer (2012) pointed out that knowledge may affect stereotypic attitudes toward racial minorities based on stereotypes and persuasion theories. Study 2 included a more diverse sample, which is more appropriate for investigating our hypothesis than a sample of solely university students.

Study 2

Study 2 was conducted with a more general sample using a crowdsourcing service. It tested the same hypothesis as Study 1.

Participants

As described in Study 1, we aimed for at least 150 participants. Separate surveys over one week were administered, as in Study 1. To prevent participants from detecting the study's purpose, we first recruited a sample for the items regarding individual differences. A total of 350 participants were recruited in Japan through an internet crowdsourcing service called Freeasy. Then, only those who correctly responded to the attention check items ($N = 308$) were invited to the next survey one week later, which comprised the scenario and dependent variables. In Study 2, each participant received 10 yen for each completed

survey. Of the original sample of 308 participants who completed the first survey, 130 completed the second. Data collection was stopped two weeks after the second survey was administered, per the crowdsourcing service's recruitment period. The final sample, consisting of 130 participants, was used for data analysis (67 men and 63 women). Their mean age was 41.30 years ($SD = 12.93$). The exclusion criteria were the same as in Study 1.

Measures and Procedures

All the measures and procedures used in Study 2 were the same as in Study 1. Cronbach's alpha of the PE items' scores was .70.

Results and Discussion

Manipulation Check

Welch's t -tests revealed significant differences between the impurity ($n = 53$, $M = 3.22$, $SD = 0.63$) and neutral ($n = 77$, $M = 1.67$, $SD = 0.73$) conditions ($t[121.01] = -12.95$, $p < 0.01$) for the impurity-related manipulation check items. For the purity-related manipulation check items, Welch's t -test results were also significant between the impurity ($M = 2.27$, $SD = 0.71$) and neutral ($M = 2.65$, $SD = 0.75$) conditions ($t[116.34] = 2.92$, $p < 0.01$). Therefore, the manipulation was successful. The descriptive variables and their correlations are presented in Table 3.

Hypothesis Testing: Effect of Essentialist Beliefs

Multiple regression analyses were performed with the five dependent variables of attitudes toward foreigners (Table 4). The predictors were the condition, average score of the PE items, and interaction between the condition and average PE score.

Table 3 Correlation matrix for psychological essentialism (PE) and the dependent variables in Study 2 ($n = 130$)

Variable (M, SD)	PE	1	2	3	4
PE (4.38, 1.24)					
1) Anxiety about immigrants coming to Japan (4.31, 1.57)	0.23**				
2) Only Japanese people should live in Japan (3.02, 1.53)	0.38**	0.47**			
3) Accepting attitudes toward foreigners staying in Japan for work (4.17, 1.29)	-0.21*	-0.47**	-0.56**		
4) Accepting attitudes toward foreigners seeking asylum (3.72, 1.40)	-0.15	-0.31**	-0.26**	0.50**	
5) Accepting attitudes toward foreigners staying in Japan to marry (5.09, 1.41)	-0.22*	-0.23**	-0.42**	0.56**	0.44**

Note. The correlations are irrespective of conditions.

** $p < 0.01$, * $p < 0.05$.

Table 4 Results of the multiple regression analyses for the variables predicting each dependent variable in Study 2

Dependent Variable	Predictor	β	t	95% CI	R^2
Anxiety about immigrants coming to Japan	Condition	-0.12	-1.38	[-.29, .05]	0.07*
	PE	0.21*	2.45	[.04, .39]	
	Condition*PE	-0.08	-0.97	[-.25, .09]	
Only Japanese should live in Japan	Condition	-0.15	-1.81	[-.31, .01]	0.18**
	PE	0.36**	4.36	[.20, .52]	
	Condition*PE	-0.14	-1.67	[-.30, .03]	
Accepting attitudes toward foreigners staying in Japan for work	Condition	0.20*	2.37	[.03, .37]	0.12**
	PE	-0.18*	-2.07	[-.35, .01]	
	Condition*PE	0.20**	2.41	[.04, .37]	
Accepting attitudes toward foreigners seeking asylum	Condition	0.26**	3.03	[.09, .43]	0.09**
	PE	-0.10	-1.16	[-.27, .07]	
	Condition*PE	0.04	0.47	[-.13, .21]	
Accepting attitudes toward foreigners staying in Japan to marry	Condition	0.34**	4.18	[.18, .50]	0.19**
	PE	-0.17*	-2.08	[-.33, .01]	
	Condition*PE	0.19*	2.35	[.03, .35]	

Note. Abbreviations: CI, confidence interval; PE, psychological essentialism. Higher scores indicate greater affirmative attitudes for each dependent variable.

** $p < .01$, * $p < .05$.

A significant association was observed for all PE items except accepting attitudes toward foreigners seeking asylum. A significant main effect of the condition for the three items accepting attitudes toward foreigners staying in Japan to work, seek asylum, and marry a Japanese individual was found (i.e., items 3–5). The differences in those effects may be rooted in the characteristics of the items. That is, items 1 and 2 concern foreigners whose intentions and reasons for entering Japan are unknown, while items 3–5 involve the acculturation of foreigners who are expected to stay in Japan long-term for specific reasons.

This study's hypothesis (i.e., the interaction between the condition and PE) was not supported in the expected direction. The items on accepting attitudes toward foreigners staying in Japan to work or marry showed a significant effect but in the opposite direction to the hypothesis. For each significant interaction, simple slope tests revealed the same pattern. That is, participants who are higher in PE indicated significantly higher levels of accepting attitudes toward foreigners in the impurity condition than in the neutral condition. No difference was observed for participants with lower levels of PE. As mentioned above, the items where the interaction effect occurred involve the acculturation of foreigners (i.e., encouraging someone from another culture to adopt the customs and values of Japan). High essentialists may selectively change their attitudes toward out-group members when a threat is presented, depending on the characteristics of the out-group members (e.g., reasons, length of stay).

General Discussion

This study aimed to test the moderating role of essentialist beliefs in the relationship between purity and exclusionary attitudes toward foreigners. Although the hypothesis was

not supported in Study 1 with a university student sample, it was partly supported in Study 2 with an online sample. These findings have several implications. First, the symbolic and physical aspects of the purity foundation may invoke different interpretations. Research has shown that physical aspects of the foundation (e.g., an open sore on the skin) signify pathogens (van Leeuwen & Petersen, 2018), which are threats to host communities. However, people may interpret symbolic aspects, which were about different religious beliefs in this study, as a signal of diversity, which is not a threat. Though it is indirect evidence, the association between the experience of studying abroad and essentialism was shown by Xu et al. (2021), who revealed the possibility that essentialism may be shaped by one's own culture and international experience. Xu et al. (2021) found that having been an international student (exposure to diverse environments) influenced essentialist thinking. Thus, the symbolic aspect of the purity foundation presented as a threat in this study may have served as a signal for diversity and it has a unique effect on essentialism. Including diversity-related variables can enrich our understanding of the role of psychological essentialism in intergroup relations.

Regarding differences in perceiving threats, Martínez et al. (2022) found that symbolic threats (i.e., different values) more strongly predict hate toward outgroups than realistic threats (i.e., dangers toward one's safety), suggesting that realistic (i.e., physical) and symbolic threats can function differently. The purity foundation has been found to play an important role in intergroup and interpersonal communication (Koleva et al., 2012; Vezzali et al., 2017). For example, Dehghani et al. (2016) investigated the role of the purity foundation on Twitter (now X) and found that similarities and differences regarding the foundation regulate interpersonal social dis-

tancing. However, the identification and clear differentiation of the symbolic aspect from the physical in the purity foundation have been controversial (Davis et al., 2017; Gray et al., 2022). Thus, the purity foundation should be utilized in research with caution. A clear understanding of the foundation would help future research on the relationships between different groups.

Second, the opposite hypothesis could be developed. In this study, we attempted to test whether the perceptions of “blood” in their ethnic ingroup influenced the negative attitudes toward foreigners based on the findings of Tsukamoto and Fiske (2018). However, the results of Study 2, that participants who were higher in PE had significantly more accepting attitudes toward foreigners in the impurity than in the neutral condition, could be explained by the possible protective role of psychological essentialism (cf. Plante et al., 2014; Soyulu Yalcinkaya et al., 2017; Zagefka et al., 2012). Thus, future research should scrutinize other possible explanations using relevant variables.

Third, it is important to choose appropriate research samples. Study 1 used a student sample, and Study 2 recruited participants using crowdsourcing services (i.e., the general population). Online psychological research has become dramatically more popular, partly because of the COVID-19 pandemic, but some researchers have warned that online samples may not be reliable (Webb & Tangney, 2022). This study may provide insights into selecting an appropriate sample. The results of the multiple regression analyses in Study 1 show no significant effects; that may be because participants did not have sufficient knowledge on immigrants in Japan to form impressions about them or think about immigration issues critically. Biek et al. (1996) found that relevant knowledge on a specific issue motivated people to explain their viewpoints, whereas less

knowledgeable people did not show either a biased or an objectively critical processing orientation. As the topic of immigrants may require some degree of knowledge (e.g., the sociopolitical issues surrounding immigrants, the number of immigrants in Japan), researchers should target appropriate populations. Pre-survey questions could be used to filter out participants who are not knowledgeable on the subject. As the effects of the COVID-19 pandemic have gradually eased, researchers can more freely choose suitable samples for their research.

Fourth, related to the first point, different types of essentialism may affect individuals’ attitudes toward foreigners. In addition to psychological essentialism, as it relates to nationality, moral essentialism could also be explored (Heiphetz, 2019). Similar to psychological essentialism, moral essentialism posits that one’s morality is innate and unchangeable and that it can be reduced to an “essence.” This study focused on ethnicity through psychological essentialism, which may not have been stimulated by the violation of symbolic purity because the violation also relates to morality. Further, different types of essentialism may affect individuals’ attitudes toward foreigners in different contexts differentially. Our results show the main effects of psychological essentialism on participants’ attitudes toward foreigners entering Japan, while the main effects of the condition and interactions between the condition and psychological essentialism were observed for attitudes toward foreigners who are expected to stay long-term in Japan. Research has measured attitudes toward immigrants and foreigners through indicators such as social distancing, intergroup bias, support for discriminatory/multicultural policies, and a “feelings thermometer” (which measures the perceived warmth of a target) (Araújo et al., 2020; Clifford et al., 2023; Kende et al., 2022; Leviston

et al., 2021; Tsukamoto & Fiske, 2018; Zingora et al., 2022). Attitudes and behavior toward foreigners (including immigrants) are multifaceted and could mean different things to different participants, which causes variations in the research findings.

Fifth, some unknown factors may be involved in the relationship between purity and exclusionary attitudes toward foreigners. Attitudes toward immigrants and ethnocentrism are associated with narcissism and nationalism (Bizumic & Duckitt, 2012; Cichocka et al., 2022). As accepting immigrants implies changes in the welfare system, it is reasonable that political ideology and related concepts (e.g., right-wing authoritarianism, social dominance orientation) are associated with attitudes toward immigrants (Araújo et al., 2020; Dhont et al., 2016; Hodson & Costello, 2007; Pinto et al., 2020; Tsukamoto & Fiske, 2018). Another possible variable is blood relationism. This concept, proposed by Kitamura (2019), is defined as the subjective avoidance of mixed-blood persons and worship of a pure bloodline, which is based on psychological essentialism. Although there is little empirical research on blood relationism, this concept may be a promising factor in investigating the perceptions of in-group and out-group members among Japanese people because Japan has traditionally emphasized “blood” and employs the so-called “jus sanguinis (right of blood)” system to confer citizenship (Endo, 2014). Emotion, especially disgust, is certainly an important factor. As mentioned earlier, disgust is associated with attitudes toward out-group members (Boggs et al., 2022; Clifford et al., 2023). Similar emotions, such as anger and hate, should also be considered in future research (Grigoreva & Rottman, 2022; Martínez et al., 2022).

Related to the above point, exclusionary attitudes could have been measured more coherently. Because this study aimed to cap-

ture attitudes toward foreigners who intend to stay in Japan long-term, the items used to measure them were selected from multiple studies. However, the first two items were conceptually different from the other three; the first item measured an emotion (i.e., anxiety), the second one concerned one’s preferred distance from foreigners (i.e., not especially immigrants), and the other three items implied the process of immigrants’ adaptation to the Japanese culture. Those items may represent different factors constituting intergroup attitudes, which could explain why they work differently. Further, using a single item to measure the same concept, such as the first and second items, leaves room for discussion on its precision as a measurement. Thus, the measurements could have been more sophisticated, and existing reliable scales whose items coherently measure a specific concept could have been used (e.g., Kashihara & Shimizu, 2022; Mifune & Yokota, 2018; Stephan et al., 2005).

Sixth, cultural differences may influence intergroup relations. For example, the relationship between the fear of catching Ebola and xenophobic attitudes was prominent among people with high individualism and low collectivism (Kim et al., 2016). Machery et al. (2023) conducted cross-cultural research with participants from 10 countries (Japan not included) and found cultural variations and possible malleability (see also Xu et al. [2023] for the differences between Chinese and Americans). Regarding morality, Chinese people use the term “immoral” for uncivilized behavior, while Westerners reserve the term for harmful behavior (Buchtel et al., 2015). While some cross-cultural studies explore essentialist thinking, few encompass the wider Japanese population. In most cases, the participants in previous research conducted in Japan were college students (Karasawa et al., 2019; Kondo & Mukai, 2017; Tsukamoto &

Karasawa, 2015). Thus, this study contributes in the sense that it recruited a non-college student population.

As Japanese people tend to value traditional concepts because of their collectivistic characteristics, which can affect their morality (Kitamura & Matsuo, 2021), the symbolic aspect should be scrutinized independent of the physical aspect. An independent investigation of the symbolic aspect could be conducted in other cultures, although some modifications would be needed to customize the scenario to suit each culture because the purity foundation seems to have a complex mechanism. Preston and Ritter (2012) argued that a mutual association between religiousness and cleanliness exists in one's perceptions of purity (Litman et al., 2019). Some researchers state that this foundation is associated with aesthetic beauty and physical attractiveness (Klebl et al., 2023). Gray et al. (2022) criticized the concept of purity and described it as problematic. Their understanding of the concept included sexual purity, natural order, physical cleanliness, and divinity (Davis et al., 2017).

Limitations and Future Directions

The current study has some limitations that provide scope for future research. A major limitation may be that the manipulation did not signify a symbolic purity threat but it signified more of a diversity. The symbolic purity violation scenario in this study did not provide participants with any salient threat. Threats are often manipulated by the (anticipation of the) direct delivery of unpleasant stimuli (Lojowska et al., 2023); direct wordings in the scenarios (e.g., "because more and more companies are hiring possible employees with diverse backgrounds, international students can represent a threat to domestic students in terms of obtaining jobs"; Park, 2021); di-

rect wording in the measures (e.g., the extent to which people believe that immigrants are the greatest threat to world peace (Araújo et al., 2020; see also Tsukamoto & Fiske, 2018); or implying the deprivation of one's resources (imaginary competition with others over rewards; Martínez et al., 2022). To interpret something as a threat, one needs to perceive oneself as potentially at risk of harm. This study's presented scenario did not imply any harm brought about by foreigners. Thus, the study's experiment could have represented other concepts, such as "immorality (moral violation)" and "internationality." Threats to the physical aspect of the purity foundation are easier to elicit, for example, eliciting disgust through any physical action (e.g., seeing someone cough). In contrast, presenting a symbolic violation is trickier and could require a more orchestrated setting. From this, we can deduce that researchers should be cautious about the threat they deliver and whether the said threat relates to the construct they would like to explore.

Despite the limitations above, this study is a meaningful attempt to understand how attitudes toward foreigners are affected by individual differences in the perception of nationality in the face of symbolic purity threat. This research topic can be extended to broader issues. For example, exclusionary attitudes toward out-group members can contribute to the accumulation of research on stereotypes and discrimination. This study provides evidence that a violation of shared values may affect in-group members' degree of acceptance of out-group members. Moral psychology could also build on the concepts explored in this study and the psychological process involving the symbolic purity foundation and acceptance of foreign people or behaviors. For instance, Sachdeva et al. (2019) found that a message based on the purity foundation led people to engage in pro-en-

vironmental behavior. Importantly, although the effects of ethnic diversity have recently been investigated in Western cultures (e.g., Huynh & Grossmann, 2021), research has yet to catch up among non-Western cultures. For example, Martinez et al. (2021) showed that reading stories about immigrants influences individuals' cognitive representations of them and attitudes toward immigration policies. Likewise, ethnically diverse environments in school were found to be related to more accepting attitudes toward refugee students among adolescents (Boda et al., 2023). Especially in Japan, which is now a "super-aged society," economic and labor reliance on foreigners is inevitable (Iijima et al., 2021). Focusing on morality, research not only on one's basic psychological processes reflected by stereotypes and discrimination but also on more practical interventions to tap into diversity and inclusion would contribute to future society. Overall, this study's results extend morality and intergroup research.

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