DO JAPANESE BIRDS OF A FEATHER FLOCK TOGETHER?

CULTURAL VARIATION IN THE SIMILARITY-ATTRACTION EFFECT

by

JULIE-ANN B. FOSTER

B.A. The University of British Columbia, 1991

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in

THE FACULTY OF GRADUATE STUDIES

(Department of Psychology)

We accept this thesis as conforming
to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA

October 2004

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Name of Author (please print)  
Julie-Ann B. Foster

Date (dd/mm/yyyy)  
04/10/2004

Title of Thesis:  

Degree:  
Master of Arts

Year:  
2004

Department of  
Psychology
The University of British Columbia
Vancouver, BC Canada
Abstract

One of the most well-researched phenomena for explaining interpersonal attraction is the similarity-attraction effect. However, virtually all the research in this area has been done in North America. This led us to hypothesize that there may be cultural differences in the presence or magnitude of the similarity-attraction effect. Our first experiment was designed to replicate the classic similarity-attraction paradigm of the bogus stranger and introduce culture as a variable of interest. We hypothesized that Japanese participants would not base their likeability of a stranger on the perceived similarity of personality traits of that person to the self. Confirming our hypothesis, Euro-Canadian participants demonstrated a strong attraction to strangers they perceive as like themselves on personality traits while Japanese participants did not demonstrate this preference. Evidence for self-esteem or self-consistency explaining this difference did not materialize. In our second study, liking was manipulated and perceived similarity was measured in personality and additional domains. We hypothesized that Euro-Canadians would report that the more they like someone, the more similar they would rate themselves to that person and that Japanese participants would report a more constant similarity rating regardless of how much they like someone. We predicted this same pattern across personality, attitude, activity and demographic domains. Across the domains of personality, activities, and attitudes, Japanese showed a significant similarity-attraction effect, although it was consistently weaker than it was for Euro-Canadians. This program of study highlights the cultural variability of the similarity-attraction effect.
# TABLE OF CONTENTS

Abstract ........................................................................................................... ii

Table of Contents ................................................................................................... iii

List of Tables ........................................................................................................... iv

List of Figures ......................................................................................................... v

Introduction ........................................................................................................... 1

  Background on Similarity-Attraction Effect Literature .................................... 2
  Explanations for the Cultural Variability in the Similarity-Attraction Effect ....... 7
  Present Research .................................................................................................. 10

Experiment 1 ......................................................................................................... 12

  Methods ............................................................................................................. 12
  Results ............................................................................................................... 15
  Discussion .......................................................................................................... 17

Experiment 2 ......................................................................................................... 19

  Method .............................................................................................................. 19
  Results .............................................................................................................. 21
  Discussion ......................................................................................................... 23

General Discussion .............................................................................................. 25

References ............................................................................................................ 39
List of Tables

Table 1.
Adjusted Means and Standard Deviations for High and Low Similarity Groups...........29

Table 2.
Means and Standard Deviations for Euro-Canadians and Japanese on Dependent Measures.................................................................30

Table 3.
Correlations between Dependent Measures.................................................................31

Table 4.
Explanations for the Similarity-Attraction Effect: Correlations between Dependent Measures and Attraction, Compared Across Similarity Condition and Culture...32

Table 5.
Adjusted Means and Standard Deviations across Four Domains by Level of Liking.....33
List of Figures

Figure 1.
Variations in liking as a function of culture and similarity condition..........................34

Figure 2.
Average within-participant correlation between self and target for
personality domain........................................................................................................35

Figure 3.
Mean similarity rating between self and target for activity domain.........................36

Figure 4.
Mean similarity rating between self and target for demographic domain..................37

Figure 5
Mean similarity rating between self and target for attitude domain.........................38
Do Japanese Birds of a Feather Flock Together?

Cultural Variation in the Similarity-Attraction Effect

One of the most well-researched phenomena for explaining interpersonal attraction is the similarity-attraction effect. What is the similarity-attraction effect? Basically, it explains how we tend to like other people who are similar to ourselves. That is, the more similar someone is to us, the more we will like that person. Since the 1950's researchers studying the similarity-attraction effect have found that people prefer similar others in such domains as activities (Karylowski, 1976; Lydon, Jamieson, & Zanna, 1988), attitudes (Byrne, 1961; 1971; Singh & Tan, 1992), personality traits (Griffitt, 1966; Singh, 1973), and values (Newcomb, 1961), as well as demographic variables such as age, education, ethnic background, religion (Buss, 1985), socioeconomic status (Byrne, Clore & Worchel, 1966), and occupation (Bond, Byrne, & Diamond, 1968). The above selection is but a small sample from this body of research that demonstrates that the similarity-attraction effect is, indeed, a robust finding.

However, virtually all the research in this area has been conducted in North America. A number of researchers have maintained that since the United States, and arguably North America, is peculiar in its cultural and social structure, it is dangerous to extend psychological theories based on this research to other cultures (Geertz, 1975; Lebra, 1976; Lipset, 1995). In addition, there is mounting evidence that supports culturally different construals of the self (Markus & Kitayama, 1991; Triandis, 1989) that may have an impact on how interpersonal attraction develops and is maintained. These issues led us to suspect that there may be cultural differences in the presence or magnitude of the similarity-attraction effect.
Background of Similarity-Attraction Effect Literature

There is much research that demonstrates we are attracted to those who are similar to us. One source of evidence for the similarity-attraction effect comes from experiments placing individuals unknown to each other in a new environment, measuring the similarity in the participants and their attraction towards each other. A classic study of this design was done by Theodore Newcomb (1961; 1978). He found that randomly assigned roommates in a university dormitory who developed friendships had similar attitudes and values in common. Another archetypal experimental design in the similarity-attraction literature is the “bogus stranger” paradigm, first developed by Byrne (1961; 1971; 1997). Under the guise of making impressions of others from limited information, participants complete attraction ratings of a same-sex other based on the stranger’s responses to an attitude survey. Byrne manipulated the independent variable similarity by creating three levels of attitudinal agreement between the participant and the bogus stranger. He found that as the proportion of similar attitudes increased, so did attraction.

A further source of evidence for the similarity-attraction effect comes from correlational studies using pre-existing relationships. Byrne and Blaylock (1963) collected attitudinal data from 36 married couples and found significant husband-wife correlations between their political attitudes. In addition, the correlations for perceived similarity between the participant and their spouse were significantly greater than actual similarity. Deviating from attitudinal similarities, Burleson & Denton (1992) found substantial similarities between 60 husbands and wives on cognitive complexity and communication skills. Interestingly, couples that were both low in cognitive complexity
and social skills self-reported as much marital satisfaction as couples both high on these measures. From a different perspective, Buss (1984; 1985 for a review) demonstrated that spouses have high similarity correlations for many demographic characteristics, attitudes and opinions, and personality variables such as extroversion. Other similarity-attraction effects have been found for couples on such diverse domains as personality traits like sensation seeking (Lesnik-Oberstien & Cohen, 1984), and in diverse populations such as older married couples, dating and co-habitating couples and friends (Vinacke, Shannon, Palazzo, Balsavage & Cooney, 1988).

Similarity-attraction effects in these types of studies have been found while controlling for the length of the relationship and the possibility of similarity increasing over time (Burleson & Denton, 1992; Byrne & Blaylock, 1963; Lesnik-Oberstein & Cohen, 1984) as well as comparing similarity in spouses to that found in randomly generated couples (Burgess & Wallin, 1953; Burleson & Denton, 1992). The implications of research with pre-existing couples speak to marital satisfaction and possible counseling interventions. Several studies (Burleson & Denton, 1992; White & Hatcher, 1984) found that spouses with marriages in distress or relationship dissatisfaction exhibited weaker similarities than nondistressed couples.

Despite the prevalence of this body of research, there has been no clear demonstration as to why similarity leads to liking. Two broad theoretical explanations are the Rewards of Interaction theory and the Reciprocal Liking theory.

**Rewards-of-interaction**

In several ways, interacting with similar others provides rewards for the self. Firstly, similar others provide social validation for one’s beliefs and characteristics,
which is comforting and leads to liking for those individuals who provide validation.

Also, as Swann and colleagues (1983; Swann, Stein-Seroussi & Giesler, 1992) propose in their self-verification theory, people seek to be with similar others so as to confirm their self-conceptions which allows them to see the world as predictable and controllable.

Thirdly, similar others have qualities we like and tend to believe are the right qualities to possess. Dissimilar others are attributed to be immoral, unreasonable and unpleasant (Aronson, 1976; Rosenbaum, 1986) and these attributes diminish the attractiveness of dissimilar people (Byrne, Clore, & Smeaton, 1986). In addition, similarity leads to attraction by aiding in smooth interactions, explained through a classical conditioning response. When exposed to a stimulus (interacting with a similar other) and nothing aversive happens (unconditioned stimulus), the person will develop an approach strategy towards that stimulus that is reinforced during repeated exposures (Zajonc, 1968; 2001).

**Reciprocal Liking**

Research demonstrates that we will like someone if that person likes us (Condon & Crano, 1988). “People assume that a person who agrees with them will also like them; and people tend to like those who like them” (Condon & Crano, 1988, p. 789). Through repeated reinforcement, an expectation is established that there is a relationship between different levels of perceived similarity producing varying degrees of liking for the person and the person’s attraction towards them. In short, we expect that similar others will like us, and we like them.

But what about culture and the similarity-attraction effect? To date, we have located only two studies comparing different cultures in the similarity-attraction effect. One cross-cultural study examining the similarity-attraction effect reported no cultural
difference between Hawaiian, Indian, Japanese and Mexican students on their attraction to one of two bogus strangers (Byrne, Gouaux, Griffitt, Lamberth, Prasad, M., Prasad, A., & Ramirez, 1971). Participants completed a 15-item survey of attitudes in large groups. In a bogus stranger paradigm, each participant received an attitude scale allegedly completed by someone of their same sex and approximate age. Two stranger conditions were created and researchers measured the participant’s attraction towards this stranger. On the basis of the proportion of similar responses between the participant and the stranger condition, participants were divided into three ranges of similarity. Byrne et al. (1971) found no evidence of an interaction between culture and the similarity-attraction effect. A significant main effect for similarity resulted where, as the proportion of similar responses increased, attraction increased. The researchers conclude that the similarity-attraction effect is generalizable across different cultural groups.

However, we have several methodological criticisms that impact the results and conclusions drawn from this study. Rather than experimentally manipulating the independent variable similarity as is customary in the bogus stranger paradigm, this study calculated a correlation between the participant’s responses on a 15-item attitudinal questionnaire to one of two stranger profiles. By not manipulating similarity, the researchers are unable to account for desirability and nonrandomization as alternate explanations for the similarity-attraction effect.

In reading the profiles of both Stranger A and Stranger B, it is likely that they may differ in baseline desirability due to the clustering of the actual items within each profile. The researchers did not measure (or report) on the desirability of Stranger A compared to Stranger B. Stranger A’s profile contains items that are peculiar and may be
inherently less desirable than Stranger B. Participants rating profile A may not like him very much and will be less likely to be similar to undesirable and atypical attitudes. Comparatively, Stranger B’s profile is the opposition of Stranger A. Participants rating this profile may find the attitude items more desirable and typical, being more likely to be similar in their attitude responses, and like him. This pattern of responding would mimic the similarity-attraction effect, but would be confounded with the desirability of the profile. There is also the possibility of cultural variability in desirability of the profiles that the researchers do not address.

Since similarity is not a manipulated condition in which participants were randomly assigned, it is impossible to know the number of participants from each culture occupying each of the three correlation levels of similarity. It may be possible that most Japanese participants, for example, resided in the .00 – .40 lowest level of similarity. If most of the Japanese participants do not see the profiles as exemplars of desirable attitudes to have, the attraction ratings would reflect this view. Another cultural group, the Mexican sample for example, might view both profiles as having more merit, tend to be more similar, and rate them as more likeable. This pattern of responding also mimics the similarity-attraction effect and leads to difficulty interpreting what looks like a main effect for similarity. In sum, these concerns cast serious doubt on the finding of generalizability of the similarity-attraction effect across cultures.

However, there is some evidence of cultural differences in the similarity-attraction effect (Heine & Renshaw, 2002). Participants in this study were active university club members at the University of Pennsylvania, in Philadelphia, PA and Kyoto University, in Kyoto, Japan. Each participant rated their own personality and the
personality of four club members, using 30 traits from Anderson’s (1968) list. They also rated how much they liked each person. In a test of the similarity-attraction effect, the authors correlated the similarity of the personality ratings between the participant’s self and perceived similarity of their peers with how much they liked each person. For perceived similarity, the researchers found evidence of a similarity-attraction effect for the North American participants \( r = .55 \) and not for the Japanese participants \( r = .10 \). This study provides the first evidence for a cultural difference in the similarity-attraction effect.

Explanations for the Cultural Variability in the Similarity-Attraction Effect

Even though there is a general lack of research in the field of culture and the similarity-attraction effect, we would like to propose several possibilities to explain the cultural variation in the similarity-attraction effect.

**Consistency**

"I like you because since you are like me, I can be myself when I’m with you."

One possible explanation for the cultural difference in the similarity-attraction effect comes from the literature on self-consistency. In Western culture, behaviour is viewed to arise from the self—people are seen to act in ways that are consistent with their dispositions (Morris & Peng, 1994). If an individual chooses to be with people who are not like them in important domains, the individual will have to either change their thoughts or behaviours, or risk conflict when expressing one’s disposition. Conversely, if an individual surrounds oneself with people who are like one in important domains, the individual may behave in ways that are consistent with the view of the self without risking conflict. Therefore, in North America, it is the desire for consistency between the
individual's view of self and their expression of that view through behaviour that motivates them to seek like others. As such, it becomes important to surround oneself with others with similar dispositions to allow the self to freely express itself without conflict.

In contrast, in East Asian cultures, people act in ways that are consistent with a specific situation (Cousins, 1989; Su, Chiu, Hong, Leung, Peng, & Morris, 1999). In comparison to Westerners, the Asian view of self is not based on dispositional traits that remain constant across context (Choi & Choi, 2002), instead, a premium is placed on maintaining relationship harmony with close others by fulfilling expected roles. East Asians also do not expect consistency between behaviour and personal attributes and attitudes (Kashima, Siegel, Tanaka, & Kashima, 1992; Norenzayan, Choi, & Nisbett, 2002). Behaviour is importantly influenced by the roles that people occupy and by acting in ways that are appropriate for a given situation, and knowing that others will do likewise, relationship harmony can be preserved. To the extent that roles and situation govern behaviour and flexibility of the self is culturally rewarded, having friends with similar dispositions becomes less central.

The predictions for the relationship between consistency and the similarity-attraction effect are (a) there will be a positive correlation between need for consistency and the similarity-attraction effect and (b) Euro-Canadian participants, on average, will score higher on the consistency measure than will Japanese participants.

*Interdependent/Interdependence Self-construal scale (SCS)*

"The right friend for me is someone similar to me." The Self-Construal Scale (Takata, 1996; 1999) assesses two dimensions of the self that are based on the writings of
Markus & Kitayama (1991) and Triandis (1989). The independent self is a bounded and separate entity that remains constant over changing roles and environments. The independent self views the social world as malleable and controllable relative to the stability of the self (Su, et al., 1999). The interdependent self is thought to be malleable and situationally defined, intricately weaving relationships with important others into the self. Interpersonal harmony is achieved when individuals adhere to the immutable roles defined by their relationship (Su, et al., 1999). The independent self has been shown to be associated with Westerners, while the interdependent self is more associated with East Asia (Heine, Lehman, Markus & Kitayama, 1999; Markus & Kitayama, 1991). Since preliminary evidence suggests that the similarity-attraction effect may also be characteristic of Westerners (Heine & Renshaw, 2002), we hypothesized that the cultural difference in the similarity-attraction effect is explained by this independence/interdependence difference in construal of self. Our prediction is that the independent self construal will have a stronger relationship with the similarity-attraction effect than the interdependent self construal.

Self-esteem

"Since I like me, I like others who are similar to me." The Rosenberg (1965) Self-Esteem Scale is a 10-item scale measuring global self-esteem and self-worth. If a person has high self-esteem and views their dispositional characteristics positively, they will be attracted to another individual they perceive as also possessing those same characteristics. Previous research has reliably shown a cultural difference between Western participants and East Asian participants on measures of self-esteem, such that East Asians score significantly lower on average than Westerners (Campbell, Trapnell, Heine, Katz,
Lavallee & Lehman 1996; Heine & Lehman, 1997). In their review of North American self-esteem research, Baumeister, Tice, & Hutton (1989) reported that the preponderance of Westerners have self-esteem scores much higher than the theoretical midpoint of the scale. Since most Westerners have high self-esteem and view the self positively, they will be attracted to those perceived as similar. In East Asian cultures, group harmony is paramount with less emphasis on dispositional expression. Research has shown that self-criticism is more characteristic of East Asians than promoting a positive self view through high self-esteem (Heine, 2001; Heine, et al., 1999; Heine, Kitayama, Lehman, Takata, Ide, Leung, et al., 2001; Heine, Takata, & Lehman, 2000). With little value placed on high self-esteem, East Asians would rely less on similarity for interpersonal harmony. It is predicted that self-esteem and the similarity-attraction effect would have a strong positive relationship for Westerners and not for East Asians.

Present Research

The purpose of this program of research was to resolve the controversy between these two sets of findings by replicating the results of Heine & Renshaw (2002) to see if the cultural differences in the relationship between liking and similarity were reliable. Our first experiment was designed to replicate the classic similarity-attraction paradigm of the bogus stranger and introduce culture as a variable of interest. This study manipulated similarity while measuring liking in a laboratory design that varied the methodology beyond correlational evidence. We hypothesized that Japanese participants would not base their likeability of a stranger on the perceived similarity of personality traits of that person to the self. However, Euro-Canadians would rate a stranger as more likable the more similar that person appeared to them. In addition, we hypothesized that
this cultural difference in the existence of the similarity-attraction effect could be explained by cultural differences in self-esteem and self-consistency.

The purpose of Experiment 2 was to replicate and extend the findings of Experiment 1 by again varying the design and manipulated variables. In this study, liking is manipulated and perceived similarity is measured in personality and additional domains. We hypothesized that Euro-Canadians would report that the more they like someone, the more similar they would rate themselves to that person. However, Japanese participants would report a more constant similarity rating regardless of how much they like someone. We predicted this same pattern across personality, attitude, activity and demographic domains.
Experiment 1

Method

Participants

The participants for Study 1 were 59 (49 female and 10 male) Euro-Canadians students and 60 (52 female and 8 male) Japanese students. The Euro-Canadian students were all recruited from the University of British Columbia’s Department of Psychology subject pool and compensated for their participation with course credit. Euro-Canadian participants were born in Canada and both parents were of Canadian/European descent. Euro-Canadian participants were recruited, run and debriefed entirely in English. The Japanese participants were Working/Holiday Visa students, living in Vancouver for less than 2 years. They were recruited through classified advertisements in Japanese magazines and were compensated for their participation with movie vouchers. Japanese participants were recruited, run and debriefed in Japanese. Only participants that met all criteria were included in the analysis.

Procedure

This study employed a 2 (culture: Euro-Canadian vs. Japanese) X 2 (similarity condition: high vs. low) design. Participants were brought to the laboratory for an “Impression Formation Study” where they were introduced to a same-sex confederate acting as a bogus stranger. Although participants were led to believe that experimental conditions were randomly assigned, the participant was always assigned to the “evaluator” condition, while the confederate was assigned to the “evaluatee” condition. The person in the evaluator condition made judgments about the evaluatee without fear of reciprocal evaluation. The participant was directed to one room and the confederate was
directed to an adjoining room. Participants received a relationship questionnaire that they were asked to complete. The experimenter then collected the questionnaire and provided a filler task for the participant to do that was unrelated to the study. The experimenter used the data from the participant’s rating of the self on ten personality traits to generate one of two personality profiles for the bogus stranger. The different personality profiles were the two manipulated conditions in this study, high and low similarity. The high similarity condition was designed to have the stranger sharing 80% of the personality traits in common, while the low similarity condition was designed to have only 20% of the personality traits in common. Traits selected to be different or similar were randomly chosen for each participant. When a particular trait was selected to differ, a system was followed to change the response from the participant to create the bogus stranger’s profile. If the participant chose one on the Likert scale, it became three; two became four; six became four and seven became five. Since numbers three, four, and five could potentially move up or down the Likert scale, direction of the two-point change was determined by coin toss for randomization. After the participant viewed the personality profile of the bogus stranger, the experimenter asked the participant to complete a second brief questionnaire assessing how much they liked this stranger. Demographic information was then collected; participants were probed for suspicion and thoroughly debriefed.

**Measures**

For all measures, participants rated themselves on a 7-point Likert scale from *strongly disagree* (1) to *strongly agree* (7). The materials for the Japanese participants
were translated into Japanese and back-translated into English to establish consistency in content and meaning.

Consistency. Consistency was assessed with an Identity Consistency Matrix (Suh, 2002) on which each participant made 50 ratings of their personality. The ratings were completed in a 10 X 5 matrix, with 10 personality traits across five interaction partners. The personality traits included were attractive, cooperative, interesting, loyal, independent, considerate, confident, hard-working, dependable, and intelligent. The personality traits were selected based on pre-testing compiled by Heine & Renshaw (2002) with ratings on traits that were equally important and desirable in both cultures. The five interaction partners were self, parents, same-sex best friend, professor, and stranger. Suh (2002) pre-tested Korean and US participants and both cultures spontaneously nominated those five interaction partners with equal frequency. The rationale for this measure explains that, for example, if a participant views the self consistently regardless of social context, they will rate the self equally cooperative with the self as with the other interaction partners. Conversely, when a participant views the self differently across social context, we would expect the rating of cooperative to vary across interaction partners as well. Consistency is operationalized as the average within-participant correlation between all five interaction partners.

Self-construal scale (SCS). Self-Construal was measured using the 20-item scale by Takata (1996; 1999). It assesses two dimensions of the self, the independent self-construal and the interdependent self-construal.

Self-Esteem. Self-esteem was measured with the 10-item Rosenberg (1965) Self-Esteem Scale assessing global self-esteem and self-worth.
Self-concept clarity. The Self-Concept Clarity (SCC; Campbell, 1990; Campbell, et al., 1996) scale measures “the extent to which self-beliefs are clearly and confidently defined, internally consistent, and stable” (p. 141). The SCC scale was included as another measure of consistency to explore how it correlated with our other measure of consistency and the similarity-attraction effect.

Attraction. The dependent variable, liking, was a composite variable composed of five questions to which the responses were averaged. The alpha reliability coefficient for combining these five items was .81. The questions were:

1. How much do you like this person?
2. How frequently would you interact with this person?
3. How much would you respect this person?
4. How much closer would you want to become to this person?
5. How much would this person like you?

Results

We began the analysis by appraising the comparability of the samples. Secondly, we tested for the similarity-attraction effect. And finally, we examined the correlations between the similarity-attraction effect and the other measures.

Comparability of the Samples

The mean age of the Euro-Canadian sample was 21.02 years, while the mean age of the Japanese sample was 25.87 years. The Japanese sample was significantly older, $F(1, 118) = 30.03, p < .01$. Therefore, age was included as a covariate to statistically equate the two samples on this variable, and the adjusted means are reported in Table 1. We also considered variables such as sex, how long the Japanese participants had resided
in Canada, and whether participants had ever lived abroad. There were no significant interactions or main effects for these variables so they are not considered in further analyses.

**Similarity-Attraction Effect**

A two-way between groups analysis of covariance (ANCOVA) was performed using culture and similarity condition as independent variables, attraction as the dependent variable and age as the covariate. The interaction, Culture X Similarity, was marginally significant, $F(1, 115) = 2.94, p < .10, \eta^2 = .03$ (see Figure 1). The main effect for culture $F(1, 116) = 52.04, p < .01$ and similarity condition $F(1, 116) = 6.72, p < .01$ were both significant. Simple main effect analysis for culture over the two similarity conditions show Euro-Canadians demonstrated a strong similarity-attraction effect, $F(1, 56) = 8.83, p < .01, \eta^2 = .14$. Participants in the high similarity condition rated the bogus stranger as more likable than those participants in the low similarity condition. However, the Japanese participants in the high similarity condition did not rate the bogus stranger as significantly more likable than in the low similarity condition, $F(1, 58) = .38, p = .54, \eta^2 = .01$.

**Scales**

Table 2 presents the means for the Euro-Canadian and Japanese samples on the dependent measures used. As expected, there was a significant difference between the Euro-Canadians and Japanese on self-esteem scores, where the Euro-Canadians had a higher average score, $F(1, 117) = 6.02, p < .05$. The difference between the Euro-Canadian and Japanese means on Self-Concept Clarity reached marginal significance, $F(1, 117) = 3.44, p < .10$. There were no significant differences on the remaining scales.
Correlations

Table 3 displays the intercorrelations of the dependent measures by culture. All of the scales correlated with similar and discrepant measures in predicted directions, with the exception of Self-Concept Clarity, which did not significantly correlate with our measure of consistency as expected, $r = .21$ and $r = -.04$ for Euro-Canadians and Japanese respectively. To test for an explanation for the cultural difference in the similarity-attraction effect, correlations were performed between liking and the dependent measures included in the study, and compared across high and low similarity conditions. Table 4 shows the correlation coefficients for each culture separately. Individuals who have a high need for consistency, for example, should like the bogus stranger a lot in the high similarity condition, making that correlation much higher than in the low similarity condition. None of the comparisons of correlations across similarity conditions are significant, but they are in the predicted direction.

Discussion

The results of Study 1 confirm our primary hypothesis that a cultural difference in the similarity-attraction effect does exist. Although the interaction between culture and the similarity-attraction effect attained marginal significance, the within-culture analysis provides convincing evidence for the cultural difference. The Euro-Canadian students demonstrate a strong attraction to strangers they perceive as like themselves on personality traits while Japanese students did not demonstrate this preference.

In general, the results of this study do not provide any support for the hypothesis that high self-esteem drives the preference for similar others. Our hypothesis that
individuals high in need for consistency should prefer similar others also was not supported. Both correlations are in the expected direction, but are insignificant. We assume that the between subject design of the study may have reduced the power of this analysis and impaired our ability to detect these relationships. There are also concerns with our measure of consistency. We predicted that Euro-Canadians would score higher on the measure of consistency than the Japanese and that hypothesis was not supported. Also, a reliable self-consistency measure, Self-Concept Clarity, did not correlate significantly with our measure of consistency. These issues lead us to question the validity of the measure before completely abandoning the consistency explanation hypothesis. Predictable relationships appeared between independence and the similarity-attraction effect, interdependence and the similarity-attraction effect, and Self-Concept Clarity and the similarity-attraction effect.
Experiment 2
Method

Participants

The participants for Study 2 were 59 (42 female and 17 male) Euro-Canadians students and 89 (48 female and 41 male) Japanese students. The Euro-Canadian students were all recruited from the University of British Columbia's Department of Psychology subject pool. Euro-Canadian participants were born in Canada and both parents were of Canadian/European descent. Euro-Canadian participants were recruited, run and debriefed entirely in English. The Japanese participants were recruited from three Japanese universities: Nara University, in Nara; Kyoto University, in Kyoto; and Gakugei University in Tokyo. Japanese participants were recruited, run and debriefed in Japanese. All participants were compensated for their participation through entry into a lottery draw for six prizes of $100.00. Only participants that met all the above criteria were included in the analysis.

Procedure

Participants were invited to complete a web-based questionnaire that asked them to make rating about four targets (a) themselves, (b) their best friend, (c) a person they neither like nor dislike (termed neutral), (d) and a person they dislike (termed enemy). The study employed a 2 (culture: Euro-Canadian vs. Japanese) X 3 (liking of target: best friend vs. neutral vs. enemy) design. The liking of target was a within-participant variable and culture was a between-participant variable.
Measures

For all measures, participants rated the questions on a 9-point Likert scale from extremely inaccurate (1) to extremely accurate (9). The materials for the Japanese participants were translated into Japanese and back-translated into English to establish consistency in content and meaning.

Personality. Participants were provided with a list of 12 personality traits selected from Anderson’s (1968) list of personality traits that were pre-tested in both cultures to find four mutually highly desirable traits, four low desirable traits and four traits rated as neutral. The four desirable traits were considerate, friendly, dependable, and intelligent. The four negative traits were rude, cold, boring, and mean. The neutral traits were impulsive, excitable, unconventional, and perfectionist.

Activities. Participants were asked to indicate how similar or dissimilar they were to the targets on two items estimating activity similarity. The first question was Matters of Recreation and the second question was Leisure Time, Interests and Activities.

Attitudes. Participants were asked to indicate how similar or dissimilar they were to the targets on six items assessing different attitudes. The six items were: Philosophy of Life, Attitudes towards Money, Major Life Decisions, Political Attitudes, Desire for Children, and Marriage Plans.

Demographics. Participants were asked to indicate how similar or dissimilar they were to the targets on five items assessing biographical data, life experiences and status. These items were: Religious Matters, Socioeconomic Class, Status, Education Goals, and Career Goals.
Results

Comparability of the Samples

A Chi-Square Goodness-of-Fit test was performed on the observed proportions of male and female participants. The observed proportions significantly differed from theoretically expected proportions, $\chi^2(1, N = 148) = 4.43, p = .04$, where the proportion of Euro-Canadian males (.12) was significantly smaller than the proportion of Japanese males (.28). Therefore, sex was included as a covariate to statistically equate the two samples on this variable throughout the analysis, and we report the adjusted means in Table 5. We also considered variables such as age of the sample, age of the targets, and whether participants had ever lived abroad. There were no significant interactions or main effects for these variables so they are not considered in further analyses.

Personality Similarity-Attraction Effect

A between-within repeated measures ANCOVA was performed using culture as the between independent variable, target as the within-participant variable, sex as the covariate and target personality similarity as the dependent variable. Similarity for personality was assessed by calculating the average within-participant correlation between each participant’s self ratings and ratings of targets across the 12 traits. This analysis addressed the question: “How similar is the self to the self’s perception of the target on 12 personality traits”. This yielded a highly significant interaction, $F(2, 138) = 17.67, p < .01, \eta^2 = .22$ (see Figure 2), between culture and personality similarity. The main effect for both culture, $F(1, 138) = 21.35, p < .01$, and target, $F(2, 138) = 54.79, p < .01$ were significant. Simple main effect analysis revealed that although the Euro-Canadian similarity-attraction effect $F(2, 57) = 68.92, p < .01, \eta^2 = .46$ was much
stronger, the Japanese showed evidence of a significant similarity-attraction effect $F(2, 80) = 6.14, p < .01, \eta^2 = .12$.

**Activity Similarity-Attraction Effect**

A between-within repeated measures ANCOVA was performed using culture as the between independent variable, target as the within-participant variable, sex as the covariate and target activity similarity as the dependent variable. The interaction between culture and activity similarity was significant $F(2, 145) = 7.13, p < .01, \eta^2 = .10$ (see Figure 3). The main effects for culture, $F(1, 145) = 25.92, p < .01$, and target, $F(2, 145) = 47.21, p < .01$ were significant. Simple main effect analysis of each culture over target levels yielded similar results to personality. The Euro-Canadians displayed a significant similarity-attraction effect $F(2, 57) = 37.89, p < .01, \eta^2 = .45$ that was much stronger than the Japanese similarity-attraction effect $F(2, 87) = 11.40, p < .01, \eta^2 = .15$, although also significant.

**Demographic Similarity-Attraction Effect**

A between-within repeated measures ANCOVA was performed using culture as the between independent variable, target as the within-participant variable, sex as the covariate and target demographic similarity as the dependent variable. The interaction between culture and demographic similarity was marginally significant, $F(2, 145) = 2.93, p < .10, \eta^2 = .05$ (see Figure 4). The main effect for culture $F(1, 145) = 1.57, p = .21$ was not significant. However, the main effect for target was significant, $F(2, 145) = 31.66, p < .01$. Simple main effect analysis showed that both Euro-Canadians $F(2, 57) = 15.75, p < .01, \eta^2 = .22$ and Japanese $F(2, 87) = 18.19, p < .01, \eta^2 = .12$ had significant similarity effects for demographics.
Attitude Similarity-Attraction Effect

A between-within repeated measures ANCOVA was performed with culture as the between independent variable, target as the within-participant variable, sex as the covariate and target attitude similarity as the dependent variable. The interaction between culture and attitude similarity was significant, $F(2, 145) = 3.71, p < .05, \eta^2 = .06$ (see Figure 5). The main effects for both culture $F(1, 145) = 26.33, p < .01$ and target $F(2, 145) = 128.58, p < .01$ were significant. The similarity effect for attitude was significant for Euro-Canadians, $F(2, 57) = 69.52, p < .01, \eta^2 = .55$ and Japanese, $F(2, 87) = 60.58, p < .01, \eta^2 = .36$.

Discussion

Using a different methodology, the results of Experiment 2 replicate and extend the findings of a cultural difference in the similarity-attraction effect. For Euro-Canadians, the more they liked someone, the more similar they rated that person to themselves on the 12 personality traits. The Japanese showed a significant similarity effect for personality, but not to the same degree as the Euro-Canadians. Similarly, the Euro-Canadians demonstrated a strong similarity-attraction effect on the domains of attitudes, activities, and demographics. That is, Euro-Canadians perceive the self as more similar to the people they like. Across the domains of personality, activities, and attitudes, Japanese showed a weaker similarity-attraction effect as compared to Euro-Canadians. Interestingly, the Culture X Demographic Similarity interaction, although marginally significant, was the weakest cultural difference that was found. This may indicate that both cultures view this domain as equally important in determining
relationships. Alternatively, it is the only domain in which there is minimal subjectivity to the comparison between the self and the target.
General Discussion

The results from this program of study replicate the findings by Heine and Renshaw (2002) and highlight the cultural variability in the similarity-attraction effect. Experiment 1 and Experiment 2 clearly support our primary hypothesis that a difference exists in the presence and magnitude of the similarity-attraction effect between Japanese and Canadian participants. In the bogus stranger paradigm, Japanese participants did not demonstrate an attraction towards a more similar other, while Canadians demonstrated a strong preference for similar others. In the web questionnaire study, Japanese participants demonstrated a significant similarity-attraction effect across the domains of personality, activities, attitudes and demographics, however, this similarity-attraction effect was of much smaller magnitude than the effect shown by Canadians.

Limitations

We chose to explore the differences in the similarity-attraction effect in Japanese and Canadians cultures, as examples of collectivistic and individualistic cultures, respectively. While caution should be exercised when extending the results of these studies to other East Asian and interdependent cultures, we predict that replication of these designs would provide further evidence for such similarity-attraction effect differences.

In both experiments, liking was operationalized as a subjective measure. The bogus stranger paradigm measured liking as the subjective response to five items on a Likert scale. The web questionnaire operationalized liking by asking participants to identify three persons by varying degrees of attraction to the self, however still subjective. Future research is necessary to employ behavioural outcomes as measures of
liking (i.e., physical distance between participant and confederate) to corroborate the findings obtained here.

Alternate Explanations

In the web questionnaire, the use of positive, negative and neutral personality traits confounds the similarity-attraction effect with the desirability of those traits. A person will rate the self and best friend as both having more positive traits than both neutral and negative traits and will more likely to ascribe neutral and negative traits to the enemy. This pattern of rating positive, desirable traits to the self and best friend could simulate the similarity effect. This is only of concern for the personality domain where valenced traits were utilized. In the domains of demographics, attitudes and activities, the items were not valenced and desirability cannot be considered as an alternate explanation for our findings. In the bogus stranger paradigm, all the personality traits used in the study were positively valenced. In this manner, the desirability of the trait cannot be confounded with the similarity effect.

Implications and Future Directions.

What are the implications of variation in the similarity-attraction relationship? Primarily, this line of inquiry has important theoretical implications, as it necessitates a revision of a long-held truism of social psychology. The similarity-attraction effect has been upheld as a fundamental truth about human nature. Our research speaks to the fact that some of these truisms need qualification when the generalizability of the theory fails in other cultures.

Another implication, or caution, is the nature of the relationship between the similarity-attraction effect in married couples and the association with marital satisfaction
and the longevity of the marriage. Research in North America points to an association such that couples who are more similar report more marital satisfaction and are less likely to get divorced (Burleson & Denton, 1992; Vinacke, et al., 1988; White & Hatcher, 1984). However, since our research highlights the variability in the similarity-attraction effect across cultures, there is also reason to suspect variability in the relationship between similarity-attraction and marital well-being. The tale here is cautionary in that we do not want researchers to make universal associations reminiscent of that made between high self-esteem and subjective well-being (Taylor & Brown, 1988, see Heine et al., 1999 for the counter argument).

Despite the vast amount of research on the similarity-attraction effect, there has been no clear evidence supporting one theoretical explanation on why similarity leads to attraction. Pockets of research support the rewards of interaction theory as well as evidence that contradict it. One crucial feature of cultural experiments is to allow researchers to hypothesize about the mechanisms that underlie the phenomena we observe. There is some difference in the construction of the self between Japanese and Canadians selves that manifests in different interpersonal attraction strategies. Although our attempts at implicating self-esteem and consistency as that mechanism failed, here lies a fruitful line of research waiting for further investigation.

Finally, an interesting line of investigation for future research may look at an explanation for the variability in the similarity-attraction effect by examining the cultural grounding of friendship (Adam, Anderson, & Adonu, in press; Adams & Plaut, 2003). These researchers argue that the independent and interdependent construal of self in different cultures construct different social realities such that the experience of friendship
should also be expected to vary. Specifically, they argue that the independent self experiences friendship as a voluntary association, with large friend networks that afford the ability to end relationships should conflict arise (high mobility). In contrast, for the interdependent self, friendships may be less voluntary and more about choosing a select few friends from the already-present connections with people and may be characterized by greater obligation and the inability to dissolve the relationship should conflict arise.

For Westerners, the large friend network, voluntary and highly mobile nature of friendship may explain the attraction to similar others. If friendship is a choice, one wants to be seen as making the “right” choice, such that out of all the possible choices to have made, one is investing time and resources in a friendship that is worthwhile. Since the ultimate judge of one’s friendship competence is the self, one easy way of ensuring one is choosing correctly would be to choose someone similar to the self.

For East Asians, friendship is not as much about being “correct” in making choices since the pool of candidates comes from their pre-existing interconnected network and is less a reflection of how the self evaluates itself. Although mutual obligation within the friendship might promote caution in the reducing the number of friends, similarity of the friend to the self does not itself guarantee a positive and harmonious relationship, or the positive evaluation from others.

Although our previous attempt to link independence and interdependence with the similarity-attraction effect did not yield a significant relationship, the cultural grounding of friendships theory leads us to still suspect that something might be there and could be found with a more powerful experimental design and priming of independence and interdependence.
Table 1

Adjusted Means and Standard Deviations for High and Low Similarity Groups

<table>
<thead>
<tr>
<th>Culture</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Euro-Canadian</td>
<td>4.138</td>
<td>3.553</td>
<td>.778</td>
</tr>
<tr>
<td>Japanese</td>
<td>2.929</td>
<td>2.813</td>
<td>.848</td>
</tr>
</tbody>
</table>

*Note.* The reported values are adjusted after controlling for age difference between samples.
Table 2

Means and Standard Deviations for Euro-Canadians and Japanese on Dependent Measures

<table>
<thead>
<tr>
<th>Scale</th>
<th>Euro-Canadians</th>
<th>Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Esteem</td>
<td>5.402*</td>
<td>4.920*</td>
</tr>
<tr>
<td></td>
<td>(1.038)</td>
<td>(1.102)</td>
</tr>
<tr>
<td>Independence</td>
<td>4.823</td>
<td>4.848</td>
</tr>
<tr>
<td></td>
<td>(.780)</td>
<td>(.792)</td>
</tr>
<tr>
<td>Interdependence</td>
<td>4.751</td>
<td>4.932</td>
</tr>
<tr>
<td></td>
<td>(.868)</td>
<td>(.709)</td>
</tr>
<tr>
<td>SCC</td>
<td>4.246**</td>
<td>3.886**</td>
</tr>
<tr>
<td></td>
<td>(1.112)</td>
<td>(.995)</td>
</tr>
<tr>
<td>Consistency</td>
<td>.2397</td>
<td>.2300</td>
</tr>
<tr>
<td></td>
<td>(.205)</td>
<td>(.250)</td>
</tr>
<tr>
<td>Liking</td>
<td>3.841***</td>
<td>2.872***</td>
</tr>
<tr>
<td></td>
<td>(.797)</td>
<td>(.728)</td>
</tr>
</tbody>
</table>

*  $p < .05$
** $p < .10$
*** $p < .001$
Table 3

Correlations between Dependent Measures

<table>
<thead>
<tr>
<th>Scale</th>
<th>Self-Esteem</th>
<th>Independence</th>
<th>Interdependence</th>
<th>SCC</th>
<th>Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Esteem</td>
<td>.36*</td>
<td>-.51*</td>
<td>.78*</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>Independence</td>
<td>.44*</td>
<td>- .43*</td>
<td>.29*</td>
<td>-.09</td>
<td></td>
</tr>
<tr>
<td>Interdependence</td>
<td>-.44*</td>
<td>- .35*</td>
<td>-.65*</td>
<td>-.12</td>
<td></td>
</tr>
<tr>
<td>SCC</td>
<td>.51*</td>
<td>.56*</td>
<td>-.58*</td>
<td></td>
<td>.21</td>
</tr>
<tr>
<td>Consistency</td>
<td>-.28*</td>
<td>-.04</td>
<td>-.10</td>
<td>-.04</td>
<td></td>
</tr>
</tbody>
</table>

Note. Correlations above the diagonal are for the Canadian sample and below the diagonal are for the Japanese sample.

* $p < .05$
Table 4

Explanations for the Similarity-Attraction Effect:
Correlations between Dependent Measures and Attraction, Compared Across Similarity Condition and Culture

<table>
<thead>
<tr>
<th>Scale</th>
<th>Euro-Canadians</th>
<th>Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Self-Esteem &amp; Liking</td>
<td>.22</td>
<td>.11</td>
</tr>
<tr>
<td>Independence &amp; Liking</td>
<td>.10</td>
<td>-.09</td>
</tr>
<tr>
<td>Interdependence &amp; Liking</td>
<td>-.10</td>
<td>-.14</td>
</tr>
<tr>
<td>SCC &amp; Liking</td>
<td>.07</td>
<td>.07</td>
</tr>
<tr>
<td>Consistency &amp; Liking</td>
<td>.05</td>
<td>-.20</td>
</tr>
</tbody>
</table>
Table 5

Adjusted Means and Standard Deviations across Four Domains by Level of Liking

<table>
<thead>
<tr>
<th>Culture</th>
<th>Personality</th>
<th>Activities</th>
<th>Attitudes</th>
<th>Demographics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Euro-Canadian</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self – Best Friend</td>
<td>.73 (.28)</td>
<td>6.04 (1.52)</td>
<td>6.00 (1.44)</td>
<td>5.66 (1.42)</td>
</tr>
<tr>
<td>Self – Neutral</td>
<td>.43 (.33)</td>
<td>4.22 (2.12)</td>
<td>3.95 (1.34)</td>
<td>4.67 (1.47)</td>
</tr>
<tr>
<td>Self – Enemy</td>
<td>-.15 (.45)</td>
<td>3.43 (1.72)</td>
<td>3.22 (1.52)</td>
<td>4.10 (1.64)</td>
</tr>
<tr>
<td><strong>Japanese</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self – Best Friend</td>
<td>.29 (.44)</td>
<td>4.17 (1.89)</td>
<td>4.67 (1.44)</td>
<td>5.08 (1.59)</td>
</tr>
<tr>
<td>Self – Neutral</td>
<td>.15 (.39)</td>
<td>3.58 (1.94)</td>
<td>3.41 (1.33)</td>
<td>4.84 (1.66)</td>
</tr>
<tr>
<td>Self – Enemy</td>
<td>.04 (.44)</td>
<td>2.95 (1.85)</td>
<td>2.54 (1.33)</td>
<td>3.84 (1.92)</td>
</tr>
</tbody>
</table>

*Note.* The reported values are adjusted after controlling for observed proportions of male and female participants. The means reported for Personality are mean correlations, while for the other three domains, they are Likert scale means.
Figure 1. Variations in liking as a function of culture and similarity condition.
Figure 2. Average within-participant correlation between self and target by culture for personality domain.
Figure 3. Mean similarity rating between self and target for activity domain.
Figure 4. Mean similarity rating between self and target for demographic domain.

![Graph showing mean similarity ratings for different target categories and demographic groups.](image-url)
Figure 5. Mean similarity rating between self and target for attitude domain.
References


Bond, M., Byrne, D., & Diamond, M. J. (1968). Effect of occupational prestige and attitude similarity on attraction as a function of assumed similarity of attitude. Psychological Reports, 23, 1167-1172.


