Brief Report

Does an Acquiescent Response Style Explain Why Koreans are Less Consistent than Americans?

Kenneth D. Locke
Kyoung-Deok Baik
University of Idaho

Cultural differences in consistency of responding to questions could be artifacts of cultural differences in acquiescence (an agreeing response style). To highlight this issue, the authors attempt to replicate previous research showing that Koreans are less consistent than Americans are when responding to questions about values. In accord with prior research, the authors find that Koreans are both more acquiescent and less consistent than Americans are. However, the differences between countries in acquiescence partially mediate the differences between countries in consistency. In sum, when using mathematical measures of consistency, researchers must take into account the influence of response styles, and the authors demonstrate two methods for accomplishing that.

Keywords: culture; consistency; response styles; acquiescence; values

An acquiescent response style is the tendency to agree rather than disagree with items, regardless of the item content. Research suggests that people in East Asian countries tend to have a more acquiescent response style than people in North American countries do (e.g., Johnson, Kulesa, Cho, & Shavitt, 2005; Smith, 2004). Therefore, to the extent that acquiescence influences other variables, it may explain differences between Asian and American countries in those other variables (Matsumoto & Yoo, 2006).

Most researchers understand how acquiescence influences measures, that are computed by adding and subtracting ratings (e.g., on a five-item Satisfaction Scale). However, fewer researchers appreciate how acquiescence influences measures of similarity or consistency that are computed as the absolute values of sums or differences. Yet, a tendency to agree rather than disagree (or vice versa) in fact will inflate such measures of consistency.

Imagine that participants rate pairs of contradictory statements (which we call "A" and "B") on bipolar ratings scales—for example, scales ranging from –5 (*disagree*) to +5 (*agree*). Inconsistency is sometimes operationalized as the absolute value of the sum of the ratings, because |A + B| is greater when participants agree with both statements or disagree with both statements (the absolute sum of two positive or two negative ratings) than when

participants agree with one statement and disagree with the other (the absolute sum of a positive and a negative rating). Yet a respondent's tendency to favor certain parts of the response scale will influence the |A + B| expected simply by chance. A respondent's expected inconsistency or |A + B| on any scale can be computed as follows:

$$\text{expected } |A+B| = \sum_{i=MIN}^{MAX} \sum_{j=MIN}^{MAX} (p_i)(p_j)\,|\,i+j\,|,$$

where *MIN* and *MAX* are the values of the scale endpoints and p_i and p_j are the proportions of responses associated with each scale value. For example, on an 11-point –5 to +5 scale, *MIN* = –5 and *MAX* = +5. If a participant circles "+1" 20% of the time and "+2" 10% of the time, then for i = +1 and j = +2, that participant's $(p_i)(p_j)|i + j|$ = .08. Summing such values for all 11 × 11 = 121 permutations of i and j yields the expected |A + B| for that participant. All else equal, the expected |A + B| is minimized when the distribution of ratings is symmetrical around the scale midpoint (i.e., there is no bias to agree or disagree).

To better understand Equation 1, consider the simplest case: a dichotomous yes-or-no scale (with *yes* coded as 0.5 and *no* coded as –0.5). In this case, Equation 1 reduces to: expected |A + B| = $(p_{YES})(p_{YES})$|+0.5 – 0.5| + $(p_{NO})(p_{NO})$|+0.5 + 0.5| + $(p_{YES})(p_{NO})$|–0.5 – 0.5| = p_{YES}^2 + p_{NO}^2. Thus, the expected |A + B| is 0.50 for a person who agrees 50% of the time, 0.63 for a person who agrees 75% of the time, and 1.00 for a person who agrees 100% of the time.

In other words, the more a person agrees with statements, the more that person (by chance) will agree with contradictory statements and appear inconsistent. Likewise, the more a group of people agrees with statements, the more that group of people (by chance) will agree with contradictory statements and appear inconsistent. Specifically, if people in Asia agree with statements more often than people in America do, then they (by chance) will agree with more contradictory statements and appear more inconsistent. For example, using the formula above, if p_{YES} is 0.50 for North Americans and 0.75 for East Asians, then the expected |A + B| is 0.50 for Americans and 0.63 for Asians, and that might explain differences between Americans and Asians in their observed |A + B|.

To illustrate how acquiescence can contaminate measures of consistency, the current research replicated Choi and Choi (2002, Study 3). In that study, Koreans and Americans indicated on –5 to +5 scales how much they disagreed or agreed with three pairs of contradictory statements: "Equality is more important to me than ambition" and "Ambition is more important to me than equality"; "Self-respect is more important to me than an exciting life" and "An exciting life is more important to me than self-respect"; and "True friendship is more important to me than creativity" and "Creativity is more important to me than true friendship." Because the |A + B| for the pairs of contradictory statements was greater among Koreans than Americans, Choi and Choi concluded that the responses of Koreans were less consistent than those of Americans. However, this conclusion is premature without controlling for the effect of an acquiescent response style.

Let us call the hypothesis that Koreans actually show less consistent responding the "Consistency Hypothesis," and the hypothesis that Koreans simply show more acquiescent responding the "Response Style Hypothesis." The principle of parsimony requires that the Response Style Hypothesis (that treats each response as an independent event) takes precedence over the more complex Consistency Hypothesis (that requires juxtaposing pairs of responses). So to conclude that there are cultural differences in consistency, we must first

remove the effects of acquiescence. In the following study, we did so by testing whether country explained variance in the observed |A + B| even when controlling for the expected |A + B| given each respondent's response style.

Method

Participants

The participants were native English speakers attending the University of Idaho in the United States (51 females, 11 males, $M = 26.8$ years, $SD = 8.9$ years) and native Korean speakers attending Hansung University in South Korea (44 females, 11 males, $M = 24.2$ years, $SD = 2.4$ years). American participants were recruited from various psychology courses and received extra credit; Korean participants were recruited from a student computer lab and received no compensation. The ethnicities of the U.S. participants were 86% European American, 8% Hispanic American, 3% Asian American, 2% African American, and 2% Native American. No corresponding ethnic variation existed in the Korean sample.

Materials and Procedure

Our study replicated Choi and Choi (2002, Study 3), with one exception. Because the findings for Choi and Choi's small sample ($n = 3$) of value pairs may not generalize to other value pairs, we asked participants to respond to larger sample ($n = 24$) of value pairs. Following Choi and Choi, we used values from the Rokeach Values Survey (Rokeach, 1973). Specifically, we used 12 "instrumental" values (broadminded, cheerful, clean, helpful, honest, imaginative, independent, intellectual, logical, loving, obedient, courageous) and 12 "terminal" values (comfortable life, sense of accomplishment, exciting life, equality, family security, freedom, mature love, pleasure, self-respect, social recognition, true friendship, wisdom). Each value was paired with two other values, yielding 24 value pairs, such as "Wisdom (a mature understanding of life) is more important to me than pleasure (an enjoyable, leisurely life)," "Family security (taking care of loved ones) is more important to me than pleasure (an enjoyable, leisurely life)," and "Being honest (sincere, truthful) is more important to me than being cheerful (lighthearted, joyful)." Note that to ensure that a similar concept was conveyed in both languages, each value was followed by words or phrases that clarified its meaning. All materials were created in English, translated into Korean, and back-translated to ensure accuracy.

For convenience, the study was administered by computer. Each value statement appeared one at a time. In response to each statement participants were asked to "Please indicate how much you agree or disagree" on –5 (*completely disagree*) to +5 (*completely agree*) scales. After responding to each of the 24 value pairs, respondents were shown those value pairs again with the order of the values reversed. For example, if they had previously seen "Wisdom is more important to me than Pleasure," they would later see "Pleasure is more important to me than Wisdom." In sum, participants made a total of 48 responses. Order of presentation was random with the constraint that there were at least six items between items mentioning the same value. (Due to experimenter error, the statements that included "equality" were presented incorrectly and were unusable, so only 44 of the 48 responses were used in the analyses.)

Results

To screen for invalid data, we computed for each participant a pairwise, intraclass correlation coefficient between pairs of opposing value statements (for details on how and why we used an intraclass r, see Griffin & Gonzalez, 1995). For 95.7% of participants (96.7% in the United States and 94.0% in South Korea), the pairwise intraclass r between contradictory statements was less than 0, which indicates at least some consistency in responding. The other 4.3% ($n = 5$) with rs ≥ 0 probably either misunderstood the directions or responded randomly and so were excluded from the analyses, leaving 52 Korean and 60 American participants. (Including the excluded respondents did not change the results.)

Acquiescent responding was operationalized as a participant's average rating on the +5 (*agree*) to –5 (*disagree*) scales. Acquiescent responding was greater for Koreans ($M = 0.084$, $SD = 0.402$) than for Americans ($M = -0.063$, $SD = 0.383$), $t(110) = -1.98$, $p = .05$, $r^2 = .03$. The expected |A + B|, computed from participants' tendencies to endorse each scale point, was greater for Koreans ($M = 3.22$, $SD = 0.82$) than Americans ($M = 3.01$, $SD = 0.81$), but the difference was not significant, $t(110) = -1.38$, $p = .17$.

To test if country predicted |A + B| and if expected |A + B| mediated country differences in |A + B|, we conducted a hierarchical regression on |A + B|, entering country on the first step and expected |A + B| on the second. On the first step, country explained significant variance, $b = 0.33$, $SE = 0.13$, $p = .01$, part $r^2 = .06$. Replicating Choi and Choi (2002), |A + B| was greater for Koreans ($M = 1.68$, $SD = 0.73$) than Americans ($M = 1.31$, $SD = 0.59$). On the second step, expected |A + B| explained considerable additional variance, $b = 0.37$, $SE = 0.07$, $p < .001$, part $r^2 = .19$. After controlling for expected |A + B|, the effect of country on |A + B| was still significant ($b = 0.25$, $SE = 0.11$, $p = .03$, part $r^2 = .03$). However, a difference in coefficients test (Freedman & Schatzkin, 1992) showed that the coefficient for country was significantly reduced from the first to the second step of the analysis, $t(110) = 3.97$, $p < .001$, which indicated that expected |A + B| partially mediated the country differences in |A + B|.

Discussion

In support of the Consistency Hypothesis, Koreans' value preferences were less consistent than Americans' preferences, even controlling for the consistency due to participants' response styles. This finding fits with other findings suggesting that East Asians may process information in more fluid, holistic, or dialectical ways than Americans (Choi & Choi, 2002; Nisbett, Peng, Choi, & Norenzayan, 2001). In support of the Response Style Hypothesis, Koreans were more acquiescent than Americans, and the between-country differences in response style partially mediated the between-country differences in consistency. To be precise, although acquiescence was not the whole story behind the differences between countries in consistency, it was—at least in our data—half the story.

Although both the Consistency Hypothesis and the Response Style Hypothesis received support, neither received robust support. Country only explained 3% of the variance in acquiescence and 3% of the variance in consistency. Our results fit with other results suggesting cultural influences on acquiescence are fragile and may depend on subtle features of the samples (e.g., student vs. nonstudent), items (e.g., values vs. traits), and scales (e.g.,

2-point scales vs. 11-point scales; e.g., Grimm & Church, 1999). Differences between cultures or countries in consistency or flexibility may prove to be similarly fragile.

Although we used hierarchical regression to unpackage consistency and acquiescence (Matsumoto & Yoo, 2006), an alternative method is to compute consistency as the within-subject correlation between pairs of inconsistent statements (since the r formula controls for covariation due to acquiescence). Computing within-subjects rs is akin to standardizing within-subjects (Fischer, 2004), an appropriate technique when the variable of interest is a within-person response pattern such as consistency. In our data, the within-subjects intra-class r results were consistent with the hierarchical regression results; specifically, the rs were weaker for Koreans than Americans, Ms = −.65 and −.76, SDs = 0.22 and 0.15, $t(110) = −3.19$, $p < .01$. However, the advantage of the hierarchical regression method we used is that it estimates, in addition to controlling for, the effects of response styles.

To summarize, our results support three conclusions. First, Koreans (and perhaps other Asians) sometimes show more acquiescence and inconsistent responding than Americans do. Second, these differences may be fragile. Third, to draw valid conclusions from mathematical measures of consistency, researchers must use means of controlling for the influence of response styles.

References

Choi, I., & Choi, Y. (2002). Culture and self-concept flexibility. *Personality and Social Psychology Bulletin*, *28*, 1508-1517.

Fischer, R. (2004). Standardization to account for cross-cultural response bias: A classification of score adjustment procedures and review of research in JCCP. *Journal of Cross-Cultural Psychology*, *35*, 263-282.

Freedman, L. S., & Schatzkin, A. (1992). Sample size for studying intermediate endpoints within intervention trials of observational studies. *American Journal of Epidemiology*, *136*, 1148-1159.

Griffin, D., & Gonzalez, R. (1995). Correlational analysis of dyad-level data in the exchangeable case. *Psychological Bulletin*, *118*, 430-439.

Grimm, S. D., & Church, A. T. (1999). A cross-cultural study of response biases in personality measures. *Journal of Research in Personality*, *33*, 415-441.

Johnson, T., Kulesa, P., Cho, Y. I., & Shavitt, S. (2005). The relation between culture and response styles: Evidence from 19 countries. *Journal of Cross-Cultural Psychology*, *36*, 264-277.

Matsumoto, D., & Yoo, S. H. (2006). Toward a new generation of cross-cultural research. *Perspectives on Psychological Science*, *1*, 234-250.

Nisbett, R. E., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review*, *108*, 291-310.

Rokeach, M. (1973). *The nature of human values.* New York: Free Press.

Smith, P. B. (2004). Acquiescent response bias as an aspect of cultural communication style. *Journal of Cross-Cultural Psychology*, *35*, 50-61.

Kenneth D. Locke received his PhD in psychology from Stanford University and is now professor and chair of the Department of Psychology and Communication Studies at the University of Idaho. He is also past-president of the Society for Interpersonal Theory and Research. His research interests include interpersonal circumplex models, social comparisons, the measurement of complex social cognitions, and cultural influences on all of the above.

Kyoung-Deok Baik, BA, is a native of South Korea and is currently a graduate student in the Department of Psychology and Communication Studies at the University of Idaho. Her research interests are cultural variations in personality descriptions and the diagnosis and treatment of psychological problems.