Divergent Consequences of Success and Failure in Japan and North America: An Investigation of Self-Improving Motivations and Malleable Selves

Steven J. Heine
University of British Columbia

Shinobu Kitayama
Kyoto University

Darrin R. Lehman
University of British Columbia

Toshitake Takata
Nara University

Eugene Ide and Cecilia Leung
University of Pennsylvania

Hisaya Matsumoto
Kyoto University

Abstract

Self-enhancing and self-improving motivations were investigated in North American (Canadian and American) and Japanese university students. Conceptually replicating much of the self-enhancement and self-efficacy literatures, North Americans who received failure feedback persisted less on a follow-up task than those who received success feedback. In contrast, Japanese who received failure feedback persisted more on a follow-up task than those who received success feedback. This tendency to respond to failure with increased efforts is evidence for a self-improving orientation among Japanese: an awareness of shortcomings highlights where corrective efforts are needed. Japanese who had failed also enhanced the importance and the diagnosticity of the task compared to those who had succeeded, whereas North Americans exhibited the opposite pattern. Study 2 revealed that these self-improving motivations are specific to the tasks on which one receives feedback. Study 3 “unpackaged” the cultures by demonstrating that these cultural differences are due, at least in part, to divergent lay theories regarding the utility of effort. Study 4 addressed a problem with contrasting cultures on subjective Likert scales and replicated these cultural differences with a different measure.
Divergent Consequences of Success and Failure in Japan and North America: An Investigation of Self-Improving Motivations and Malleable Selves

“All you have to do is believe in yourself and you can accomplish anything you want.” Those words represent a commonly shared piece of folk-wisdom in North America. Believing in oneself, having confidence in oneself, and thinking positive and optimistic thoughts about oneself enables people to perform their best (e.g., Bandura, 1982; Seligman, 1995; Taylor & Brown, 1988). This belief is propagated through North American schools and has served as an impetus for the creation of the Task Force on Self-Esteem in California. Empirical evidence tends to confirm the validity of these views, revealing that a heightened sense of self-efficacy and optimism often results in enhanced achievement (e.g., Bandura, 1982; Feather, 1966; Felson, 1984; Taylor & Brown, 1988).

In recent years, however, researchers concerned with cultural variation in psychological processes have suggested that a positive focus may not be the only way to motivate the self, but may be just one way—a way that is more pronounced in Euro-American cultural contexts (Fiske, Kitayama, Markus, & Nisbett, 1998; Heine & Lehman, 1997a; Heine, Lehman, Markus, & Kitayama, 1999; Kitayama & Markus, 1999). There are other ways that one can motivate the self for achievement (De Vos, 1973; Maehr, 1974), or affirm the self (Lebra, 1976), and thus maintain both objective and subjective well-being (Kitayama & Markus, 2000). Individual achievement and the motivation for it are not necessarily tethered to the positivity of the socially detached self and associated optimistic beliefs. Achievement and motivation can also be associated with self-critical views.

In the present paper, we draw on this emerging theme from recent theorizing in cultural psychology and examine divergent motivational systems that are prevalent in two distinct cultures: Japan and North America. Our theoretical analysis is based on the notion that these regions have historically nurtured different construals of self (Heine et al., 1999;
North Americans are more likely to view the self as independent, unique, and relatively immutable whereas East Asians tend to embrace theories of the self as interdependent, embedded, and malleable. To be sure, there is much within-culture variability and cross-cultural overlap with respect to these and all psychological characteristics or processes. Our interest is in how the different cultures promote and encourage distinct practices and ideals to which individuals respond, and thus we focus on contrasts of the variance between cultures. These cross-culturally divergent modes of being allow testable predictions of the conditions under which selves are most motivated to work hard and persist on an ability task.

**North American Self-Enhancing Motivations**

Cultural practices and meanings common in contemporary North America are organized in accordance with a model of self which includes the notions that: 1) a person is an autonomous entity defined by a distinctive set of attributes and qualities; 2) a configuration of these internal attributes largely determines or causes behavior; 3) these attributes are relatively immutable and constant across situations; and 4) it is good for individuals to view these attributes and processes positively (Markus & Kitayama, 1991). Many cultural practices in contemporary North America, such as corporations basing promotions and salaries on individuals’ achievements, schools emphasizing the building of self-esteem (Harter, 1983; Lewis, 1995), and conversational scripts involving mutual admiration and praise exchange (Kitayama & Karasawa, 1996; Wierzbicka 1994), are grounded in this model of self (see Heine et al., 1999 for more discussion of cultural practices that sustain self-relevant motivations among North Americans).

These cultural practices and associated beliefs, meanings, and icons encourage and afford corresponding psychological processes and structures (Kitayama & Markus, 1999). Being brought up in a cultural context comprised of such practices, North Americans are
likely to develop habitual psychological tendencies of identifying positive attributes of the self, confirming them in private, and expressing them in behavior. These psychological tendencies are motivated and sustained in part by a cultural assumption that the self is a relatively fixed, stable entity. Dweck and colleagues have called this an entity theory of self (e.g., Chiu, Hong, & Dweck, 1997; Dweck, Hong, & Chiu, 1993; Dweck & Legget, 1988; Hong, Chiu, Dweck, Lin, & Wan, 1999). If one subscribes to a theory that one’s self is largely defined by a set of relatively fixed, unchangeable, and consistent inner attributes (Campbell et al., 1996; Cousins, 1989; Markus & Kitayama, 1991; Ross, 1989), a motivation to see the self and its component features in the most positive light takes on increased importance. Obtaining a positive evaluation of the self becomes a more focal and central concern than the process of becoming a better self—an attempt at improving the self would in fact yield little reward if the self were largely immutable. We suggest, then, that people in these cultural contexts not only attend selectively to positive aspects of themselves (i.e., self-enhancement), but also feel especially motivated to work hard on tasks in which they excel. Such a strategy provides a greater likelihood of further enhancing the positivity of the self and maintaining the sense of self as an efficacious agent (Bandura, 1999).

Volumes of research on self-efficacy, self-esteem, self-enhancement, and self-evaluation maintenance conducted in North American cultural contexts support the present analysis. For example, highly self-efficacious people are better able to overcome dysfunctional fears and inhibitions, avoid substance abuse, and work hard in achievement settings than those who are low in self-efficacy (e.g., Bandura, Jeffery, & Gajdos, 1975; Bandura, Reese, & Adams, 1982; Condiotte & Lichtenstein, 1981; Schunk, 1981). Similarly, people who view themselves positively (as evidenced by self-esteem scores, tendencies to hold unrealistically positive self-beliefs, or recent encounters with successes), are more likely to reap a variety of benefits including greater life satisfaction, better school achievement, and
Japanese Self-Improvement

less depression (e.g., Abramson, Seligman, & Teasdale, 1978; Baumeister, 1993; Diener, 1984; Hiroto & Seligman, 1975; Taylor & Brown, 1988). The research tends to reveal that North Americans who dwell on their strengths are able to accomplish more.

East Asian Self-Improving Motivations

In contrast, in many cultural contexts outside North America, especially those in East Asia, a different model of self has been historically incorporated into cultural practices and meanings. This model of self includes the notions that: 1) a person occupies a position within an encompassing hierarchical set of social relationships; 2) the self is relatively fluid and malleable; 3) behavior is a consequence of being responsive to role obligations within one’s ingroup; and 4) it is preferable for people to incorporate and adjust themselves to such role obligations and relationships (Markus & Kitayama, 1991; Su et al., 1999; Triandis, 1989). Many practices in contemporary East Asian cultures, including seniority-based systems of promotion and salary (Clark, 1979; Kang, 1990), an educational focus on group learning (Stevenson & Stigler, 1992; Tobin, Wu, & Davidson, 1989), child-rearing styles that emphasize self-discipline and cooperation with others (Hess & Azuma, 1991), and conversational scripts emphasizing constructive criticism, empathy, and sympathy (Condon, 1976; Iwatake, 1978; Kitayama & Karasawa, 1996; Kitayama & Markus, 1999), are rooted in this model of self (for a more detailed review of cultural practices underlying Japanese self-relevant motivations see Heine et al., 1999).

This view of self has been importantly shaped by Confucian thought. In particular, Confucianism emphasizes the importance of understanding one’s roles within a hierarchy, and of fulfilling obligations to others that are associated with these roles. To the extent that one has a duty to ingroup members to live up to the standards of one’s roles, it follows that individuals must have the potential to master the skills necessary to carry them out. The roles determine the standards of performance, and it is crucial for individuals to adjust themselves
accordingly. Thus, whereas the roles remain relatively immutable, the self must be malleable
enough to be able to approximate the consensually-shared standards regarding the roles (Su
et al., 1999). This orientation leads to an enhanced concern for role perfection (Befu, 1986;
De Vos, 1973; Doi, 1973), and sustains a lay understanding of the self as context-dependent
(Cousins, 1989; Kanagawa, Cross, & Markus, in press; Suh, 2000), fluid (Campbell et al.,
1996; Heine, in press), adjustable (Morling, Kitayama, & Miyamoto, 2000; Su et al., 1999;
Weisz, Rothbaum, & Blackburn, 1984), and ultimately “improvable” (Chiu et al., 1997).

This emphasis on improving the self towards consensually-shared standards can be
seen in a variety of achievement contexts in Japan. For example, traditional arts of East
Asian origins such as sadou (the path of tea, or more colloquially, the tea ceremony), kendou
(the path of the sword, or Japanese fencing), or shodou (the path of writing, or calligraphy)
often emphasize the significance of adjusting one’s mind, heart, and body to the ideal form
and style as the royal road to learning and perfecting the arts. The “path” (dou or michi in
Japanese) is the generic term to signify the ideal ways of performing the arts and
coordinating one’s mind and heart with the performance. Interestingly, when Western sports
such as baseball or football are imported to Japan, they are subtly modified to fit the Japanese
ethos of achievement motivation. Good or ideal forms of batting, pitching, tackling, and
catching are all invented or otherwise showcased and used in daily training (e.g., Whiting,
1990). This Japanization of Western sports does not necessarily lead to better performance,
but the point remains that the psycho-social structure organizing the achievement has been
modified to fit the general ethos of role perfection that permeates Japanese society.

Dweck and colleagues call the belief that the self is improvable an incremental theory
of self (e.g., Chiu et al., 1997; Dweck & Legget, 1988; Hong et al., 1999). If one subscribes
to a theory that achievement hinges primarily on efforts (Holloway, 1988; Singleton, 1995;
Stevenson & Stigler, 1992), and thus is changeable, then a motivation to improve the self
takes on increased importance. The process of becoming a better self will be a more focal concern than evaluating the self positively—such an evaluation would be relatively uninformative and inconsequential if the self is fluid and changing. We suggest, then, that individuals in East Asian cultural contexts are socialized to attend selectively to negative attributes and aspects of themselves that are seen as improvable (i.e., self-criticism) and, further, that when these negative, improvable aspects of the self are made salient, people feel especially motivated to work hard at correcting them. These self-perceptions highlight the potential of becoming a better self; a self that is expected by others from one’s ingroup. In short, those who participate in cultures with a Confucian heritage should be especially responsive to events that signal negativity and need for improvement of the self with increased achievement motivation.

Consistent with the foregoing analysis, evidence indicates that, on average, Japanese are more self-critical than North Americans as indicated by measures of self-esteem, self-enhancement, self-evaluation maintenance, self-discrepancies, and sensitivity to negative information (for a review see Heine et al., 1999). At present, however, behavioral consequences of failure or negative self-perceptions are much less well understood. Blinco (1992) found that Japanese first graders persisted longer than their American counterparts on a challenging puzzle task. Similarly, Fujinaga (1990) observed that Japanese preschoolers persist longer on difficult concentration tasks than Americans. A recent study found that Asian-Canadian students were more likely to choose to continue working on the same task if they had earlier failed than did Euro-Canadian students (Hoshino-Browne & Spencer, 2000). We interpret these results as demonstrating that East Asians are more motivated to make efforts in situations in which they fail. Our analysis predicts that Japanese will persist longer specifically after they are made aware of their weaknesses, and not after their strengths.

In contrast, consistent with much theorizing on self-enhancement and self-efficacy
Japanese Self-Improvement

Do not hallucinate.

(e.g., Bandura, 1982; Taylor & Brown, 1988), we anticipate that North Americans will persist longer after they have discovered their strengths. Past research on persistence conducted with Western samples has employed a variety of designs and has yielded a rather complicated pattern of results\(^1\). In general, though, measures of intrinsic motivation and performance tend to drop among Americans and Australians when they encounter failure (Baumeister, Hamilton, & Tice, 1985; Feather, 1966, 1968, 1969; Pyszczynski & Greenberg, 1983; Shrauger & Rosenberg, 1970), a pattern opposite to what we anticipate for Japanese a la self-improvement theory.

Present Research

This paper reports a series of four studies designed to test the divergent consequences of success and failure in achievement motivation in North Americans and Japanese. Three of these studies employed an intrinsic motivation paradigm in which the degree of achievement motivation was indexed by measures of persistence on an achievement task. In most past studies of intrinsic motivation persistence has been measured with a second task that participants were required to perform (e.g., Feather, 1966, 1968; McFarlin et al., 1984; Shrauger & Sorman, 1977), a design element that we believe adds concerns for participants to perform better in order to compensate for their previous failures. In other studies failure feedback has been delivered publicly (e.g., Baumeister & Tice, 1985; Shrauger & Rosenberg, 1970), which we believe confounds intrinsic motivation with a desire to make a favorable impression on the experimenter. We suggest that self-enhancement in North America and self-improvement in Japan are intrinsic and instigated by a spontaneous, agentic effort to establish a culturally sanctioned form of self. Hence, these motivations would best be observed in situations in which participants are allowed to freely choose whether or not to engage in tasks (cf. Lepper & Greene, 1975), and for which evaluative feedback was received in a private setting. In the present studies, participants neither performed in front of an
experiment nor persisted on a task that was a requirement of the experiment.

Study 1

Method

Participants

Canadian participants were introductory psychology students at the University of British Columbia (UBC). Participants were contacted through the participant pool, and because we wanted to compare Japanese with a Western sample, potential participants were included if their surname appeared to be of European origin. Sixty-two UBC students completed Study 1, but the data from 2 were eliminated because these participants expressed suspicion regarding the deception, leaving a total of 60 participants (34 females and 26 males) in the Canadian sample. Japanese participants were introductory psychology students at Kyoto University. Seventy-eight participants completed Study 1, but the data from 1 were eliminated because this participant was not fluent in Japanese. None of the Japanese participants expressed suspicion regarding the deception. This resulted in a total of 77 participants (32 females and 45 males) in the Japanese sample.

Procedure

Participants were told that the purpose of the study was to assess the relation between creativity and emotional intelligence. They were first given a version of the Remote Associates Test (RAT; originally developed by Mednick, 1962), which they were told was a widely used and reliable measure of creativity. In the RAT participants are shown 3 words and are asked to generate the one word that relates to the other three (e.g., sleep, fantasy, and day all relate to the word dream). Participants were informed that the experimenter would never see their responses. Participants themselves were to grade their RAT beyond the view of the experimenter and to put the graded test in an envelope when they were finished.
We had created 160 RAT items (80 in Japanese and 80 in English) and pretested them in large classes in Japan and in Canada. We eliminated items that had multiple solutions and calculated the percentage of people that answered each of the remaining items correctly. Based on this pretest we made 3 different versions of the RAT (10 items) in each language. One version comprised mostly very difficult items that few people answered correctly. Another version comprised mostly very easy items that most people answered correctly. A third version comprised items ranging in difficulty.

After 8 minutes working on the items the experimenter stopped the participants and gave them an answer sheet and a distribution of the RAT performance of other students from their university. Participants graded their own tests and discovered that for each item there was indeed a correct answer. They were then asked to look over the distribution sheet and circle the number they answered correctly and the corresponding percentile score. Participants in the failure condition received the difficult version of the RAT. The percentile distribution was skewed such that the vast majority of them discovered that they scored well below the 50th percentile. Participants in the success condition received the easy version of the RAT and an opposite skewed percentile distribution, with the vast majority discovering that they scored well above the 50th percentile. The experimenter was blind to the assignment of condition: s/he did not know which version of the RAT the participant received. The participants put their completed materials into the envelope and signaled to the experimenter when they were finished.

The experimenter told them that the next phase of the study involved taking a test of emotional intelligence (EQ) on the computer. However, after starting the EQ program the computer inexplicably crashed. The experimenter, acting confused and in somewhat of a panic, said that s/he would have to go find the professor to get a new file to make the computer work. The experimenter said that this could take a while so if the participant
wanted they could work on another set of RAT items – the third set of items of varying difficulty. Participants were explicitly told that this set was not part of the study, but that they were free to work on it if they desired. The experimenter then rushed out of the room and went to an observation room where s/he observed the participant via a hidden camera. The experimenter timed how long the participant persisted on the items up to a maximum of 15 minutes. When the participant stopped persisting for 90 seconds, or had reached the 15 minute maximum, the experimenter returned and apologized that because s/he couldn’t find the professor they would not be able to take the EQ test. The participant was then given a follow-up questionnaire, for which the experimenter first crossed out all items regarding the EQ test in front of the participant. After completing this questionnaire the participant was probed for suspicion and thoroughly debriefed. All Canadian participants were run through the procedure in English by a female experimenter and Japanese participants were run through the procedure in Japanese by either a male or female experimenter.

Materials

The questionnaire consisted of a manipulation check and some follow-up items. The manipulation check items asked participants to recall how many RAT items they had answered correctly and what their percentile score had been. They were then asked on Likert scales how accurately they thought the RAT measured creativity from 1 (Not at All Accurately) to 4 (Very Accurately), how important they felt RAT skills are in daily life from 1 (Not at All Important) to 4 (Very Important), and how they felt after viewing their performance on the RAT from 1 (Felt Very Bad) to 5 (Felt Very Good). The questionnaire also included some compensatory self-enhancement items that are discussed elsewhere (Heine, Kitayama, & Lehman, in press), and a question asking participants to rate how important creativity is for succeeding in their culture on a scale from 1 (Not at All Important) to 5 (Extremely Important). Last, participants completed some demographic items.
Whereas the RAT items were originally created either in Japanese or English, all of the questionnaire measures were translated into Japanese from English employing the following procedure: A bilingual translator did an initial translation, and the first two authors carefully checked the translation for potentially problematic items. Then, a group of 4 bilinguals discussed and resolved the problematic items.

**Results and Discussion**

**Preliminary Analyses**

One Canadian assigned to the success condition failed to get enough items correct to score above the 50th percentile and one Japanese assigned to the failure condition answered too many correctly thus scoring above the 50th percentile. The data from these 2 individuals were excluded as the feedback they received was at odds with their assigned condition. As well, the data from an additional Canadian participant were excluded because she indicated that she scored below the 50th percentile when in fact she had scored above it. The key effects in this study remain significant even when these 3 participants’ data are included.

Fifty-seven percent of the final Canadian sample was female, in contrast to 42% of the Japanese sample. These proportions are marginally different $\chi^2(1, N = 134) = 2.88, p < .09$. Sex was included as a factor in all analyses and are reported whenever the effects reach conventional levels of significance. The Canadian sample ($M = 19.4$ years) was marginally older than the Japanese sample ($M = 18.9$ years), $F(1, 134) = 3.60, p < .07$, but age did not correlate with any of the dependent variables.

Canadians assigned to the success condition answered, on average, 7.1 items correctly out of 10 ($SD = 1.81$), corresponding to the 88th percentile ($SD = 13.4$), whereas Japanese success participants averaged 6.8 items correct ($SD = 1.48$), corresponding to the 85th percentile ($SD = 11.1$). These scores are not significantly different, $F < 1$. Canadians assigned to the failure condition answered, on average, 1.6 items correctly out of 10 ($SD = 1.81$), corresponding to the 7th percentile ($SD = 7.4$). These scores are significantly different, $F(1, 134) = 11.07, p < .01$. The sex of the participant was included as a factor in all analyses and are reported whenever the effects reach conventional levels of significance.
Japanese Self-Improvement

1.41), corresponding to the 14th percentile (SD = 11.2), whereas Japanese failure participants averaged 1.8 items correct (SD = 1.59), corresponding to the 15th percentile (SD = 13.1). These scores also are not significantly different, F < 1. Across conditions there was a highly significant effect for both the number of items answered correctly, F (1, 132) = 466.59, p < .001, and the average percentile score, F(1, 132) = 14,795.8, p < .001.

Persistence

A culture by condition ANOVA conducted on the amount of time participants persisted on the second set of RAT items revealed a highly significant interaction, F(1, 127) = 16.54, p < .001. Simple effect analyses revealed that Canadians who had succeeded (M = 735.9 seconds, SD = 173.7) persisted significantly longer than those who had failed (M = 603.1 seconds, SD = 204.7), F(1, 55) = 6.27, p < .02 (see Figure 1). This replicates much past research on persistence with Westerners (Baumeister et al., 1985; Feather, 1966, 1968, 1969; Frankel & Snyder, 1978; Pyszczynski & Greenberg, 1983; Shrauger & Rosenberg, 1970). Apparently, discovering that they were talented on the RAT motivated Canadians to persist longer on the second set of items compared with their counterparts who had initially discovered that they had done poorly. In stark contrast, Japanese who had succeeded (M = 586.7 seconds, SD = 298) persisted significantly less than those who had failed (M = 779.0 seconds, SD = 184), F(1, 72) = 11.43, p < .002. Japanese were more motivated to continue working on the RAT after discovering that they were poor at the task than after discovering that they were adept at it.

Questionnaire Measures

Participants were asked a number of follow-up questions with respect to their thoughts about the RAT and creativity. First, they were asked to indicate how accurately they felt the RAT measured creativity. A significant culture by condition interaction emerged, F(1, 127) = 12.18, p < .001. Simple effect analyses revealed that Canadians who
discovered that they did well believed the test to be more accurate than those who discovered that they did poorly, $F(1, 55) = 18.03, p < .001$ (see Table 1).

Japanese, in contrast, displayed a nonsignificant tendency to view the test as more accurate when they had failed than when they had succeeded, $F < 1$. Thus, Japanese did not exhibit the self-enhancing tendency displayed by Canadians of discounting the accuracy of a test that yielded undesirable results. This cross-cultural difference has been observed in other studies (Heine & Lehman, 1997b; Heine, Takata, & Lehman, 2000).

Participants were also asked how they felt about themselves after learning about their performance on the RAT. A significant culture by condition interaction emerged, $F(1, 125) = 4.80, p < .04$. Participants from both cultures reported feeling better after success than after failure (both $ps < .001$). However, simple effect analyses revealed that although participants from both cultures felt equally bad after failure, $F < 1$, Canadians felt significantly better than Japanese after success, $F(1, 59) = 14.96, p < .001$. Canadians, with a more self-enhancing orientation, appear to reap more emotional benefits from success than do Japanese.

Two items in the follow-up questionnaire assessed the perceived importance of remote association skills and creativity. The first question, asking how important remote association skills are for succeeding in life, revealed a marginal culture by condition interaction, $F(1, 127) = 3.85, p < .06$. Simple effect analyses revealed that whereas Canadians viewed remote association skills to be more important for succeeding in life if they had done well on the test than if they had done poorly, $F(1, 55) = 20.28, p < .001$, Japanese importance ratings were not significantly affected by the feedback, $F(1, 72) = 2.72, p > .10$. A second question asked how important creativity is for succeeding in society. A significant culture by condition interaction emerged here, $F(1, 124) = 6.13, p < .02$. Canadians viewed creativity to be nonsignificantly less important if they had failed than if they had succeeded, $F(1, 54) = 1.29, ns$, whereas Japanese viewed creativity to be
significantly more important if they had failed than if they had succeeded, $F(1, 73) = 5.16, p < .03$. Canadians thus appeared to disarm the threat of their failures by minimizing the importance of remote association skills and creativity relative to their successes. In contrast, Japanese exhibited further evidence of a self-improvement orientation by viewing what they did poorly at as especially important, perhaps as a means to underscore the need for efforts to improve.

The results of Study 1 provide evidence that failure tends to serve as a motivating force for Japanese, whereas Canadians are more motivated by success. One alternative account for the pattern revealed in Study 1 deserves comment. The Japanese sample came from Kyoto University, the number 2 ranked public university in Japan. These students are, on average, a highly select over-achieving group who are likely used to successfully surmounting challenges through their efforts. Indeed, every one of them had successfully passed an extraordinarily difficult entrance exam that required years of hard work and preparation. Perhaps the self-improving pattern exhibited by the Japanese students in Study 1 is owing to the unusual nature of this sample; self-improvement may characterize the motivations of the top echelon of achievers rather than Japanese in general.

This account would lose plausibility if the Japanese pattern replicated with a less exclusive sample. We conducted a replication of the Japanese part of the study with students at Nara University, in Nara, Japan. Nara University is a private 4-year school, ranked approximately in the middle of the distribution of Japanese universities. The study was run identically except that because of time constraints in running individual participants we used an 8-item RAT measure. All of the results replicated the findings from the Kyoto University sample in Study 1. Most notably, Nara University students also persisted significantly longer after failure ($M = 706.7$ seconds, $SD = 245.6$) than after success ($M = 532.7$ seconds, $SD =$
A Japanese self-improving orientation within this paradigm, therefore, is not restricted to students from Japan’s most prestigious institutions.

Study 2

Study 1 provided evidence that Japanese are more motivated to work on a task following failure than following success, whereas Canadians are more motivated to persist after success than after failure. This motivation was assessed by measuring how long participants chose to persist on a task versus to sit alone in a room doing nothing. It is unclear in these studies whether the motivation was just to be “doing something” or if it was specific to the task on which they received feedback. Perhaps failure feedback leads Japanese to be fretful so they desire to work on whatever is available, rather than be specifically motivated to correct their newly identified shortcoming. Likewise, perhaps success feedback served as an “adrenaline rush” for Canadians, motivating them to put their efforts into any available activity. Study 2 explored whether self-improving and self-enhancing motivations are task specific by providing Japanese and American participants with 2 different tasks to work on while the experimenter was absent. We anticipated that the feedback would be motivating specifically for the task relevant to the feedback, but not for the other task.

Study 2 also investigated the degree to which this cultural difference in persistence is mediated by beliefs about the malleability of the self. We have argued that the North America self is viewed as relatively fixed and immutable compared with how it is viewed in Japan. Dweck and colleagues (Chiu et al., 1997; Dweck & Legget, 1988; Hong, Chiu, & Dweck, 1995; Hong et al., 1999) propose that such beliefs are reflected in individuals’ implicit theories regarding whether the self is viewed as incremental or as an entity. Dweck and colleagues have made a convincing case that lay theories cognitively represented as personal beliefs among individuals can significantly mediate their psychological responses.
Japanese Self-Improvement

(e.g., Dweck et al., 1993). For example, incremental theorists have been shown to persist more after repeated failures (e.g., Hong et al., 1999). Hence, the motivational tendency predominant in a given culture, discussed here, may well be mediated by lay theories individually held by members of the culture.

Method

Participants

American participants were students at the University of Pennsylvania who took part in the study either to receive course credit or $8 cash. Participants responded to advertisements inviting them to participate with the restrictions that they have English as their first language and that they were born in the US. Seventy students participated, but the data from three were excluded because one was suspicious of the deception, a second discovered the hidden camera, and a third did not follow the experimenter’s instructions. This resulted in a U.S. sample of 67 participants (49 females and 18 males).

Japanese participants were psychology students at Kyoto University who took part in the study for course credit. Ninety-one students (21 females and 70 males) participated.

Procedure

Participants were told that the purpose of the study was to investigate the relations between “pattern recognition” skills and emotional intelligence. In contrast to Study 1, creativity was never mentioned, although participants were told that pattern recognition was an important dimension of IQ. We wanted to see whether the obtained effects generalized beyond assessments of creativity. Before taking part in the RAT, participants completed a brief questionnaire that contained a 3-item measure of implicit theories regarding the fixed nature of personality (Chiu et al., 1997). These items were: “The kind of person someone is is something very basic about them and it can’t be changed very much,” “People can learn to do things differently, but the important parts of who they are can’t really be changed,” and
“Everyone is a certain kind of person and there is not much that can be done to really change that.” All items were answered on a 5-point Likert scale. Because items regarding incremental theories appear to elicit ceiling effects in responses, the 3 items were all reverse-scored. Much research supports the validity of this method of assessing incremental theories (e.g., Chiu et al., 1997; Norenzayan, Choi, & Nisbett, 1999). Then participants were given either an easy or difficult version of the RAT (some of the items were changed from Study 1 to make the easy version slightly more challenging and the difficult version slightly less challenging), and they graded their own answers and checked how they did relative to others on a bogus percentile distribution. Again, the computer crashed during the EQ test and participants were left alone as the experimenter ostensibly was trying to find the professor. In fact, s/he was in an observation room timing the participant’s persistence.

Unlike Study 1, this time the participant was left with 2 tasks with which they could pass the time. On one side of a sheet of paper was the second set of RAT items (this time the set included some impossible items to prevent the possibility that some participants might complete all of the items). On the other side of the sheet was a geometric figure task, adopted from Feather (1961), in which participants were instructed to try to trace a figure without lifting their pencil or retracing a line. The participants were briefly shown the geometric figure task as the experimenter was leaving and they were told they could do whatever they liked to pass the time, and that neither task was part of the experiment. From the observation room the experimenter timed how long the participant persisted on each of the tasks (the participants often switched back and forth between the two) until the participant quit or had worked for a total of 20 minutes, whichever came first.

The participant was then given a follow-up questionnaire including the same items as in Study 1 (except that all mentions of “creativity” were replaced with “pattern recognition skills”). Each participant was then probed for suspicion and thoroughly debriefed. American
participants were run in English by a male experimenter and Japanese participants in Japanese by a male experimenter.

Results and Discussion

Preliminary Analyses

Two Americans and 2 Japanese assigned to the failure condition answered too many items correctly, and 3 Japanese assigned to the success condition failed to answer enough items correctly, so they each ended up receiving feedback opposite to what they had been assigned. These 7 participants were excluded from the final analyses. Furthermore, 1 American and 2 Japanese incorrectly remembered their percentile score and they too were removed from the analyses. This left a final U.S. sample of 64 participants (33 success, 31 failure) and a final Japanese sample of 84 participants (40 success and 44 failure). All of the key analyses remained significant when these 10 participants’ data were included.

Seventy-three percent of the U.S. sample was female in contrast to 25% of the Japanese sample. These proportions are significantly different, $\chi^2(1, N = 148) = 34.32, p < .001$. Sex was included as a factor in all analyses but none of the effects were statistically significant. The two samples did not differ with respect to age, $F(1, 147) = 1.74, \text{ ns}$. Americans assigned to the success condition averaged 6.6 items correct out of 10 ($SD = 1.56$), corresponding to the 83rd percentile ($SD = 10.1$). Japanese success participants averaged 5.3 items correct out of 10 ($SD = 1.36$), corresponding to the 75th percentile ($SD = 11.0$). These scores were significantly different, $F(1, 73) = 10.86, p < .002$, indicating that the English items were relatively easier than the Japanese items, thereby rendering the success feedback more positive for Americans than for Japanese. In the failure condition Americans averaged 3.5 items correct out of 10 ($SD = 1.23$), corresponding to the 24th percentile ($SD = 6.8$), whereas Japanese participants averaged 3.1 items correct ($SD = 1.39$), corresponding to the 22nd percentile ($SD = 7.5$). These scores were not significantly