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The Role of Culture, Attribute Type, and Informant in Partner-enhancement: A Study of Chinese and American College Couples

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The Role of Culture, Attribute Type, and Informant in Partner-enhancement: A Study of Chinese and American College Couples

DISSERTATION

submitted in partial satisfaction of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

in Psychology and Social Behavior

by

Karen Wu

Dissertation Committee:
Professor Chuansheng Chen, Chair
Professor Ellen Greenberger
Professor Joanne Zinger

2016

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I thank my wonderful committee members, Professors Chuansheng Chen, Ellen Greenberger, and Joanne Zinger, for their continued support throughout this program, their dedication to my professional development, and their guidance on this dissertation. In addition, I thank Professors Pete Ditto and Chris Bauman for their time in serving on my advancement committee.

This research would not have been possible without my collaborators in Beijing Normal University in China—Yunxin Wang, Daiming Xiu, Bin Liu, Chunhui Chen, Jin Li, Wen Chen, Yuyun Liu, Qi Dong. Finally, the following individuals should be recognized for their invaluable help with this project: Vyvy Phan, Nina Szwerinski, Dustin Maneethai, Jonathan Lim, Nicole Nosrat, Justin Huft, Shan Tang, Ronica Senores, Ryan Ebrahim, Stephanie Nguyen, Blaise Lallathin, Chelsea Mumma, Andrew Phou, and Craig Toyota.

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CURRICULUM VITAE

Karen Wu

EDUCATION

2016	Ph.D., Psychology and Social Behavior University of California, Irvine
2012	M.A., Social Ecology University of California, Irvine
2009	B.A., Psychology University of California, Berkeley

GRANTS, HONORS, AND AWARDS

2015	Graduate Student Mentoring Award
2014	University of California, Irvine, Summer Research Fellowship Graduate Student Mentoring Award Fall 2014 Social Ecology Dean's Dissertation Writing Fellowship ($12,000)
2013	University of California, Irvine, Summer Research Fellowship Graduate Student Mentoring Award ($200) Psi Chi Graduate Student Grant ($1,500) Society for Personality and Social Psychology Student Poster Award Finalist
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RESEARCH INTERESTS

Social relationships; self-motivations; self-concept; cross-cultural psychology;

personality/individual differences; intergroup relations; stereotypes/prejudice; human mate selection; behavioral genetics; decision-making

PUBLICATIONS

Wu, K., Chen, C., Moyzis, R.K., Greenberger, E, & Yu, Z. (in press). Gender interacts with the opioid receptor A118G polymorphism and the serotonin receptor -1438A/G polymorphism on speed-dating success. *Human Nature*.

Wu, K., Chen, C, & Greenberger, E. (in press). Depressive symptoms moderate the effect of partner-feedback on relationship quality among college couples. *Personal Relationships.*

Li, J., Cui, Y., Wu, K., Liu, B., Zhang, Y., Wang, C., Jiang, T. (2015). The cortical surface area of the insula mediates the effect of DBH rs7040170 on novelty seeking. *NeuroImage, 117*, 184-190. doi: 10.1016/j.neuroimage.2015.05.033.

Li, J., Chen, C., Wu, K., Zhang, M., Zhu, B., Chen, C., Moyzis, R.K., & Dong, Q. (2015). Genetic variations in the serotoninergic system contribute to amygdala volume in humans. *Frontiers in Neuroanatomy*. doi: 10.3389/fnana.2015.00129

Wu, K., Chen, C., & Greenberger, E. (2014).The sweetness of forbidden fruit: Interracial daters are more attractive than intraracial daters. *Journal of Social and Personal Relationships, 32*, 650-666. doi: 10.1177/0265407514541074

Wu, K. (2014, July 31). Our genes, our "chemistry": The search for the perfect match. Society of Research on Adolescence (Newsletter). Retrieved from http://www.s-r-a.org/announcements/online-newsletter/2014-07-31-our-genes-our-chemistry-search-perfect-match

MANUSCRIPTS UNDER REVIEW

Wu, K., Chen, C, Greenberger, E., Wang, Y., Xiu, D., Liu, B., Chen, C., Li, J., Chen, W., Liu, Y., & Dong, Q. The role of culture, attribute type, and informant in partner-enhancement: A study of Chinese and American college couples

Wu, K., Chen, C., & Greenberger, E. When words do not become actions: Attitude-behavior incongruency in ingroup preferences among Asian American speed-daters

Wu, K., Chen, C., & Greenberger, E. Rose-tinted Views of Beauty Cross Cultural Boundaries: Cross-ethnic similarities in patterns of partner-enhancement

Chen, W., Chen, C., Xia, M. Wu, K., Chen, C., He, Q., Xue, G., He, Y., Dong, Q. Interaction effects of BDNF and COMT Genes on Resting-state Brain Activity and Working Memory

MANUSCRIPTS IN PREPARATION

Wu, K., Chen, C., & Greenberger, E. Nice guys and gals can finish first: Personality and speed-dating success among Asian Americans

Wu, K., Chen, C., Moyzis, R.K., Nuno, M., Yu, Z., & Greenberger, E. Major Histocompatibility Complex (MHC)-Based Mate Preferences among Asian American Speed-daters

Wu, K., Chen, C., & Greenberger, E. Personality and self-biases: A speed-dating study of Asian Americans

POSTER PRESENTATIONS

Wu, K., Chen, C., & Moyzis, R.K. (2015, May). *"Boys Don't Cry": Gender moderates the association between the opioid receptor A118G polymorphism and speed-dating success.* Poster presented at the meeting of the Association for Psychological Science, New York, NY.

Tran, M., & Wu, K. (2015, May). *The roles of culture and partner attributes in relationship quality: Chinese and American couples differ in the importance of a partner's internal but not external attributes.* Poster presented at the meeting of the Association for Psychological Science, New York, NY.

Wu, K., Greenberger, E., & Chen, C. (2014, February). *Think yourself beautiful: The importance of self-views of attractiveness to individual and relationship well-being.* Poster presented at the meeting of the Society for Personality and Social Psychology, Austin, Texas.

Wu, K., Chen, C., & Greenberger, E. (2013, June). *Wealth or beauty, East or West? The role of culture in partner-enhancement.* Poster presented at the meeting of the International Association for Cross-Cultural Psychology, Los Angeles, California.

Wu, K., Greenberger, E., & Chen, C. (2013, January). *Fulfilling the need to belong: More depressed individuals report higher relationship quality after social feedback.* Poster presented at the meeting of the Society for Personality and Social Psychology, New Orleans, Louisiana.

Huft, J.R., & Wu, K. (2013, January). *A cross-ethnic study of physical intimacy and relationship quality in romantic couples.* Poster presented at the meeting of the Society for Personality and Social Psychology, New Orleans, Louisiana.

Wu, K., Greenberger, E., & Chen, C. (2012, June). *Sweet little lies: Secure attachment predicts higher self-esteem in response to partner-enhancement.* Poster presented at the meeting of the Association for Psychological Science, Chicago, Illinois.

Wu, K., Chen, C., & Greenberger, E. (2012, January). *Crossing color lines for your love of me: Interracial daters' high levels of perceived positive regard from romantic partners.* Poster presented at the meeting of the Society for Personality and Social Psychology, San Diego, California.

Wu, K., Chen, C., & Greenberger, E. (2011, June). *Moth or butterfly? Multiracial individuals' discordant self- and partner-perceptions.* Poster presented at the meeting of the Association for Psychological Science, Washington, D.C.

Wu, K., Greenberger, E., & Chen, C. (2011, June*). To think me kind is to make our love divine: How enhancement of communal traits predicts relationship satisfaction.* Poster presented at the meeting of the Association for Psychological Science, Washington, D.C.

SELECTED MEDIA COVERAGE

Psychology Today. September 11, 2014. “Interracial daters are rated more attractive”
Pacific Standard. July 15, 2014. “Interracial couples are big on mutual appreciation”
Examiner.com. October 9, 2013. “Speed dating study: Does the 'pill' affect women's pick of partners?”
Digital Journal. September 18, 2013. "Do genes help us select our romantic partner?"

RESEARCH EXPERIENCE

University of California, Irvine

2009-present Laboratory for Socio-Cultural Research on Adolescent and Young Adult Development; Chuansheng Chen and Ellen Greenberger, Directors

- Designed and conducted a series of studies about culture, individual differences, and partner-enhancement in romantic relationships, using self-reports, experiments, and focus groups. Dyadic data were collected in the US and China.
- Designed and conducted experimental body-image study examining the influence of social comparison processes in Asian American females’ self-esteem and satisfaction with facial features.
- Designed and conducted a series of studies about characteristics of interracial daters and attitude- and behavior-based preferences in interethnic dating.
- Designed and conducted speed-dating study examining genetic, biological, and behavioral factors in mate preferences. Helped write manuscripts regarding links between genes, the brain, and behavior.

University of California, Berkeley

2007-2009 Culture and Cognition Laboratory; Kaiping Peng, Director

- Worked with Associate Professor Satoshi Akutsu on study design, stimuli collection, data analysis, and interpretation of results in various studies examining the role of culture in (1) the experience of emotions, (2) volunteering behaviors, and (3) processing of visual scenes.

2006-2009 Social Interaction Laboratory; Dacher Keltner, Director

- Assisted in Dr. Laura Saslow’s studies about predictors of long-term relationship satisfaction. Sorted through archives, located and contacted potential participants, digitized images and videos, coded data, and refined study procedures.
- Led and mentored other research assistants on Dr. Saslow’s project about positive interactions between couples and relationship quality. Created coding schemes and trained other undergraduates to digitize and code interaction videos.
- Completed honors thesis project under guidance of Drs. Laura Saslow and Sarina Rodrigues Saturn.

University of California, San Francisco

2007 Center for Tobacco Control Research and Education

- Contributed to training meetings and coded magazines produced by tobacco companies as a paid research assistant under Daniel Cortese, PhD, and Pamela Ling, MD, for project on tobacco marketing strategies.

TEACHING AND MENTORING EXPERIENCE

Teaching Assistant at University of California, Irvine
Social Relationships, 2014
Human Sexuality, 2012, 2013, 2014
Research Design, 2013
Social Animal, 2013
Nuclear Environments, 2012
Cultural Psychology, 2012
Naturalistic Field Research, 2011
Human Development across Cultures, 2011
Lifespan Development, 2011
Cognitive-Behavioral Therapy, 2010
Error and Bias, 2010
Case Studies in Public Health Practice, 2010
Psychology Fundamentals, 2009

Invited Lectures and Talks at University of California, Irvine
"Speed-dating as a Research Paradigm" for Global Village Seminar
"Love in the 21st Century: Revelations from Online Dating and Speed-dating" for Social Relationships (2010, 2012, 2014, 2015)
"Culture and Romantic Relationships" for Human Development across Cultures
"Self-and-Partner Trait Preferences in Romantic Relationships" for Research Design
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"Perceived Attractiveness of Interracial and Intraracial Daters"

General Mentoring Experience at University of California, Irvine
Mentored over 20 undergraduates, guiding students through various aspects of research design, including generating research questions, designing study procedures, applying for funding, recruiting participants, conducting experiments and focus groups, handling and analyzing data, interpreting results, and dispersing findings through posters at national conferences, oral presentations, and papers. Prepared students for graduate programs, such as by helping them identify appropriate programs and establish timelines, mentoring them on independent research

projects, helping them with revisions on personal statements and research statements, and practicing interviews with them. All 9 mentees who applied to graduate programs were accepted, many to their first choice program.

Undergraduate Research Opportunities Program (UROP) and Honors Thesis Mentor, with Dr. Chuansheng Chen

Michelle Tran: Perceived partner attributes and relationship quality among American and Chinese Couples, 2014-2015.

Jonathan Lim (current PhD student in Marketing, UCLA and recipient of Dean's Scholar Award and Social Ecology Honors Program Award): Love at first sight? Asian Americans' use of impression management on a first date, 2012-2013.

Ronica Senores (current MA student in Psychology, CSULA and recipient of Excellence in Research Award and Social Ecology Honors Program Award): The roles of self-esteem and gender in mate-value accuracy in a speed-dating environment, 2012-2013.

Justin Randall Huft (graduated with MFT from Chapman University and received Excellence in Research Award): A cross-ethnic study of physical intimacy and relationship quality in romantic couples, 2011-2012.

AD-HOC REVIEWER

Social Psychological and Personality Science
Personal Relationships
Journal of Family Studies

PROFESSIONAL MEMBERSHIPS

Society for Personality and Social Psychology

ABSTRACT OF THE DISSERTATION

The Role of Culture, Attribute Type, and Informant in Partner-enhancement: A Study of Chinese and American College Couples

By

Karen Wu

Doctor of Philosophy in Psychology and Social Behavior

University of California, Irvine 2016

Professor Chuansheng Chen, Chair

Positive illusions have a welcome place in most relationships, especially romantic relationships. It is unclear, however, whether individuals from different cultures are viewed in an overly positive way, or enhanced, by their partners to the same extent. This set of five studies (n = 196-286 per quantitative study) examined patterns of *enhancement by a partner* (also known as *partner-enhancement*) among young couples in the US and in China.

In Study 1, I surveyed undergraduates (n = 286) who were currently in romantic relationships and found similarities in levels of *perceived enhancement by a partner* (PEP) for Asian, European, and Hispanic Americans, despite ethnic differences in self-ratings consistent with previous research that documented lower self-enhancement among Asians. Additionally, for all ethnic groups, PEP varied by attribute type, such that physical attractiveness was perceived to be the most enhanced of four attribute types (the other attribute types were related to kindness, intelligence, and outgoingness).

In Study 2, I surveyed dating couples (n = 236) to test ethnic differences in *actual enhancement by a partner* (AEP). As with Study 1, East Asian, Southeast Asian, Hispanic, and European Americans were similar in levels of AEP. Also consistent with prior research and

findings of Study 1, East Asian Americans rated themselves less positively than did European Americans. Furthermore, physical attractiveness was again the attribute most enhanced by romantic partners.

In Study 3 (n = 248), I obtained, in addition to the original measures of PEP and AEP, measures of PEP and AEP based upon third-party ratings of physical attractiveness. That is, partner-enhancement was assessed using third-party ratings, instead of self-ratings, as the baseline. Also, I examined possible ethnic differences in associations between partner-enhancement and relationship quality. Findings were consistent with Studies 1 and 2, in that East Asian, Southeast Asian, Hispanic, and European Americans showed few differences in third-party-based partner-enhancement or in the original measures of partner-enhancement. For all cultural groups, physical attractiveness was again the most enhanced. Few ethnic differences were detected in associations between partner-enhancement and relationship quality. The exceptions indicated that partner-enhancement may be less beneficial for Asians than for European Americans. Across the four ethnic groups, PEP was more positively associated with relationship quality than was AEP, and partner-enhancement of relational attributes (e.g., kindness) was generally more positively associated with relationship quality than was partner-enhancement of personal attributes (e.g., intelligence, outgoingness, physical attractiveness).

In Study 4, given that the lack of ethnic differences in Studies 1 through 3 might have been due to participants' acculturation to American norms, I examined patterns of partner-enhancement in a sample of young couples living in China (n = 196), comparing them to the sample in Study 3. Although Chinese rated themselves lower on all attribute types than did Americans, Chinese and Americans were similar in levels of PEP and AEP. For both groups, physical attractiveness was the most enhanced attribute type. Associations between partner-

enhancement and relationship quality were generally similar for the two groups, with three exceptions out of eight comparisons. These exceptions indicated that partner-enhancement may be less beneficial for the relationship quality of Chinese than of Americans.

Finally, in Study 5, I conducted focus groups of young college students in the US (n = 28) and China (n = 34) who were currently in romantic relationships to understand the underlying motivations behind partner-enhancement. Results indicated that Americans had individual-oriented motivations for partner-enhancement, whereas Chinese had social-oriented motivations.

In summary, across the first four studies, there were similarities in levels of partner-enhancement on selected attributes across ethnic and national groups despite differences in self-ratings on these attributes. These cross-cultural similarities in levels of partner-enhancement held across attribute types (e.g., relational and personal traits) and informants (i.e., participants, their partners, independent raters). Partner-enhancement was also similarly associated with relationship quality across cultural groups, with only a few examples showing that partner-enhancement of certain attribute types may be less beneficial to relationship quality in eastern than western culture. Based on responses from the focus groups that I conducted, this pattern might be due to feelings of pressure to live up to a partner's high expectations (from partner-enhancement) among Asians, which contrast with feelings of confidence derived from partner-enhancement among Americans. In conclusion, partner-enhancement may be more culture-general than self-enhancement, but its motivations may differ cross-culturally, and attribute type and informant should be considered when studying partner-enhancement.

Introduction and Literature Review

Positive illusions have a welcome place in most relationships, especially romantic relationships. Partner-enhancement originates from self-enhancement theory, which states that people strive to raise their self-esteem (Leary, 2007). The motivation to enhance one's self manifests itself in an array of human behaviors, from peoples' subtle preferences for words that begin with the first letter of their names (Nuttin, 1985), to peoples' tendencies to claim responsibility for successes but deny responsibility for failures (Blaine & Crocker, 1993). In western cultures, enhanced self-views consistently have been linked to greater individual well-being, such as lower levels of anxiety and higher levels of resilience (for reviews, see Bonanno, 2004 and Taylor & Brown, 1988). Although partner-enhancement, in comparison to self-enhancement, is relatively understudied, research in the US indicates that *enhancement by a partner* is also normative and beneficial to relationship well-being (e.g., Murray, Holmes, & Griffin, 1996a). However, few studies have examined enhancement by a partner in cultural groups other than Europeans or European Americans. Thus, the primary goal of the present research is to investigate cross-cultural differences and similarities in enhancement by a partner.

Partner-enhancement in the East and West

While few studies have examined partner-enhancement in non-European cultures, existing research on cultural differences in self-enhancement provides insight into possible patterns of partner-enhancement in East Asian cultures. Some researchers believe that East Asians do not self-enhance at all, whereas others believe that East Asians merely self-enhance *less* than do Europeans (Taylor & Sherman, 2008). In a meta-analysis of 91 studies, Heine and Hamamura (2007) found that East Asians demonstrated a lack of self-enhancement (d = .08), except in studies that utilized implicit measures of self-esteem. The studies included in the meta-

analysis used a wide variety of methods to assess self-enhancement of East Asians relative to westerners, such as "false uniqueness" effects, self-and-peer evaluations, memories for success and failures, and various measures of self-esteem. However, other researchers argue that East Asians' emphasis on modesty may mask their self-enhancement in these studies (Kurman, 2001). Findings that East Asians self-enhance to the same extent as Americans on implicit measures of self-esteem (Kobayashi & Greenwald, 2003) lend support to this position. Another study by Cai et al. (2011) showed that modesty moderated the effect of culture on implicit versus explicit self-esteem. Specifically, amongst Chinese participants, both trait-modesty and induced state-modesty were related to lower explicit self-esteem but higher implicit self-esteem. Among Americans, trait-modesty and induced state-modesty were related to lower explicit self-esteem but were unrelated to implicit self-esteem. This finding suggests that compared to westerners, East Asians may engage in enhancement in a more indirect, strategic manner, and that the expression of modesty via less positive explicit self-ratings actually may be an extension of their positive implicit self-views.

One method of boosting one's self-worth without directly enhancing oneself would be to seek enhancement from an intimate partner. East Asians may receive and benefit from enhancement by a partner but not self-enhancement due to their interdependent self-construals (Markus & Kitayama, 1991). Individuals must live up to different standards depending on what the prevailing culture defines as desirable. In East Asia, cultural norms may require self-effacement, that is, self-criticism, rather than self-enhancement (Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997). However, East Asians may nonetheless receive and benefit from others' positive regard for them without violating important cultural rules. The concept of *face* supports this prediction. *Face*, or *mianzi* in Chinese, describes the importance of one's image, or

reputation, across different interpersonal contexts (Chang & Holt, 1994). *Face* encompasses what others see of the self, but its effects extend outside of the self to others within the individual's in-group. A good *face* is thought to provide one and one's in-group with self-respect. It is also encouraged that people protect each other's *face*. Thus, partner-enhancement may be normative and beneficial amongst East Asians, helping to preserve *face*. Consistent with this possibility, East Asians may derive their self-worth from positive meta-perceptions (i.e., perceptions of how others view them) rather than from positive self-views. It is also possible that East Asians benefit from enhancement by a partner not because it boosts their self-worth, but instead because it is indicative of harmonious relationships (Endo, Heine, & Lehman, 2000).

A limited number of studies have found evidence for enhancement within East Asians' interpersonal relationships. One study found that Japanese enhanced close others over "average" others (Brown & Kobayashi, 2003). Similarly, Endo et al. (2000) found that Japanese, Japanese Canadians, and European Canadians all exhibited relationship-enhancement, rating their own relationships, including romantic relationships, as better than their peers'. However, these "better-than-average" findings have been criticized on the basis of the individuation effect (Alicke et al., 1995). Specifically, people are found to be less biased when they make comparisons to specific individuals rather than "average" others due to the abstract nature of the latter. Another study, albeit one that did not examine partner-enhancement, found that whereas Japanese students did not make self-serving attributions, they expected their family and close friends to do so, for them (Muramoto, 2003). These findings indicate that in interdependent cultures, people may engage in enhancement indirectly, through their close relationships.

Attribute Type and Partner-enhancement

Researchers also have suggested that attribute type may play an important role in cross-cultural studies of enhancement. Specifically, due to their more collectivistic nature, East Asians may be enhanced on relational traits, which tend to benefit relationships, rather than personal traits, which tend to benefit the individual (Brown & Kobayashi, 2003; Kurman, 2001). Attribute type indeed seemed to act as a moderator in a predominantly European American sample, in which the link between actual enhancement by a partner and relationship quality was more positive for relational as opposed to personal attributes (Seidman, 2012).

A limited number of studies also have examined whether self-enhancement among East Asians differs depending on attribute type. Sedikides, Gaertner, and Toguchi (2003) found that Americans and individuals with independent self-construals self-enhanced attributes reflecting independence, whereas Japanese and individuals with interdependent self-construals self-enhanced on attributes reflecting interdependence. A host of other studies, however, have failed to replicate these findings (for a review, see Heine & Hamamura, 2007). More research is needed to clarify the role of attribute type in East Asians' self- and partner-enhancement.

The Role of the Informant in Partner-enhancement

Another potential source of cross-cultural variation in partner-enhancement is the informant who reports partner-enhancement. In the US, people appear to project their self-views and partner-ideals onto their views of their romantic partners, such that their views of their partners are largely illusory (Murray, Holmes, & Griffin, 1996b). If this same phenomenon occurs in non-western cultures, then actual enhancement by a partner could be lower in such cultures due to less self-enhancement (and thus more realistic views of partners). Alternatively, it is possible that East Asians do enhance their partners but that their partners do not perceive enhancement, perhaps due to their more indirect and less open communication styles (Park &

Kim, 2008) or modesty norms that may affect reporting (Cai et al., 2011). It is thus helpful to compare people's perceptions of enhancement to their actual levels of enhancement. The two constructs, *perceived* enhancement by a partner (PEP) and *actual* enhancement by a partner (AEP), are likely to be distinct. Studies have found relatively little congruence between self-perceptions and other-perceptions, although self-perceptions and meta-perceptions, or one's estimation of others' views of them, are similar (for a review, see Schrauger & Schoeneman, 1979).

Third-party ratings of individuals also may help to shed light on cross-cultural differences in partner-enhancement. Current conceptualizations of self-enhancement in studies of group differences often assume that all groups are, on average, equal in the measured attribute, and thus groups that rate themselves higher also self-enhance more. Other studies use the "better-than-average" paradigm, which is subject to the "individuation effect" as described previously (Alicke et al., 1995). In studies of partner-enhancement, two groups would be similar in levels of partner-enhancement if the first group had both low self-ratings and low partner-ratings, whereas the second group had both high self-ratings and high partner-ratings. If the groups are assumed to be equal on the attribute in question, the first group would consist of people who saw their partners in a much less rosy light despite similarities in partner-enhancement. However, it is possible that the first group is actually lower than the second group on the attribute, and that neither group is wearing rosier-colored lenses than the other. One method of clarifying this issue is to obtain third-party ratings of the attributes and to redefine partner-enhancement as the degree to which an individual is viewed more positively by his or her partner than by a "neutral" third-party. There may very well be cross-cultural variations in one of these ways of conceptualizing partner-enhancement but not the other.

Summary and Overview of Studies

In sum, although many studies indicate that partner-enhancement is normal and beneficial to the relationship well-being of Europeans and European Americans (e.g., Brown, Stukas, & Evans, 2012; Lackenbauer, et al, 2010; Luo & Snyder, 2009; Murray, Holmes, & Griffin, 1996a), the current understanding of partner-enhancement in other cultures is limited. While self-enhancement seems to be relatively low in East Asia (Heine & Hamamura, 2007), enhancement by a partner could provide East Asians with an indirect way of self-enhancement, allowing them to feel good about themselves while abiding to important cultural values such as modesty (Cai et al., 2011; Kurman, 2001). Cultural patterns of enhancement by a partner may in turn be influenced by attribute type and informant.

I thus explored possible cross-cultural differences or similarities in enhancement by a partner in a set of five studies. In Study 1, PEP was examined across four previously established attribute types, and compared among European, Hispanic, and Asian Americans. In Study 2, couples were surveyed and AEP was compared across attribute types for European, Hispanic, East Asian, and Southeast Asian Americans. In Study 3, in addition to collecting the measures of PEP and AEP used in Studies 1 and 2, independent ratings of couples' attractiveness were used as a baseline to derive a measure of partner-enhancement from which effects of self-enhancement are removed. PEP and AEP using this measure, as well as the original measures, were compared among European, Hispanic, East Asian, and Southeast Asian Americans. Study 4 compared patterns of partner-enhancement in a sample of couples living in China to those of the young American couples from Study 3. Finally, Study 5 was a qualitative study that explored the motivations behind partner-enhancement among samples of Chinese and American college students who were in committed relationships.

Study 1: Are there Ethnic Differences in Perceived Partner-enhancement?

In Study 1, I tested two rival hypotheses regarding levels of PEP across ethnic groups. Compared to European Americans, Asian Americans and Hispanic Americans might report higher levels of PEP of relational attributes and lower levels of PEP of personal attributes, as it has been posited that relational attributes are more valued in collectivistic cultures (e.g., Brown & Kobayashi, 2003; Kurman, 2001) (Hypothesis 1.1a). Alternatively, since self-enhancement has been found to be much less prevalent in East Asian cultures (e.g., Heine and Hamamura, 2007)—a finding attributed to their collectivistic orientation, Asian Americans (and Hispanic Americans by inference) might report lower levels of PEP across attribute types (Hypothesis 1.1b).

Method

Participants

Participants (N = 286) consisted of undergraduates with diverse majors (drawn from Psychology, Economics, Computer Science, and Social Ecology courses) at a large, public west coast university. All participants were 18 years of age or older, and were currently dating. 67% of participants were female. The mean age of the participants was 21.70 years (SD=3.26). 40% were Asian, 27% were European, 17% were Hispanic, and 8% were mixed-race. The remaining participants mostly identified as Middle Eastern (4%) or South Asian/Asian Indian (2%).

Measures

Attribute Types and Ratings. Participants rated themselves and estimated their partner's ratings of them on various traits on a 1-7 scale from "not at all descriptive of me" to "very much descriptive of me." A previous factor analysis (see Study 1 in Wu, Chen, & Greenberger, 2014, for details on the analysis) of the attributes that were important to the participants yielded four distinct attribute types comprised of 17 individual items: Relational

(five items: compassionate/kind, trustworthy, tolerant/accepting, affectionate, good friend), Cerebral (five items: intelligent, high in academic ability, rational, emotionally stable, ambitious/goal-oriented), Vibrancy (four items: outgoing/extraverted, fun/exciting, socially-skilled, confident), and Attractiveness (three items: physically attractive, sexy, well-groomed/stylish). Cronbach's alphas ranged from .67-.82 for self-ratings and .70-.81 for perceived partner-ratings.

Level of perceived partner-enhancement. To measure PEP, that is, the extent to which individuals believe that their partners see them more positively than they see themselves, I subtracted self-ratings from perceived partner-ratings on self-attributes, thus forming a signed difference score. A more positive score indicated greater PEP.

Procedure

Questionnaires, that took approximately 10-15 minutes to complete, were administered either at the beginning or the end of class periods. Participation was voluntary and participants were not compensated. Participants provided demographic information and rated themselves and estimated their partner's ratings of them on various attributes.

Analyses

A preliminary two-way (ethnicity by gender) MANOVA was conducted to see whether I needed to consider interactions between ethnicity and gender. Results showed no significant gender-by-ethnicity interactions on PEP of any attribute type, all *p*s>.05. Thus, ethnic differences in PEP and secondary outcome measures (self-ratings and partner-ratings) were assessed through three one-way MANCOVAs (for PEP, self-ratings, and partner-ratings separately) with gender as a covariate. Significant ethnic differences were followed up using ANOVAs, which allowed for Tukey's-B post-hoc tests to identify differences between Asian Americans, European

Americans, and Hispanic Americans. Paired-sample *t*-tests were used to test for differences in PEP between attribute types for each ethnic group.

Results

There were ethnic differences in both self-ratings and perceived partner-ratings such that overall, Asian Americans rated themselves less positively and perceived that their partners viewed them less positively than did either of the other two groups. Specifically, Asian Americans rated themselves less positively on Relational and Attractiveness attributes than did European Americans, who in turn rated themselves less positively than did Hispanic Americans (Relational, $F(2, 234) = 4.23$, $p < .05$; Attractiveness, $F(2, 234) = 5.24$, $p < .01$). Compared to European and Hispanic Americans, Asian Americans also rated themselves lower on Cerebral attributes ($F(2, 234) = 13.58$, $p < .001$). Asian Americans perceived that their partners viewed them less positively on Cerebral attributes ($F(2, 233) = 5.03$, $p < .01$) than did European and Hispanic Americans. Asian Americans also perceived that their partners viewed them less positively on Attractiveness attributes than did Hispanic Americans, who in turn perceived lower ratings of themselves than did Caucasian Americans ($F(2, 233) = 4.91$, $p < .01$). See Table 1 for ethnic differences in self-ratings, perceived partner-ratings, and PEP.

Table 1

Study 1 Self-Ratings, Perceived Partner-Ratings, and Perceived Partner-enhancement (PEP) for Asian, European, and Hispanic Americans

Attribute Type	European Americans (*n*=77-78)	Hispanic Americans (*n*=49)	Asian Americans (*n*=111-115)	*F*	Group differences
		Self-rating			
Relational	6.11(.67)	6.23(.54)	5.91(.73)	4.23*	H > E > A
Cerebral	5.75(.65)	5.65(.60)	5.29(.70)	13.58***	H = E > A
Vibrancy	5.39(1.31)	5.47(.90)	5.19(1.07)	1.55	--
Attractiveness	4.99(1.14)	5.20(.97)	4.63(1.14)	5.24**	H > E > A
		Perceived Partner-rating			
Relational	6.06(.81)	6.02(.77)	5.90(.87)	.86	--
Cerebral	5.75(.74)	5.76(.65)	5.44(.83)	5.03**	H = E > A
Vibrancy	5.52(1.22)	5.77(.87)	5.46(1.03)	1.49	--
Attractiveness	6.02(1.04)	5.91(.84)	5.54(1.14)	4.91**	E > H > A
		Perceived Partner-enhancement (PEP)			
Relational	- .05(.52)	- .22(.78)	- .01(.60)	1.91	--
Cerebral	.01(.51)	.10(.54)	.15(.56)	1.87	--
Vibrancy	.13(.59)	.30(.75)	.27(.75)	1.46	--
Attractiveness	1.02(.86)	.71(1.05)	.90(1.09)	1.19	--

Note. Means and standard deviations are displayed. *F*-statistics are reported from MANCOVAs with gender as a covariate, ***$p \leq .001$; **$p \leq .01$; *$p \leq .05$, two-tailed. Post-hoc test was conducted using Tukey's-B test from ANOVA, $p < .05$. E=European Americans, H=Hispanic Americans, A=Asian Americans.
A one-sample *t*-test against the test-value of 0 (for no-enhancement) indicated that across the full sample, Cerebral, Vibrancy, and Attractiveness attributes were perceived to be enhanced (Cerebral, $t(284) = 3.68$, $p < .001$; Vibrancy, $t(281) = 6.01$, $p < .001$; Attractiveness, $t(284) = 14.46$; $p < .001$) whereas Relational attributes were not, $p > .05$.

I had predicted that compared to Europeans, Asian Americans and Hispanic Americans would report more PEP on Relational attributes and less PEP on personal attributes (i.e., Cerebral, Vibrancy, and Attractiveness attributes) (Hypothesis 1.1a), or alternatively, compared to Europeans, Asian Americans would report less enhancement across all attribute types (Hypothesis 1.1b). Neither hypothesis was supported as there were no significant ethnic differences in PEP, all *p*s > .05.

It is worth noting that mean levels of PEP differed across attribute types. For the total sample, Attractiveness attributes were perceived to be the most enhanced (M = .94, SD = 1.09), followed by Vibrancy attributes (M = .26, SD = .72), Cerebral attributes (M = .12, SD = .57), and Relational attributes (M = - .05, SD = .61). PEP was higher on Attractiveness than on other attribute types for all cultural groups (European: Cerebral, $t(77)=9.43$, $p < .001$, Vibrancy, $t(76)=8.92$, $p < .001$, Relational, $t(77)=10.03$, $p < .001$; Hispanic: Cerebral, $t(48)=4.26$, $p < .001$, Vibrancy, $t(48)=2.35$, $p < .05$, Relational, $t(48)=5.15$, $p < .001$, Asian: Cerebral, $t(113)=6.86$, $p < .001$, Vibrancy, $t(111)=5.23$, $p < .001$, Relational, $t(113)=8.66$, $p < .001$). In addition, for all cultural groups, PEP was higher on Vibrancy versus Relational attributes (European: $t(76)=2.44$, $p < .05$; Hispanic: $t(48)=4.08$, $p < .001$; Asian, $t(111)=3.68$, $p < .001$). For Hispanics and Asians, PEP was also higher on Cerebral versus Relational attributes (Hispanic: $t(48)=2.64$, $p < .05$; Asian: $t(113)=2.86$, $p < .01$).

In regards to gender differences, women rated themselves less positively on Cerebral and Vibrancy attributes than did men (Cerebral attributes: women, M = 5.43, SD = .67, men, M = 5.67, SD = .71, $F(1, 234) = 3.81$, $p < .01$; Vibrancy attributes: women, M = 5.20, SD = 1.12, men, M = 5.52, SD = 1.11, $F(1, 234) = 5.94$, $p < .05$) but did not differ in self-ratings of other attribute types, all *p*s > .05. Also, compared to men, women perceived that they were viewed

more positively by their partners on Attractiveness attributes (women, $M = 5.90$, $SD = .97$, men, $M = 5.54$, $SD = 1.20$, $F(1, 233) = 6.09$, $p < .05$). Men and women differed significantly in PEP of Cerebral and Vibrancy attributes, such that women reported higher levels of perceived enhancement on these attribute types than did men (Cerebral attributes: women, $M = .18$, $SD = .50$, men, $M = -.05$, $SD = .58$, $F(1, 233) = 10.07$, $p < .01$; Vibrancy attributes: women, $M = .35$, $SD = .69$, men, $M = .02$, $SD = .68$, $F(1, 233) = 13.74$, $p < .001$).

Study 1 Discussion

In this study, I asked whether there are ethnic differences in levels of perceived partner-enhancement and found no differences. Levels of PEP were similar across ethnic groups (Asian, European, and Hispanic Americans) despite ethnic differences in self-ratings and perceived partner-ratings. I also found that PEP varied by attribute type. Attractiveness attributes were perceived to be enhanced than others for all cultural groups.

Consistent with past literature, compared to European Americans, Asian Americans seemed to self-enhance less (Heine & Hamamura, 2007), rating themselves less favorably on their Relational, Cerebral, and Attractiveness attributes. In addition, Asian Americans perceived less favorable partner-ratings on their Cerebral and Attractiveness attributes than did European and Hispanic Americans.

Finally, there were some gender differences in levels of partner-enhancement, such that women reported higher levels of PEP on Cerebral and Vibrancy attributes types than did men. One possible explanation for this finding is that women may receive less criticism and/or more praise on their attributes from their partners. In one study of heterosexual couples, women reported being more aware of compliments from their partners than did men (Doohan & Manusov, 2004).

The next study sought to address several limitations of this study. The rating scale of 1-7 may have contributed to a ceiling effect, in which participants who rated themselves highly could not have indicated further PEP. Also, it was unclear from Study 1 to what extent PEP was grounded in reality. In the subsequent study, the rating scale was changed and AEP was measured instead. I also surveyed participants in more detail regarding their ethnicity to distinguish between East Asians and Southeast Asians, who may differ in their patterns of partner-enhancement.

Study 2: Are there Ethnic Differences in Actual Partner-enhancement?

Couples were surveyed on their self-ratings and their ratings of their partners to obtain a measure of AEP. With an improved design (i.e., using an 11-point instead of 7-point scale, and collecting dyadic data), I again tested the rival hypotheses examined in Study 1. Specifically, I predicted that compared to European Americans, East Asian, Southeast Asian, and Hispanic Americans could receive higher levels of AEP of relational attributes and lower levels of PEP of personal attributes due to their more collectivistic orientation (e.g., Brown & Kobayashi, 2003; Kurman, 2001) (Hypothesis 2.1a). Another possibility is that enhancement, even by a close partner, is not as important in collectivistic cultures regardless of attribute type, so East Asian, Southeast Asian, and Hispanic Americans should receive lower levels of AEP across attribute types (Hypothesis 2.1b).

Method

Participants

Participants were 118 couples (n=236) recruited from the Human Subjects Pool at a large, public university on the west coast (the same university as in Study 1). Eligible students received one unit of extra course credit for approximately 45 minutes of participation. Participants who were ineligible for extra credit received $6 for participation. Participation was limited to heterosexual couples who had been in an exclusive relationship for at least three months, and were age 18-30. The average age of participants was 20.30 years (SD = 2.08), and the average length of relationships was 18.10 months (SD = 16.13, Mdn = 13.00). I categorized participants of Asian ancestry into subcategories based on the Asian subcontinents, that is, the "Far east, Southeast, or Indian subcontinent" (U.S. Census Bureau, 2012). 28% of participants were East

Asian, 23% were Southeast Asian, 15% were European, 14% were Hispanic, 10% were mixed-race, 3% were Middle Eastern, and 3% were South Asian/Asian Indian.

Measures

Attribute Types and Ratings. Participants rated themselves and their partners on a slightly modified version of the attribute list in Study 1. To reduce the ceiling effects in self-ratings, self- and partner-ratings were rated on a 1-11 scale from "not at all descriptive" to "extremely descriptive" rather than "very descriptive" on the 7-point scale in Study 1. The 11-point scale was selected to avoid any tendencies towards rating oneself as "the perfect ten". A factor analysis yielded a four factor solution similar to that of Study 1 (for details, see Study 2, Wu, Chen, & Greenberger, 2014) and comprised of the following attribute types: Relational (seven items: compassionate/kind, affectionate, trustworthy, tolerant/accepting, good friend, family oriented, responsible), Cerebral (three items: intelligent, high in academic ability, ambitious/goal oriented), Vibrancy (four items: witty, confident, outgoing/extroverted, fun/exciting), and Attractiveness (four items: physically attractive, sexy, well-groomed/stylish, physically fit). Cronbach's alphas ranged from .69 - .78 for self-ratings, and .73 - .77 for partner-ratings.

Level of actual partner-enhancement. To measure AEP, that is, the extent to which individuals are viewed more positively by their partners than they view themselves, I subtracted individuals' self-ratings from their partners' ratings of them on attributes, forming a signed difference score. A more positive score indicated greater AEP.

Procedure

Couples came to the laboratory together and were surveyed in separate rooms regarding their self-ratings and their ratings of their partners on various attributes. They also rated the importance of the same attributes in themselves and provided their demographic information.

Analyses

Levels of AEP were computed using difference scores. Due to non-independence between partners' responses (Kashy & Snyder, 1995), linear mixed models with random intercepts (Kenny, Kashy, Cook, & Simpson, 2006) were used to assess possible ethnic and gender differences in levels of AEP, self-ratings, and partner-ratings.

In the Level 1 equation below (equation 1), where the subscript *i* refers to the individual and *j* refers to the couple, Y_{ij} is the predicted score on the outcome measure for the individual (self-rating, partner-rating, or AEP), β_{0j} is the predicted intercept or average outcome score for the couple, β_1 represents the overall slope between gender and the outcome score, X_{1ij} indicates the subject's gender, β_2 represents the overall slope between Hispanic versus European ethnicity and the outcome score, X_{2ij} indicates whether the individual is Hispanic or European, β_3 represents the overall slope between East Asian versus European ethnicity and the outcome score, X_{3ij} indicates whether the individual is East Asian or European, β_4 represents the overall slope between Southeast Asian versus European ethnicity and the outcome score, X_{4ij} indicates whether the individual is Southeast Asian or European, and e_{ij} is random error.

$$Y_{ij} = \beta_{0j} + \beta_1 X_{1ij} + \beta_2 X_{2ij} + \beta_3 X_{3ij} + \beta_4 X_{4ij} + e_{ij} \quad (1)$$

In the Level 2 equation below (equation 2), β_{0j} is the predicted intercept for the couple, γ_{00} is the overall intercept of scores on the outcome measure across couples, and u_{0j} is the random error for the deviation between the intercept of the couple and the overall intercept.

$$\beta_{0j} = \gamma_{00} + u_{0j} \quad (2)$$

I used paired-sample *t*-tests to examine possible differences in levels of AEP between attribute types.

Results

As in Study 1, ethnic differences in self-ratings and partner-ratings were found. East Asian Americans rated themselves less positively on Cerebral, Vibrancy, and Attractiveness attributes than did European Americans (Cerebral, $B = -.73$, $p < .01$; Vibrancy, $B = -.58$, $p < .05$; Attractiveness, $B = -.98$, $p < .001$) and were rated less positively by their partners on Vibrancy and Attractiveness attributes (Vibrancy, $B = -.55$, $p < .05$; Attractiveness, $B = -.96$, $p < .001$). There were no significant differences in self-ratings or partner-ratings between the European Americans and Hispanic or Southeast Asian Americans, all *p*s >.05**.** See Table 2 for ethnic differences and fixed effects for self-ratings, actual partner-ratings, and AEP.

Table 2

Study 2 Self-Ratings, Actual Partner-Ratings, and Actual Partner-enhancement (AEP) for European, Hispanic, East Asian, and Southeast Asian Americans

	European Americans (*n*=36)	Hispanic Americans (*n*=33)	East Asian Americans (*n*=67)	Southeast Asian Americans (*n*=55)	*Fixed Effects B (SE B)*		
					Hispanic Americans	East Asian Americans	Southeast Asian Americans
Self-rating							
Relational	9.23(1.09)	9.33(.86)	8.92(1.30)	9.14(.98)	.12(.27)	- .36(.23)	- .10(.24)
Cerebral	8.76(1.27)	8.55(1.06)	8.05(1.21)	8.60(1.09)	- .22(.28)	- .73(.24)**	- .19(.25)
Vibrancy	8.19(1.59)	8.52(1.13)	7.67(1.35)	8.42(1.33)	.33(.33)	- .58(.29)*	.38(.30)
Attractiveness	7.67(1.64)	7.45(1.38)	6.63(1.41)	7.57(1.28)	- .34(.5)	- .98(.30)***	- .09(.31)
Actual Partner-rating							
Relational	9.47(1.14)	9.40(.99)	9.49(1.08)	9.43(.94)	- .11(.25)	- .01(.22)	- .10(.23)
Cerebral	8.89(1.34)	8.82(1.25)	8.68(1.33)	8.82(1.17)	- .06(.31)	- .19(.27)	- .07(.27)
Vibrancy	8.70(1.21)	8.62(1.37)	8.17(1.48)	8.55(1.19)	- .12(.32)	- .55(.28)*	- .09(.29)
Attractiveness	9.06(.95)	8.70(1.21)	8.06(1.33)	8.68(1.26)	- .34(.29)	- .96(.25)***	- .40(.26)
Actual Partner-enhancement (AEP)							
Relational	.26(1.01)	.06(1.12)	.58(1.10)	.29(1.14)	- .19(.26)	.33(.23)	.04(.24)
Cerebral	.13(1.19)	.26(1.38)	.67(1.25)	.22(1.14)	.13(.30)	.55(.25)*	.11(.26)
Vibrancy	.51(1.41)	.10(1.50)	.50(1.45)	.13(1.02)	- .40(.32)	.01(.28)	- .35(.29)
Attractiveness	1.40(1.68)	1.24(1.50)	1.44(1.30)	1.11(1.41)	- .16(.34)	.01(.29)	- .35(.30)

Note. Means and standard deviations are displayed. For fixed effects of linear mixed models, ***$p \leq .001$; **$p \leq .01$; *$p \leq .05$, two-tailed. Reference group = European Americans. Gender was a covariate.
A one-sample *t*-test against the test-value of 0 (for no-enhancement) indicated that across the full sample, all attribute types were enhanced (Relational, $t(235) = 4.99$, $p < .001$; Cerebral, $t(235) = 4.93$, $p < .001$; Vibrancy, $t(235) = 3.95$, $p < .001$; Attractiveness, $t(235) = 13.12$; $p < .001$).

I had hypothesized that East Asian, Southeast Asian, and Hispanic Americans would receive higher levels of AEP than European Americans on relational attributes and lower levels of AEP on personal attributes (Hypothesis 2.1a), or alternatively, that the aforementioned three groups would receive lower levels of AEP across all attribute types (Hypothesis 2.1b). Contrary to my hypotheses, but consistent with results of Study 1, there were no significant ethnic differences in AEP for East Asian, Southeast Asian, or Hispanic Americans, compared to European Americans—with one exception. East Asian Americans received more enhancement by their partners on their Cerebral attributes than did European Americans ($B = .55$, $p < .05$). As in Study 1, Attractiveness attributes were by far the most enhanced ($M = 1.32$, $SD = 1.55$), followed by Cerebral attributes ($M = .41$, $SD = 1.27$), Vibrancy attributes ($M = .37$, $SD = 1.43$), and Relational attributes ($M = .37$, $SD = 1.13$). Attractiveness was again more enhanced than other attribute types for each cultural group (European: Cerebral, $t(35)=4.30$, $p < .001$, Vibrancy, $t(35)=3.89$, $p < .001$, Relational, $t(35)=3.93$, $p < .001$; Hispanic: Cerebral, $t(32)=4.72$, $p < .001$, Vibrancy, $t(32)=4.38$, $p < .001$, Relational, $t(32)=5.35$, $p < .001$, East Asian: Cerebral, $t(66)=4.10$, $p < .001$, Vibrancy, $t(66)=4.98$, $p < .001$, Relational, $t(66)=4.75$, $p < .001$, Southeast Asian: Cerebral, $t(54)=4.14$, $p < .001$, Vibrancy, $t(54)=5.53$, $p < .001$, Relational, $t(54)=4.09$, $p < .001$). There were no differences in AEP among Vibrancy, Cerebral, and Relational attributes, all ps $> .05$.

Unlike the results found in Study 1, there were no significant gender differences in self-ratings of attribute types. However, men were rated more positively by their partners than were women on Vibrancy attributes (men, $M = 8.71$, $SD = 1.21$, women, $M = 8.20$, $SD = 1.41$, $B = .51$, $p < .01$) and less positively on their Attractiveness attributes (men, $M = 8.26$, $SD = 1.39$, women, $M = 8.82$, $SD = 1.08$, $B = -.59$, $p < .001$). Men were also less enhanced on Attractiveness

attributes than were women (men, $M = 1.00$, $SD = 1.42$, for women, $M = 1.61$, $SD = 1.41$, $B = -.61$, $p < .01$). There were no gender differences in AEP of Relational, Cerebral, or Vibrancy attributes.

Study 2 Discussion

In this study, findings of Study 1 regarding cross-ethnic similarities in levels of PEP were replicated using an improved design. Specifically, actual enhancement by a partner (AEP) was measured instead of perceived enhancement by a partner (PEP), the possible ceiling effect in Study 1 was addressed, and different Asian groups were distinguished from one another. I found that Hispanic, East Asian, Southeast Asian Americans did not differ from European Americans in the levels of enhancement that they received from their significant others with one exception—East Asians received higher levels of enhancement on their Cerebral attributes than did European Americans. This could be due to stereotypes of Asians as high academic-achievers (Kao, 2000). Southeast Asians may have not received the same levels of enhancement as East Asians due to frequent media portrayals of them as low-achieving and gang-affiliated (Ngo & Lee, 2007). Also consistent with findings in Study 1, compared to European Americans, East Asian Americans rated themselves less positively and were rated less positively by their partners. Other ethnic groups did not differ from Europeans in their self- or partner-ratings. Finally, consistent with Study 1, Attractiveness attributes were the most enhanced for each cultural group.

Altogether, it seems that as with PEP, there are few ethnic differences in AEP despite differences in self- and partner-ratings. My findings also indicate that East Asians should be differentiated from Southeast Asians when examining enhancement processes, as the latter group appears more similar to European Americans in their self-perceptions and the manner in which they are perceived by romantic partners.

Regarding gender differences, women were more enhanced on their Attractiveness attributes than were men. This could be due to the particularly high value than men place on the appearance of their female partners (Feingold, 1990). However, this finding was inconsistent with Study 1, in which women perceived more enhancement on their Vibrancy and Cerebral attributes. Also inconsistent with findings of Study 1, there were no gender differences in self-ratings. These inconsistent findings may be due to differences in the samples. The current study was comprised of couples who were willing to come together to the laboratory to complete a study (typically because one of them wanted to earn extra course credit), whereas Study 1 was comprised of individuals who were attending their classes.

Based on this study, it was still unclear whether the East Asian participants were seen in a less rosy light by their partners, or if they actually possessed lower levels of certain positive attributes (e.g., Vibrancy and Attractiveness attributes). In the next study, I collected third-party ratings of physical attractiveness and created a measure of partner-enhancement that used these ratings rather than self-ratings. Furthermore, I investigated possible ethnic differences in the contributions of PEP and AEP to relationship quality.

Study 3: Are there Ethnic Differences in Partner-enhancement based on Third-Party Ratings and its Associations with Relationship Quality?

In Study 3, I obtained measures of PEP and AEP based upon third-party ratings of physical attractiveness, as well as the original measures of PEP and AEP. My primary goal was to see whether findings regarding ethnic similarities in levels of PEP and AEP would replicate once the effects of self-enhancement were removed through the use of third-party ratings instead of self-ratings (Hypothesis 3.1). However, I also examined possible ethnic differences in the link between PEP and AEP and relationship quality. Given the general lack of ethnic differences in levels of PEP and AEP, I hypothesized that there also would be no ethnic differences in the links between partner-enhancement and relationship quality (Hypothesis 3.2).

Additionally, I predicted that across ethnic groups, PEP would be more positively associated with relationship quality than would AEP, as perceived social support has been found to play a larger role in well-being than actual social support (McDowell & Serovich, 2007; Wethington & Kesler, 1986) (Hypothesis 3.3). I also hypothesized that both PEP and AEP of relational attributes would be more positively associated with relationship quality than would personal attributes (Cerebral, Vibrancy, Attractiveness), as was found in a previous study (Seidman, 2012)(Hypothesis 3.4).

Method

Participants

Participants, from the same university as in Studies 1 and 2, were 124 heterosexual couples ($N = 248$) who were exclusively dating for at least one month. Undergraduates and their partners were recruited from the Human Subjects Pool and received one extra course credit for participation. If their partners were not eligible for course credit, they received $6 in cash. All

participants were at least 18 years of age. The mean age was 20.50 years (*SD* = 2.50). The average relationship length was 19.42 months (*SD* = 17.17, *Mdn* = 14). 13% of couples reported that they were living together, 2% reported that they were engaged, and 1% reported that they were married. 30% were East Asian, 18% were Southeast Asian, 17% were Hispanic, 15% were European, 12% were mixed-race, 3% were Middle-Eastern, and 3% were South Asian/Asian Indian.

Measures

Attribute Ratings. Subjects rated themselves and their partners, estimated their partners' ratings of them, and rated the centrality of 25 attributes to their self-concept. Attributes were rated on a scale from 1-11 from "not at all descriptive" to "extremely descriptive" for self-ratings, partner-ratings, and perceived partner-ratings, and from "not at all central" to "extremely central" to the self-concept for centrality-ratings.

Third-party ratings. Ten research assistants, six female and four male, rated the attractiveness of participants by viewing photographs of their faces. Ages of raters ranged from 19-24 (*M* = 20.7, *SD* = 1.49). Raters were of diverse ethnicities: Four were of East Asian descent, three were of European descent, one was of Middle Eastern descent, one was of Southeast Asian descent, and one was of mixed ancestry (East Asian and European). Research assistants first rated the extent to which "physically attractive" described participants on an 11-point scale from "not at all descriptive" to "extremely descriptive." I averaged the 10 scores to derive a third-party rating of attractiveness (Cronbach's alpha was .88).

Perceived and actual partner-enhancement. I measured PEP and AEP in multiple ways. First, to obtain levels of PEP and AEP, I subtracted participants' self-ratings from their

estimations of their partners' ratings of them (PEP) or from their partners' actual ratings of them (AEP). More positive scores indicated greater PEP or AEP.

Third-party-based perceived and actual partner-enhancement. To obtain the new measures of partner-enhancement based upon third-party ratings, I subtracted third-party ratings of participants' physical attractiveness (i.e., treating the third-party ratings, rather than participants' own ratings, as the baseline) from their estimations of their partners' ratings of them (PEP) or from their partners' actual ratings of them (AEP).

Relationship Quality (Summary Score). A summary score of five relationship measures (i.e., intimacy, relationship satisfaction, relationship commitment, dating stability, experience of power in the relationship) was derived using Principal Components analysis with Varimax rotation, which yielded a one-factor solution. The relationship measures were standardized using z-scores, which were then averaged to produce the summary score. Alphas ranged from good to excellent (αs=.82-.92). See Table 3 for descriptive statistics, including Cronbach's alphas, of relationship measures. *Intimacy* in the relationship was assessed using a five-item scale developed by Campbell, Lackenbauer, and Muise (2006). The scale included items such as, "My partner and I share our thoughts, feelings, and aspirations with each other," which were rated on a 1-7 scale from "not at all" to "very much so". *Relationship satisfaction* was measured with the 5-item relationship satisfaction subscale in Rusbult, Martz, and Agnew's (1998) Investment Model Scale. Items such as, "Our relationship makes us very happy" were rated on a seven-point scale from "strongly disagree" to "strongly agree." *Relationship commitment* was measured with the seven-item relationship commitment subscale of Rusbult, Martz, and Agnew's (1998) Investment Model Scale. Items were rated on a seven-point scale from "strongly disagree" to "strongly agree." The subscale included items such as, "I want our

relationship to last for a very long time." To measure *dating stability*, I reverse-scored the Dating Instability Index adapted from the Marital Instability Index (Booth, Johnson, & Edwards, 1983). This measure included five statements such as, "How often do you discuss breaking up with your partner with a close friend?" Subjects responded on a four-point scale from "never" to "frequently." The Subjective Sense of Power scale (Anderson, John, & Keltner, 2005), originally used to assess power in general relationships with others, was revised to assess the *experience of power* within a romantic relationship. Participants rated their agreement with eight items such as, "In my relationship, I can get my partner to listen to what I say" and "In my relationship, I think I have a great deal of power." Items were rated on a five-point scale from "strongly disagree" to "strongly agree."

Table 3

Descriptive Statistics for Measures of Relationship Quality in Studies 3 and 4

Variable	Scale	Response Scale	Number of Items	Cronbach's Alpha		*M* (*SD*)	
				US	China	US	China
Intimacy	Feeling Close and Intimate Scale (Campbell et al., 2006)	1=not at all 7=very much so	5	.87	.85	5.98(1.03)	5.70(1.07)
Relationship Satisfaction	Investment Model Scale (Rusbult et al., 1998)	1=strongly disagree 7=strongly agree	7	.91	.92	5.82(1.13)	5.86(1.05)
Relationship Commitment	Investment Model Scale (Rusbult et al., 1998)	1=strongly disagree 7=strongly agree	7	.92	.83	5.98(1.12)	6.31(.79)
Dating Stability	Dating Instability Index (Booth et al., 1983) (Reverse-scored)	1=never 4=frequently	5	.82	.70	3.15(.68)	3.21(.57)
Power in Relationship	Subjective sense of power (Anderson et al., 2005) (Revised)	1=strongly disagree 5=strongly agree	8	.86	.82	3.74(.67)	3.68(.58)
Summary score	--	--	--	--	--	- .05(.84)	- .03(.71)

Note. For US, *N*=248. For China, *N*=195-196.

Procedure

Couples came into the laboratory together and completed online surveys. They rated themselves and their partners on various attributes, estimated their partners' ratings of them, rated the centrality of various attributes to their self-concept, and completed various relationship measures. The entire questionnaire took about 30-45 minutes to complete.

Analyses

Factor analysis

A confirmatory factor analysis (CFA) was conducted using attribute types and corresponding items from Study 2. To be consistent with the prior studies, I performed the factor analysis on centrality-ratings of attributes.

Levels of PEP and AEP

Levels of PEP and AEP were computed using difference scores. Ethnic (as well as gender) differences in levels of PEP and AEP (including those computed using third-party ratings as a baseline) and secondary outcome measures (i.e., self-ratings, perceived partner-ratings, actual partner-ratings, third-party ratings) were assessed using linear mixed models with random intercepts. Each ethnic group (Hispanic, East Asian, and Southeast Asian Americans) was compared to European Americans. Paired-sample *t*-tests were used to examine pairwise differences in levels of partner-enhancement between attribute types.

Contributions of PEP and AEP to Relationship Quality

I used linear mixed models with random intercepts to examine the link between enhancement by a partner (both PEP and AEP) and relationship quality, and how this link might differ across ethnic groups. I did not use difference scores as predictors because of documented issues with such an approach in correlational analysis (Griffin, Murray, Gonzalez, 1999). Instead,

both self-ratings and partner-ratings (perceived or actual) were entered into the model, and unique contribution of partner-ratings (i.e., controlling for self-ratings) was used to index partner-enhancement. Ethnicity was examined as a potential moderator, with each ethnic group (Hispanic, East Asian, and Southeast Asian Americans) compared to European Americans. Gender was controlled. The four different attribute types were entered in separate models.

In the Level 1 equation below (equation 3), where the subscript *i* refers to the individual and *j* refers to the couple, Y_{ij} represents the predicted relationship quality score for the individual, β_{0j} represents the slope between self-ratings and relationship quality, X_{2ij} represents the predicted intercept or average relationship quality score for the couple, β_1 represents the overall slope between gender and relationship quality, β_1 indicates the gender of the individual, β_2 represents the individual's self-rating on the attribute type, β_3 represents the overall slope between partner-ratings (perceived or actual) and relationship quality, X_{3ij} represents the individual's partner-rating (perceived or actual) on the attribute type, β_4 represents the overall slope between Hispanic versus European ethnicity and relationship quality, X_{4ij} indicates whether the individual is Hispanic or European, β_5 represents the overall slope between East Asian versus European ethnicity and relationship quality, X_{5ij} indicates whether the individual is East Asian or European, and β_6 represents the overall slope between Southeast Asian versus European ethnicity and relationship quality. β_7, β_8, and β_9 represent slopes for interactions between ethnicity (Hispanic, East Asian, and Southeast Asian versus European) partner-ratings, and e_{ij} represents random error.

$$Y_{ij} = \beta_{0j} + \beta_1 X_{1ij} + \beta_2 X_{2ij} + \beta_3 X_{3ij} + \beta_4 X_{4ij} + \beta_5 X_{5ij} + \beta_6 X_{6ij} + \beta_7 X_{4ij} X_{3ij} + \beta_8 X_{5ij} X_{3ij} + \beta_9 X_{6i} X_{3ij\,j} + e_{ij} \quad (3)$$

In the Level 2 equation below (equation 4), β_{0j} is the predicted intercept for the couple, γ_{00} is the overall intercept of the relationship quality score across couples, and u_{0j} is the random error for the deviation between the intercept of the couple and the overall intercept.

$$\beta_{0j} = \gamma_{00} + u_{0j} \quad (4)$$

I also examined contributions of third-party-based PEP and AEP of physical attractiveness to relationship quality. In these analyses, a term for the third-party rating of physical attractiveness, instead of a self-rating, was used in equation 3.

Finally, *z*-tests (Paternoster, Brame, Mazerolle, & Piquero, 1998) were used to compare the importance of PEP versus AEP and enhancement of relational versus personal attributes to relationship quality. Specifically, differences between regression coefficients were tested.

Results

Factor Analysis

In the confirmatory factor analysis, in order to obtain a satisfactory model, one item was removed from the attribute types used in Study 2 (i.e., *physically fit/athletic* from the Attractiveness factor) and six other modifications were made. *Affectionate* was added to the Attractiveness factor (but also retained on the Relational factor). Covariances were added between the attributes *responsible* and *family-oriented*, *responsible* and *trustworthy*, *compassionate/kind* and *affectionate*, and *high in academic ability* and *intelligent, witty* and *confident,* and *fun* and *confident*. The resulting model had the following goodness-of-fit statistics: $X^2(106, N = 248) = 241.982$, $p < .001$; *RMSEA* = .07, $p < .05$; *AIC* = 16721.98; *BIC* = 16946.84; *CFI* = .90; *TLI* = .87; *SRMR* = .06. These statistics indicate that the model had an acceptable fit.

Affectionate was scored under its original factor, Relational, on which it loaded more highly than on its second factor, Attractiveness (loadings were .45 for Relational and .29 for Attractiveness). The final attribute types and associated items were as follows: Relational (seven items: responsible/reliable, trustworthy, compassionate/kind, good friend, tolerant/accepting, affectionate, family-oriented), Cerebral (three items: high in academic ability, intelligent, ambitious/goal-oriented), Vibrancy (four items: fun/exciting, witty/funny, outgoing/extraverted, confident), and Attractiveness (three items: physically attractive, sexy, well-groomed/stylish). Factor loadings ranged from .45-.69 for Relational attributes, from .56-.69 for Cerebral attributes, from .58-.75 for Vibrancy attributes, and from .63-83 for Attractiveness attributes.

Ethnic differences in self-ratings, partner-ratings, PEP, and AEP

Consistent with the previous two studies, East Asian Americans rated themselves and were rated by their partners less positively than was the case for European Americans. Specifically, East Asian Americans had lower self-ratings on Cerebral (B= - 1.04, p = .001), Vibrancy (B = - .72, p < .05), and Attractiveness attributes (B= - .83, p < .05). Compared to European Americans, they also perceived that their partners rated them lower on Cerebral and Attractiveness attributes (Cerebral, B = - .73, p < .05, Attractiveness, B= - .68, p<.05) and were actually rated lower by their partners on Attractiveness attributes (B= - .89, p = .01). Compared to European Americans, Southeast Asian Americans perceived that their partners rated them higher on Vibrancy attributes (B = .73, p < .05). See Table 4 for descriptive statistics and fixed effects for ethnic differences in self-ratings, perceived partner-ratings, actual partner-ratings, PEP, and AEP. Perceived partner-ratings showed medium-to-large correlations with actual partner-ratings (Relational, r = .39, p < .001; Cerebral, r = .32, p < .001; Vibrancy, r = .35, p < .001; Attractiveness, r = .37, p < .001).

Table 4

Study 3 Self-Ratings, Perceived Partner-Ratings, Actual Partner-Ratings, Perceived Partner-enhancement (PEP), and Actual Partner-enhancement (AEP) for European, Hispanic, East Asian, and Southeast Asian Americans

	European Americans (*n*=36)	Hispanic Americans (*n*=41)	East Asian Americans (*n*=74)	Southeast Asian Americans (*n*=44)	*Fixed Effects B (SE B)*		
					Hispanic Americans	East Asian Americans	Southeast Asian Americans
Self-rating							
Relational	8.95(1.41)	9.36(1.08)	8.64(1.38)	9.42(1.15)	.42(.29)	- .35(.26)	.40(.29)
Cerebral	8.71(1.39)	8.50(1.39)	7.70(1.58)	8.26(1.31)	- .19(.33)	- 1.04(.30)***	- .51(.33)
Vibrancy	8.23(1.61)	8.35(1.51)	7.49(1.63)	8.39(1.45)	.11(.36)	- .72(.32)*	.20(.36)
Attractiveness	7.37(1.83)	7.38(1.75)	6.59(1.69)	7.19(1.58)	.04(.39)	- .83(.35)*	- .26(.39)
Perceived Partner-rating							
Relational	8.75(1.56)	8.85(1.56)	8.51(1.36)	9.26(1.17)	.15(.32)	- .22(.29)	.51(.32)
Cerebral	8.73(1.83)	8.33(1.50)	8.02(1.80)	8.60(1.51)	- .39(.38)	- .73(.34)*	- .17(.38)
Vibrancy	8.06(1.58)	8.20(1.74)	7.70(1.73)	8.74(1.25)	.13(.37)	- .34(.33)	.73(.37)*
Attractiveness	8.29(1.59)	8.53(1.69)	7.65(1.62)	8.59(1.52)	.32(.37)	- .68(.33)*	.10(.36)
Actual Partner-rating							
Relational	9.35(1.09)	9.20(1.34)	9.08(1.28)	9.29(1.14)	- .12(.28)	- .12(26)	.01(.28)
Cerebral	8.95(1.42)	8.80(1.80)	8.65(1.47)	8.55(1.16)	- .14(.34)	- .31(.30)	- .43(33)
Vibrancy	8.58(1.46)	8.27(1.70)	8.30(1.54)	8.43(1.38)	- .34(.35)	- .23(.32)	- .11(.35)
Attractiveness	8.89(1.69)	8.50(2.02)	8.13(1.76)	8.58(1.53)	- .34(.38)	- .89(.34)**	- .55(.38)
Perceived Partner-enhancement (PEP)							
Relational	- .21(.71)	- .50(1.29)	- .13(.90)	- .16(.80)	- .25(.22)	.15(.20)	.09(.22)
Cerebral	.02(1.24)	- .17(1.28)	.32(1.09)	.34(.96)	- .15(.26)	.37(.24)	.37(.26)
Vibrancy	- .17(.93)	- .15(1.31)	.21(.91)	.36(.88)	.09(.23)	.41(.21)	.49(.23)*
Attractiveness	.92(1.59)	1.15(1.43)	1.06(1.51)	1.39(1.41)	.24(.35)	.16(.31)	.34(.34)
Actual Partner-enhancement (AEP)							
Relational	.40(1.59)	- .15(1.56)	.44(1.55)	- .14(1.26)	- .58(.34)	.09(.30)	- .43(.34)
Cerebral	.24(1.48)	.30(1.65)	.96(2.03)	.29(1.47)	.05(.40)	.73(.36)	.08(.40)
Vibrancy	.92(1.59)	1.15(1.43)	1.06(1.51)	1.39(1.41)	- .42(.42)	.47(.37)	- .29(.42)
Attractiveness	1.52(2.17)	1.11(2.30)	1.54(2.46)	1.39(1.85)	- .37(.51)	- .07(.45)	- .29(.50)

Note. Means and standard deviations are displayed. For fixed effects of linear mixed models, ***$p \leq .001$; **$p \leq .01$; *$p \leq .05$, two-tailed. Reference group = European Americans. Gender was a covariate.
A one-sample *t*-test against the test-value of 0 (for no-enhancement) indicated that across the full sample, Cerebral and Attractiveness attributes were perceived to be enhanced (Cerebral, $t(247) = 2.87$, $p < .01$; Attractiveness, $t(247) = 12.11$; $p < .001$), whereas Vibrancy attributes were not ($t(247) = 1.43$, $p > .05$), and Relational attributes were perceived to be de-enhanced ($t(247) = - 3.38$, $p = .001$). All attribute types were actually enhanced (Relational, $t(247) = 2.54$, $p < .05$; Cerebral, $t(247) = 5.02$, $p < .001$; Vibrancy, $t(247) = 3.38$, $p = .001$; Attractiveness, $t(247) = 11.09$; $p < .001$).

Given the results from Studies 1 and 2, I had predicted that there would be *no* ethnic differences in levels of PEP or AEP (Hypothesis 3.1). This hypothesis was mostly supported using the original measure of enhancement by a partner (partner-views minus self-views), with one exception across the 24 comparisons. Compared to European Americans, Southeast Asian Americans perceived higher levels of enhancement on their Vibrancy attributes (B = -.49, p < .05).

As in Study 1, Attractiveness attributes were perceived to be the most enhanced by partners (M = 1.17, SD = 1.52); Cerebral and Vibrancy attributes were perceived to minimally enhanced (Cerebral, M = .21, SD = 1.13, Vibrancy, M = .09, SD = 1.00); and Relational attributes were perceived to be slightly derogated (M = - .20, SD = .94). Although AEP followed the same pattern, all attribute types were actually more enhanced by their partners than participants believed, such that no attribute types were derogated. Attractiveness attributes were the most enhanced (M = 1.55, SD = 2.20), followed by Cerebral attributes (M = .53, SD = 1.65), Vibrancy attributes (M = .39, SD = 1.80), and Relational attributes (M = .24, SD = 1.48).

Paired t-tests indicated that for each ethnic group, both PEP and AEP were higher on Attractiveness than on other attribute types (PEP: European, Cerebral, $t(35)=3.10$, $p < .01$, Vibrancy, $t(35)=4.23$, $p < .001$, Relational, $t(35)=4.76$, $p < .001$; Hispanic, Cerebral, $t(40)=6.11$, $p < .001$, Vibrancy, $t(40)=5.94$, $p < .001$, Relational, $t(40)=7.68$, $p < .001$, East Asian, Cerebral, $t(75)=4.20$, $p < .001$, Vibrancy, $t(75)=5.35$, $p < .001$, Relational, $t(75)=6.56$, $p < .001$, Southeast Asian, Cerebral, $t(38)=4.92$, $p < .001$, Vibrancy, $t(38)=4.24$, $p < .001$, Relational, $t(38)=6.47$, $p < .001$; AEP: European, Cerebral, $t(35)=3.85$, $p < .001$, Vibrancy, $t(35)=3.77$, $p = .001$, Relational, $t(35)=3.64$, $p = .001$; Hispanic, Cerebral, $t(40)=2.74$, $p < .01$, Vibrancy, $t(40)=3.39$, $p < .01$, Relational, $t(40)=4.15$, $p < .001$, East Asian, Cerebral, $t(75)=2.79$, $p < .01$, Vibrancy,

$t(75)=3.77$, $p < .001$, Relational, $t(75)=4.82$, $p < .001$, Southeast Asian, Cerebral, $t(38)=4.08$, $p < .001$, Vibrancy, $t(38)=5.46$, $p < .001$, Relational, $t(38)=4.84$, $p < .001$). Additionally, all groups except for Europeans had greater PEP on Vibrancy than on Relational attributes (Hispanic, $t(40)=2.28$, $p < .05$; East Asian, $t(75)=2.92$, $p < .01$; Southeast Asian, $t(38)=2.83$, $p < .01$), and East Asians had greater AEP on Vibrancy than on Relational attributes, $t(75)=2.18$, $p < .05$. All groups except for Europeans had greater PEP and AEP on Cerebral than on Relational attributes (PEP: Hispanic, $t(40)=2.23$, $p < .05$; East Asian, $t(75)=3.00$, $p < .01$; Southeast Asian, $t(38)=2.87$, $p < .01$; AEP: Hispanic, $t(40)=2.11$, $p < .05$; East Asian, $t(75)=3.13$, $p < .01$; Southeast Asian, $t(38)=2.23$, $p < .05$).

Ethnic differences in self-ratings, partner-ratings, and third-party ratings of physical attractiveness and third-party-based PEP and AEP

There were no significant ethnic differences in self-ratings or perceived partner-ratings of physical attractiveness, all *ps* > .05 (Self-ratings: European, $M = 7.42$, $SD = 2.03$, Hispanic, $M = 7.41$, $SD = 1.63$; East Asian, $M = 6.97$, $SD = 1.78$; Southeast Asian, $M = 7.26$, $SD = 1.74$; Perceived partner-ratings: European, $M = 8.69$, $SD = 1.51$, Hispanic, $M = 8.95$, $SD = 1.61$; East Asian, $M = 8.22$, $SD = 1.80$; Southeast Asian, $M = 8.72$, $SD = 1.57$). However, European Americans were rated as more physically attractive by their partners than were East Asian Americans ($B = -.83$, $p < .05$), but did not differ from the other groups, all *p*s > .05 (European, $M = 9.14$, $SD = 1.68$, Hispanic, $M = 8.83$, $SD = 1.87$; East Asian, $M = 8.46$, $SD = 1.94$; Southeast Asian, $M = 8.54$, $SD = 1.64$). Perceived partner-ratings of physical attractiveness showed a medium correlation with actual partner-ratings, $r = .30$, $p < .001$.

European Americans were rated as more physically attractive than Hispanic, East Asian, and Southeast Asian Americans by third-parties (European, $M = 6.04$, $SD = 1.45$, Hispanic, $M =$

5.40, *SD* = 1.35; East Asian, *M* = 5.42, *SD* = .99; Southeast Asian, *M* = 5.54, *SD* = 1.16; Hispanic versus European, *B* = - .62, *p* < .05; East Asian versus European, *B* = - .74, *p* < .01; Southeast Asian versus European, *B* = -.64, *p* < .05).

In support of hypothesis 3.1, there were no significant ethnic differences in third-party based PEP or AEP of physical attractiveness, all *p*s > .05 (PEP: European, *M* = 2.65, *SD* = 1.74, Hispanic, *M* = 3.55, *SD* = 2.04; East Asian, *M* = 2.79, *SD* = 1.90; Southeast Asian, *M* = 3.19, *SD* = 1.89; AEP: European, *M* = 3.10, *SD* = 1.77, Hispanic, *M* = 3.42, *SD* = 2.23; East Asian, *M* = 3.03, *SD* = 2.13; Southeast Asian, *M* = 3.01, *SD* = 1.85).

Gender differences in self-ratings, partner-ratings, PEP, and AEP, third-party ratings of physical attractiveness and third-party-based PEP and AEP

As in Study 2, there were no significant gender differences in self-ratings across attribute types. Consistent with the Study 2, women perceived that their partners rated them higher on Attractiveness attributes than did men (women, *M* = 8.46, *SD* = 1.47, men, *M* = 7.86, *SD* = 1.77, *B* = .60, *p* < .01), and were actually rated higher by their partners on Attractiveness attributes (women, *M* = 8.98, *SD* = 1.70, men, *M* = 7.93, *SD* = 1.69, *B* = 1.12, *p* < .001). Women also received less actual enhancement on their Relational attributes than did men (women, *M* = -.05, *SD* = 1.54, men, *M* = .41, *SD* = 1.46, *B* = - .47, *p* < .05), but received greater actual enhancement on Attractiveness attributes (women, *M* = 1.79, *SD* =2.31, men, *M* = 1.04, *SD* = 2.11, *B* = .74, *p* < .05).

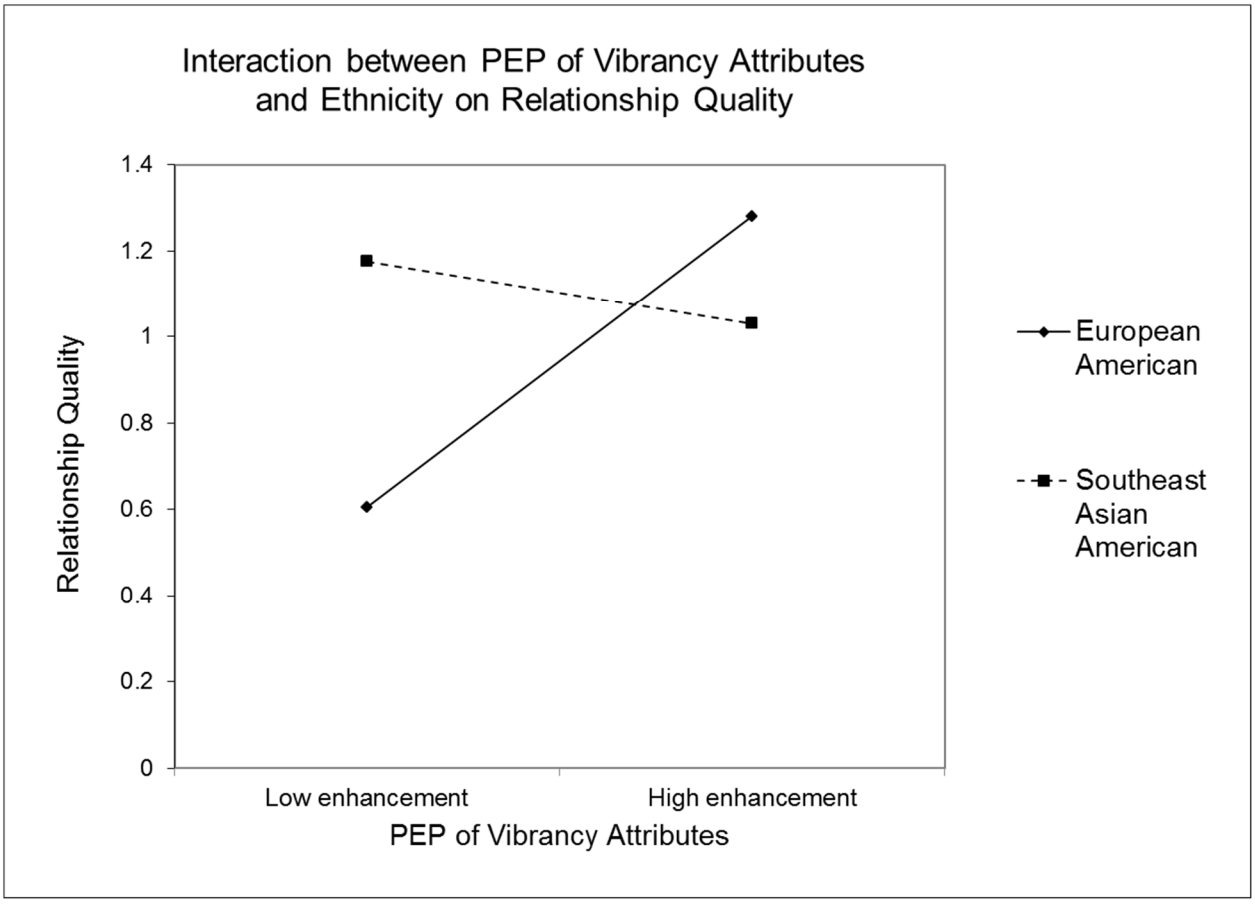
Coders rated women as more attractive than men (men, *M* = 5.34, *SD* = 1.08, women, *M* = 5.78, *SD* = 1.30; *B* = .48, *p* < .01). However, there were no significant gender differences in third-party-based PEP and AEP of physical attractiveness, all *p*s > .05.

Contributions of PEP and AEP to Relationship Quality

I had hypothesized that there would be no ethnic differences in the link between partner-enhancement and relationship quality (Hypothesis 3.2). This hypothesis was confirmed with one exception out of the 24 comparisons, i.e., the association between PEP of Vibrancy attributes and relationship quality more positive for European Americans than for Southeast Asian Americans (B = - .27, $p < .05$; See Figure 1). Simple slopes tests indicated a positive association for European Americans (t = 3.35, p = .001) and a non-significant association for Southeast Asian Americans, $p > .05$.

Figure 1

Study 3 Interaction between Perceived Partner-enhancement of Vibrancy Attributes and Ethnicity on Relationship Quality for European and Southeast Asian Americans



Note. Level of enhancement is plotted at one standard deviation above and below the mean.

PEP of all attribute types showed positive associations with relationship quality, whereas AEP showed more complex patterns. Specifically, PEP was positively associated with relationship quality for Relational ($B = .32$, $p < .001$), Cerebral ($B = .26$, $p < .001$), Vibrancy ($B = .16$, $p < .01$), and Attractiveness attributes ($B = .15$, $p < .001$). On the other hand, AEP was positively associated with relationship quality for Relational attributes ($B = .24$, $p < .001$), but *negatively* associated with relationship quality for Vibrancy attributes ($B = -.08$, $p < .05$). AEP of Cerebral and Attractiveness attributes were not associated with relationship quality, ps > .05. See Table 5 fixed effects of PEP and AEP on relationship quality.

Table 5

Study 3 Mixed-Models Fixed Effects of Perceived and Actual Partner-enhancement (including Third-party-based PEP and AEP) on Relationship Quality

Attribute Type	Effect	*Fixed Effects B(SE B)*	
		PEP	AEP
Relational	Intercept	.46(.55)	- 1.72(.38)***
	Gender (Female = 1)	.01(.09)	.03(.10)
	Self-rating	- .06(.06)	.18(.04)***
	Partner-rating	.32(.06)***	.24(.04)***
	Hispanic	- .09(.16)	- .10(.16)
	East Asian	- .19(.15)	- .10(.15)
	Southeast Asian	- .02(.16)	.06(.16)
	Hispanic x Partner-rating	- .06(.10)	.02(.14)
	East Asian x Partner-rating	- .09(.09)	- .16(.13)
	Southeast Asian x Partner-rating	- .08(.11)	- .06(.14)
Cerebral	Intercept	1.20(.46)**	- .74(.32)*
	Gender (Female = 1)	.05(.09)	.04(.09)
	Self-rating	- .16(.06)**	.08(.04)*
	Partner-rating	.26(.05)***	- .03(.04)
	Hispanic	- .09(.16)	.02(.19)
	East Asian	- .19(.15)	- .11(.18)
	Southeast Asian	- .02(.16)	.16(.19)
	Hispanic x Partner-rating	- .06(.10)	- .01(.11)
	East Asian x Partner-rating	- .09(.09)	.07(.10)
	Southeast Asian x Partner-rating	- .08(.11)	- .01(.13)
Vibrancy	Intercept	.98(.50)*	- .32(.29)
	Gender (Female = 1)	.07(.09)	.03(.09)
	Self-rating	- .13(.06)*	.03(.03)
	Partner-rating	.16(.06)**	- .08(.04)*
	Hispanic	- .03(.18)	- .04(.19)
	East Asian	- .23(.17)	- .19(.17)
	Southeast Asian	.16(.19)	.10(.18)
	Hispanic x Partner-rating	- .08(.11)	.16(.11)
	East Asian x Partner-rating	- .06(.10)	.07(.10)
	Southeast Asian x Partner-rating	- .27(.13)*	- .06(.12)
Attractiveness	Intercept	.33(.29)	- .25(.24)
	Gender (Female = 1)	- .02(.10)	.03(.11)
	Self-rating	- .06(.04)	.02(.03)
	Partner-rating	.15(.04)***	- .00(.03)
	Hispanic	- .05(.18)	- .01(.19)

	East Asian	- .14(.17)	- .16(.18)
	Southeast Asian	.18(.18)	.17(.19)
	Hispanic x Partner-rating	- .04(.11)	.02(.10)
	East Asian x Partner-rating	- .14(.10)	- .00(.09)
	Southeast Asian x Partner-rating	- .16(.11)	- .06(.11)
	Third-party-based		
Physical Attractiveness	Intercept	.08(.27)	- .08(.28)
	Gender (Female = 1)	.03(.10)	.07(.10)
	Third-party rating	- .03(.05)	- .00(.05)
	Partner-rating	.08(.04)*	- .02(.03)
	Hispanic	- .03(.19)	- .02(.19)
	East Asian	- .17(.17)	- .21(.18)
	Southeast Asian	.18(.19)	.12(.19)
	Hispanic x Partner-rating	- .05(.12)	.04(.10)
	East Asian x Partner-rating	- .22(.10)*	.01(.09)
	Southeast Asian x Partner-rating	- .18(.12)	- .01(.10)

***$p \leq .001$; **$p \leq .01$; *$p \leq .05$, two-tailed. Reference group for Hispanic, East Asian, and Southeast Asian Americans = European Americans.

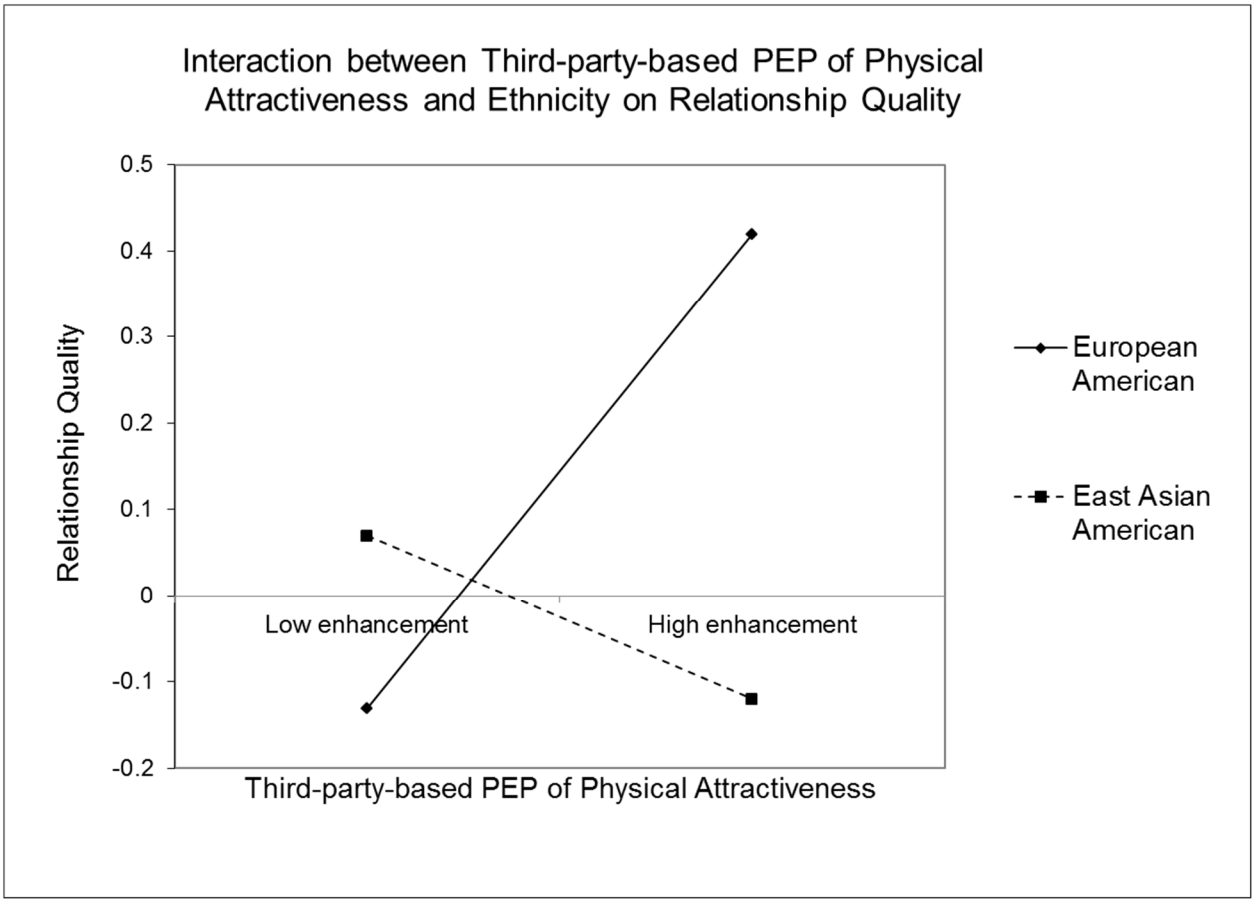
I had predicted that PEP would be more positively related to relationship quality than would AEP (Hypothesis 3.3), and that PEP and AEP of relational attributes, compared to that of personal attributes, would be more positively related to relationship quality (Hypothesis 3.4). Both hypotheses were mostly confirmed. In support of Hypothesis 3.3 (four out of five comparisons), for all attribute types except for Relational attributes ($p > .05$), PEP was more positively associated with relationship quality than was AEP (Cerebral, $z = 4.53$, $p < .001$; Vibrancy, $z = 3.33$, $p < .001$; Attractiveness, $z = 3.00$, $p < .01$). Furthermore, third-party-based PEP showed a more positive association with relationship quality than did third-party-based AEP ($z = 2.00$, $p < .05$). Four out of six comparisons supported Hypothesis 3.4. PEP of Relational attributes was more important than PEP of Attractiveness attributes ($z = 2.36$, $p < .05$) but not PEP of Cerebral or Vibrancy attributes (ps $> .05$). AEP of Relational attributes was more important than AEP of all personal attributes (Cerebral, $z = 4.77$, $p < .001$; Vibrancy, $z = 5.66$, $p < .001$; Attractiveness, $z = 4.80$, $p < .01$).

I further examined whether there would be ethnic differences in the contributions of third-party-based PEP and AEP of physical attractiveness to relationship quality. I found that the link between third-party-based PEP of physical attractiveness and relationship quality was more positively associated with relationship quality for European Americans than for East Asian Americans ($B = -.22$, $p < .05$; see Figure 2). However, simple slopes tests were not significant for either group, ps $> .05$. There were no other ethnic differences (out of the remaining five comparisons) in the link between third-party-based PEP or AEP and relationship quality. Third-party-based PEP of physical attractiveness showed a positive association with relationship quality ($B = .08$, $p < .05$), whereas third-party-based AEP was not significantly associated with

relationship quality, $p > .05$. See Table 5 for fixed effects of third-party-based PEP and AEP on relationship quality.

Figure 2

Study 3 Interaction between Third-party-based Perceived Partner-enhancement of Physical Attractiveness and Ethnicity on Relationship Quality for European and East Asian Americans



Note. Level of enhancement is plotted at one standard deviation above and below the mean.

Study 3 Discussion

I had hypothesized, in accordance with findings in Studies 1 and 2, that Hispanic, East Asian, and Southeast Asian Americans would not differ from European Americans in levels of third-party-based PEP or AEP. This prediction was supported, indicating that partner-enhancement of physical appearance is similar across ethnicities even after any confounding effects of self-enhancement have been removed by using third-party ratings. Using the original measures of PEP and AEP (with self-ratings as the baseline), I also replicated my previous findings regarding ethnic similarities in levels of EP, with one exception out of 24 comparisons. Specifically, Southeast Asian Americans perceived higher levels of enhancement on their Vibrancy attributes than did European Americans. This could again be due to the aforementioned media portrayals of Southeast Asians as gang-affiliated (Ngo & Lee, 2007), and thus more "exciting" and "confident". Furthermore, confirming findings of Studies 1 and 2, for all ethnic groups, PEP and AEP were the highest for Attractiveness attributes.

As in Study 2, compared to European Americans, East Asian Americans rated themselves less positively on Cerebral, Vibrancy, and Attractiveness attributes, and were rated less positively by their partners on Attractiveness attributes. Hispanic, East Asian, and Southeast Asian Americans were rated as less physically attractive by third-parties than were European Americans, suggesting that the lower ratings that East Asians received from their partners on their Attractiveness attributes had some basis in a shared reality, perhaps through mainstream ideals of beauty.

Also as in Study 2, men and women did not differ in their self-ratings across attribute types, but women perceived that their partners rated themselves higher and were actually rated higher by their partners on Attractiveness attributes. Furthermore, women were rated as more

physically attractive than men by third-parties. Women also received higher levels of AEP on their Attractiveness attributes than did men, although there were no gender differences in PEP, mirroring patterns found in Studies 1 and 2.

I also hypothesized that the association between partner-enhancement and relationship quality would be similar across ethnicities. This expectation was supported with two exceptions across 30 comparisons. PEP of Vibrancy attributes was less positively associated with relationship quality for Southeast Asian American than for European Americans. Also, third-party-based PEP of physical attractiveness was less positively associated with relationship quality for East Asian Americans than for European Americans. These results suggest that, consistent with the research on self-enhancement, PEP could be in some instances less beneficial for Asians than for Europeans. Alternatively, the small number of significant differences may simply be due to chance.

I also found support for my prediction based on the previous literature on social support (McDowell & Serovich, 2007; Wethington & Kesler, 1986), that PEP would be more positively associated with relationship quality than would AEP. This hypothesis was supported for four out of five comparisons (for third-party-based-enhancement and all attribute types aside from Relational attributes). Similarly, the prediction that partner-enhancement of Relational attributes would be more important than partner-enhancement of personal attributes for relationship quality (Seidman, 2012) was mostly supported (four out of six comparisons, with more support for AEP than for PEP).

More generally, PEP was positively related to relationship quality for all attribute types (and especially Relational attributes), and AEP was positively related to relationship quality only with respect to Relational attributes and was negatively related to relationship quality in the case

of Vibrancy attributes. There are two possible explanations of this result. First, AEP of Relational and Vibrancy attributes might lead to different expectations within a relationship. For instance, imagine that Jane believes that her partner Jake is more trustworthy (a Relational attribute) than he thinks he is. Jane would trust Jake more than warranted, which would probably make Jake happy with the relationship. On the other hand, if Jane thinks that Jake is more outgoing (a Vibrancy attribute) than he thinks he is, she might expect him to go to social gatherings more often than he prefers. Not knowing the source of Jane's behaviors towards him (AEP rather than PEP), Jake could feel overwhelmed by her high expectations and become unhappy with the relationship. Another possibility is that the causal direction is reversed, such that higher relationship quality might lead to higher levels of AEP of Relational attributes, but lower levels of AEP of Vibrancy attributes. For instance, when Jake is happy with their relationship, Jane may see him as more trustworthy and affectionate, but less fun and exciting.

In summary, levels of PEP and AEP and the associations between PEP/AEP and relationship quality were generally consistent across ethnic groups, regardless of attribute type or informant. It is possible that the lack of ethnic differences in levels of PEP and AEP may have been due to participants' acculturation to American norms. Therefore, in the subsequent study, I examined patterns of partner-enhancement in an international sample of young Chinese couples.

Study 4: Are there Cross-national Differences in Perceived and Actual Partner-enhancement?

In Study 4, I repeated procedures of Study 3 in a sample of young Chinese couples to examine whether findings in Studies 1-3 regarding the lack of cross-cultural differences in levels of PEP and AEP would replicate (Hypothesis 4.1). Additionally, based on findings of Study 3, I posited that associations between enhancement by a partner and relationship quality would be similar for Chinese and Americans (Hypothesis 4.2). I compared the Chinese sample to the American sample as a whole due to the lack of ethnic differences in partner-enhancement in Studies 1- 3. I also sought to replicate, within the Chinese sample, previous findings in Study 3 that PEP was more important than AEP to relationship quality (Hypothesis 4.3) and that PEP and AEP of Relational attributes as opposed to personal attributes would be more positively associated with relationship quality (Hypothesis 4.4).

Method

Participants

Participants were 98 heterosexual Chinese couples (n = 196) who were exclusively dating for at least one month. Couples were recruited at a large, public university in Beijing and compensated 20 RMB in cash, which is roughly equivalent to US $3, for their participation. All participants were at least 18 years of age. The mean age was 21.40 years *(SD* = 1.95). The average relationship length was 26.32 months (*SD* = 18.96, *Mdn* = 22). 10% reported that they were living together, 6% reported that they were engaged, and 1% reported that they were married.

Measures

Measures were identical to those used in Study 3. Cronbach's alphas of the measures ranged from satisfactory to excellent (αs = .70-.92). See Table 3 for descriptive statistics, including Cronbach's alphas. Mean levels of self-ratings, PEP, and AEP of different attribute types for Chinese are presented in Table 6.

Table 6

Study 4 Self-Ratings, Perceived Partner-Ratings, Actual Partner-Ratings, Perceived Partner-enhancement (PEP), and Actual Partner-enhancement (AEP) for Americans and Chinese

	Americans (*n*=248)	Chinese (*n*=196)	*Fixed Effects B (SE B)*
	Self-rating		
Relational	9.04(1.29)	8.52(1.50)	- .52(.13)***
Cerebral	8.26(1.47)	7.92(1.37)	- .33(.14)*
Vibrancy	8.01(1.63)	7.27(1.63)	- .75(.16)***
Attractiveness	7.09(1.77)	5.92(1.83)	- 1.17(.18)***
	Perceived Partner-rating		
Relational	8.83(1.42)	8.39(1.66)	- .45(.16)**
Cerebral	8.46(1.64)	8.25(1.53)	- .21(.15)
Vibrancy	8.10(1.64)	7.29(1.70)	- .80(.16)***
Attractiveness	8.26(1.63)	6.65(1.93)	- 1.61(.18)***
	Actual Partner-rating		
Relational	9.27(1.24)	8.97(1.37)	- .30(.14)*
Cerebral	8.78(1.45)	8.55(1.43)	- .22(.14)
Vibrancy	8.40(1.52)	7.54(1.60)	- .86(.16)***
Attractiveness	8.64(1.72)	7.07(1.94)	- 1.57(.17)***
	Perceived Partner-enhancement (PEP)		
Relational	- .20(.94)	- .13(1.07)	.07(.10)
Cerebral	.21(1.13)	.33(1.07)	.12(.11)
Vibrancy	.09(1.00)	.03(1.08)	- .06(.11)
Attractiveness	1.17(1.52)	.73(1.42)	- .44(.15)**
	Actual Partner-enhancement (AEP)		
Relational	.24(1.48)	.46(1.71)	.22(.15)
Cerebral	.53(1.65)	.64(1.68)	.11(.16)
Vibrancy	.39(1.80)	.27(1.74)	- .11(.17)
Attractiveness	1.55(2.20)	1.15(2.22)	- .40(.21)

Note. Means and standard deviations are displayed. For fixed effects of linear mixed models, ***$p \leq .001$; **$p \leq .01$; *$p \leq .05$, two-tailed. Reference group = Americans. Gender was a covariate.

A one-sample *t*-test against the test-value of 0 (for no-enhancement) indicated that across the Chinese sample, Cerebral and Attractiveness attributes were perceived to be enhanced (Cerebral, $t(195) = 4.31$, $p < .001$; Attractiveness, $t(195) = 7.24$; $p < .001$), whereas Relational and Vibrancy attributes were not (Relational, $t(195) = -1.72$, $p > .05$; Vibrancy, $t(195) = .38$, $p > .05$). All attribute types were actually enhanced (Relational, $t(195) = 3.75$, $p < .001$; Cerebral, $t(195) = 5.31$, $p < .001$; Vibrancy, $t(195) = 2.20$, $p < .05$; Attractiveness, $t(195) = 7.26$; $p < .001$).

As with the US sample, a Principal Components analysis with Varimax rotation on the five relationship measures yielded a one-factor solution in the Chinese sample. Thus, the same summary score of relationship quality was computed for the Chinese sample by averaging standardized (z-scored) values of the relationship measures.

Procedure

The survey used in Study 3 was translated to Chinese, back-translated, and discussed by a team of bilingual researchers. As in Study 3, couples came into an on-campus laboratory together and completed online surveys, rating themselves and their partners on various attributes, estimating their partners' ratings of them, rating the centrality of these attributes to their self-concept, and completing relationship measures. The surveys took about 30-45 minutes to complete.

Analyses

Factor Analysis

A confirmatory factor analysis was run on the final model from Study 3, using a multiple group comparison for American and Chinese samples. I compared the unconstrained model with a model in which the measurement coefficients were constrained (means and intercepts were not constrained to be the same between groups).

Levels of PEP and AEP

Mean levels of PEP and AEP were computed using difference scores. Linear mixed models with random intercepts (Kenny, Kashy, Cook, & Simpson, 2006) were used to test possible cross-cultural differences in levels of PEP and AEP and other outcome measures (i.e., self-ratings, partner-ratings) while accounting for dependence of responses within couples (Kashy & Snyder, 1995). Gender was entered as a covariate. In the Level 1 equation below

(equation 5), where the subscript *i* refers to the individual and *j* refers to the couple, Y_{ij} is the predicted centrality rating or level of PEP or AEP for the individual, β_{0j} is the predicted intercept or average outcome measure for the couple, β_1 represents the overall slope between gender and the outcome measure, X_{1ij} indicates the subject's gender, β_2 represents the overall slope between culture (US or China) and the outcome measure, X_{2ij} indicates whether the individual is from the US or China, and e_{ij} represents random error.

$$Y_{ij} = \beta_{0j} + \beta_1 X_{1ij} + \beta_2 X_{2ij} + e_{ij} \quad (5)$$

In the Level 2 equation below (equation 6), β_{0j} is the predicted intercept for the couple, γ_{00} is the overall intercept of scores on the outcome measure across couples, and u_{0j} is the random error for the deviation between the intercept of the couple and the overall intercept.

$$\beta_{0j} = \gamma_{00} + u_{0j} \quad (6)$$

I also examined gender differences in PEP and AEP within the Chinese sample using linear mixed models with random intercepts. Gender was the only term entered in the model. Finally, pairwise *t*-tests were used to compare levels of PEP and AEP between attribute types.

Contributions of PEP and AEP to Relationship quality

Linear mixed models were used to examine associations between enhancement by a partner and relationship quality, with attribute types entered in separate models. As in Study 3, self-ratings and partner-ratings (perceived or actual) were entered into the model, and enhancement by a partner was conceptualized as the partner-rating, while controlling for self-ratings on attributes. Gender was also entered as a covariate. First, I replicated within-culture

analyses of Study 3 to understand in detail the patterns of enhancement in China. As in Study 3, *z*-tests (Paternoster et al., 1998) were used to compare the importance of PEP versus AEP and enhancement of relational versus personal attributes to relationship quality. To examine possible cultural differences in associations between enhancement by a partner and relationship quality, self-ratings, partner-ratings, culture (US or China), and an interaction term between culture and partner-ratings were entered in the model, with gender entered as a covariate.

In the Level 1 equation below (Equation 7), where the subscript *i* refers to the individual and *j* refers to the couple, Y_{ij} is the predicted relationship quality score for the individual, β_{0j} is the predicted intercept or average relationship quality score for the couple, β_1 is the overall slope between the subject's gender and relationship quality, X_{1ij} is the subject's gender, β_2 is the overall slope between self-ratings and relationship quality, X_{2ij} is the individual's self-rating on the attribute type, β_3 is the overall slope between partner-ratings (perceived or actual) and relationship quality, X_{3ij} is the individual's partner-rating (perceived or actual) on the attribute type, β_4 is the overall slope between culture (US or China) and PEP or AEP, X_{4ij} is whether the individual is from the US or China, β_5 is the overall slope for the interaction term between the individual's partner-rating and culture, and e_{ij} is random error.

$$Y_{ij} = \beta_{0j} + \beta_1 X_{1ij} + \beta_2 X_{2ij} + \beta_3 X_{3ij} + \beta_4 X_{4ij} + \beta_5 X_{3ij} X_{4ij} + e_{ij} \quad (7)$$

In the Level 2 equation below (Equation 8), β_{0j} is the predicted intercept for the couple, γ_{00} is the overall intercept of the relationship quality score across couples, and u_{0j} is the random error for the deviation between the intercept of the couple and the overall intercept.

$$\beta_{0j} = \gamma_{00} + u_{0j} \quad (8)$$

Results

Factor Analysis

In the multiple group comparison, modifications were made only to the covariance structure of the final model in Study 3. Covariances were added between attributes *compassionate* and *tolerant*, and between attributes *compassionate* and *trustworthy.* The covariance between *witty* and *confident* was removed. With these three modifications, I established metric invariance between attribute types of the American and Chinese samples (Davidov, Dülmer, Schülter, Schmidt, & Meuleman, 2012). The difference in fit between the unconstrained model and the final model (with factor-loadings constrained) barely reached significance (the cut-off score at $p = .05$ was 23.68), $\Delta X^2(14, N = 444) = 23.91$, $p = .05$. For the free model, $X^2(210, N = 444) = 455.364$, *RMSEA* = .07, *AIC* = 29415.16, *BIC* = 29808.36, *CFI* = .90, *TLI* = .87, *SRMR* = .07. For the constrained model, $X^2(224, N = 444) = 479.27$, *RMSEA* = .07, *AIC* = 29411.07, *BIC* = 29746.93, *CFI* = .89, *TLI* = .87, *SRMR* = .07.

In the unconstrained model, for the American sample, unstandardized factor loadings ranged from .43-.66 for Relational attributes, .55-.72 for Cerebral attributes, .57-.74 for Vibrancy attributes, and .68-.81 for Attractiveness attributes. For the Chinese sample, unstandardized factor-loadings ranged from .51-.76 for Relational attributes, .51-.58 for Cerebral attributes, .45-.58 for Vibrancy attributes, and .63.-.82 for Attractiveness attributes. All loadings were significant for both American and Chinese samples, all ps < .001.

Levels of PEP and AEP for Chinese versus Americans

Consistent with findings in Studies 1-3 regarding lower self- and partner-ratings of Asian Americans (in particular, East Asian Americans), Chinese were lower than Americans in both their self-ratings and partner-ratings. Chinese rated themselves lower on all attribute types than

did Americans (Relational, B = - .52, p < .001; Cerebral, B = - . 33, p < .05; Vibrancy, B = - . 75, p < .001; Attractiveness, B = - 1.17, p < .001). Chinese also perceived that their partners rated them lower on Relational, Vibrancy and Attractiveness attributes than did Americans (Relational, B = - . 45, p < .01; Vibrancy, B = - . 80, p < .001; Attractiveness, B = - 1.61, p < .001). Moreover, Chinese participants were actually rated lower on Relational, Vibrancy, and Attractiveness attributes than were their American counterparts (Relational, B = - .30, p < .05; Vibrancy, B = - .86, p < .001; Attractiveness, B= - 1.57, p < .001). I had predicted, based on the results of Studies 1-3, that Chinese would perceive and receive the same levels of PEP and AEP as Americans (Hypothesis 4.1). This prediction was confirmed, with one exception across the eight comparisons: Chinese perceived lower levels of PEP on their Attractiveness attributes than did Americans (B= - .44, p < .01). See Table 6 for self-ratings, perceived partner-ratings, actual partner-ratings, PEP, and AEP for Chinese and Americans, including mixed models fixed effects.

PEP and AEP within Chinese sample

As in the US sample, perceived partner-ratings showed medium-to-large correlations with actual partner-ratings (Relational, r = .36, p < .001; Cerebral, r = .39, p < .001; Vibrancy, r = .49, p < .001; Attractiveness, r = .41, p < .001). Similar to patterns within the US, PEP was the highest for Attractiveness attributes (M = .73, SD = 1.42), followed by Cerebral attributes (M = .33, SD = 1.07), Relational attributes (M = .13, SD = 1.07), and Vibrancy attributes (M = .03, SD = 1.08). AEP followed the same pattern (Attractiveness, M = 1.15, SD = 2.22; Cerebral, M = .64, SD = 1.74; Relational, M = .46, SD = 1.71; Vibrancy, M = .27, SD = 1.74). Paired t-tests indicated that both PEP and AEP were higher on Attractiveness than on other attribute types (PEP: Cerebral, t(195) = 4.48, p < .001, Vibrancy, t(195) = 7.47, p < .001, Relational, t(195) = 7.92, p < .001; AEP: Cerebral, t(195) = 3.46, p = .001, Vibrancy, t(195) = 5.61, p = .001,

Relational, $t(195) = 4.28$, $p < .001$). Additionally, PEP and AEP were greater on Vibrancy than on Cerebral attributes (PEP: $t(195) = 3.57$, $p < .001$; AEP: $t(195) = 2.89$, $p < .01$) and PEP was greater on Cerebral attributes than on Relational attributes ($t(195) = 5.30$, $p < .001$).

PEP was positively related to relationship quality for Relational attributes ($B = .22$, $p < .001$) and Cerebral attributes ($B = .12$, $p = .001$) but not Vibrancy or Attractiveness attributes (ps > .05). On the other hand, AEP was *negatively* associated with relationship quality. AEP showed significant negative associations with relationship quality for Relational attributes ($B = -.06$, $p < .05$) and Vibrancy attributes ($B = -.08$, $p < .01$) but not Cerebral or Attractiveness attributes (ps > .05). I had hypothesized that, as in the American sample, PEP would be more positively linked to relationship quality than would AEP (Hypothesis 4.3) and that partner-enhancement of Relational attributes would be more positively linked to relationship quality than partner-enhancement of Cerebral, Vibrancy, and Attractiveness (Hypothesis 4.4). Hypothesis 4.3 received mixed support (significant for two out of four comparisons). Specifically, PEP was significantly more important than AEP for Relational ($z = 5.6$, $p < .001$) and Cerebral attributes ($z = 3.77$, $p < .001$) but not Vibrancy or Attractiveness attributes (ps > .05). Hypothesis 4.4 was supported for PEP but not AEP (three out of six comparisons). That is, PEP of Relational attributes was more important to relationship quality than PEP of Cerebral ($z = 2.00$, $p < .05$), Vibrancy ($z = 3.89$, $p < .001$), or Attractiveness attributes ($z = 4.20$, $p < .001$), whereas the importance of AEP did not differ for relational versus personal attributes (all ps > .05).

Mirroring patterns within the US sample, Chinese men and women did not differ in their self-ratings, but Chinese women perceived that their partners rated them more positively on Attractiveness attributes (women, M = 6.96, SD = 1.88; men, M = 6.33, SD = 1.93, B = .63, p < .05) and were actually rated more positively on Attractiveness attributes (women, M = 7.75,

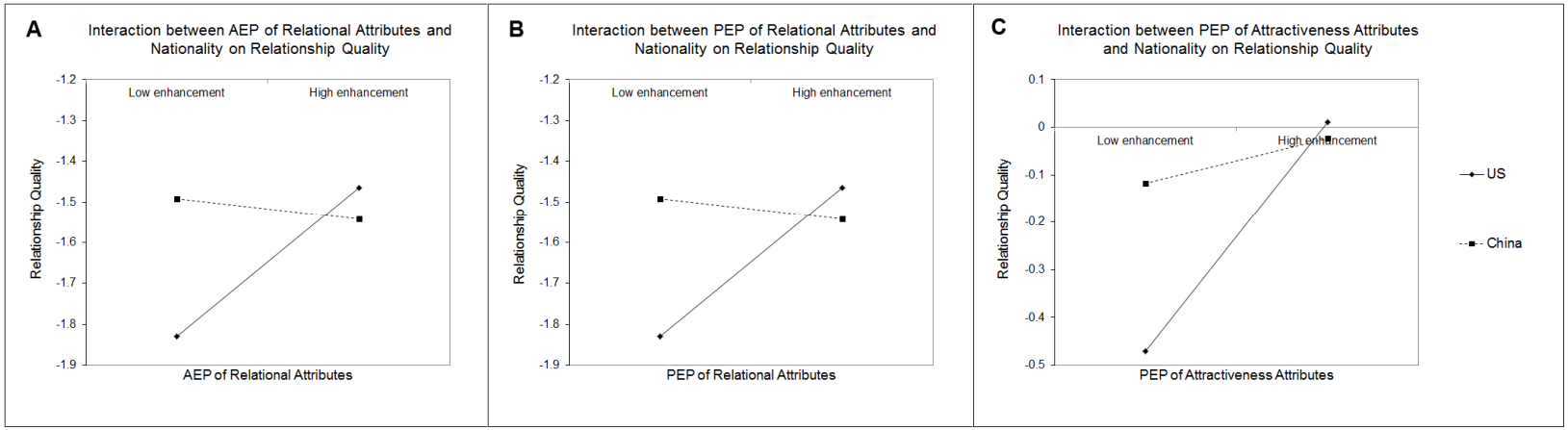
SD = 1.89, B = 1.37, men, M = 6.39 , SD = 1.75 , p < .001). Chinese women also received higher levels of actual enhancement on their Attractiveness attributes than did Chinese men (women, M =1.66, SD = 2.25, men, M = .65, SD =2.09, B = 1.01, p = .001) but did not differ from men in their levels of perceived enhancement. There were no gender differences in self-ratings, partner-ratings, PEP, or AEP of any other attribute types.

Contributions of PEP and AEP to Relationship Quality for Chinese versus Americans

I had hypothesized that the associations between enhancement by a partner and relationship quality would be similar for Chinese and Americans (Hypothesis 4.2). This hypothesis was partially supported, with three significant differences across eight comparisons. Both AEP and PEP of Relational attributes were less positively related to relationship quality for Chinese than for Americans (AEP, B = -.16, p < .01; PEP, B = - .12, p < .01). Specifically, simple slope tests indicated that for Americans, there was a positive association between AEP of Relational attributes and relationship quality, t = 4.80, p < .001, whereas for Chinese, the association was non-significant, p > .05 (See Figure 3a). For *perceived* enhancement on Relational attributes, simple slopes tests indicated a positive association for Americans, t = 3.66, p = .001, whereas the association was again non-significant for Chinese, p > .05 (See Figure 3b). Additionally, there was an interaction between PEP of Attractiveness attributes and culture (B = -.10, p < .01), such that the association between PEP of Attractiveness and relationship quality was more positive for Americans than for Chinese (See Figure 3c). Simple slopes tests indicated that association was positive for Americans, t = 3.83, p < .001, and non-significant for Chinese, p > .05. Chinese and Americans were similar in the degree of association between enhancement by a partner and relationship quality for Cerebral and Vibrancy attributes, all ps > .05. See Table 7 for associations between PEP and AEP and relationship quality.

Figure 3

Study 4 Interaction between Partner-enhancement and Nationality on Relationship Quality



Note. Level of enhancement is plotted at one standard deviation above and below the mean.

Table 7

Study 4 Mixed-Models Fixed Effects of Perceived and Actual Partner-enhancement (PEP and AEP) on Relationship Quality for Chinese versus Americans

Attribute Type	Effect	*Fixed Effects B(SE B)*	
		PEP	AEP
Relational	Intercept	- 1.59(.21)***	.38(.29)
	Gender (Female = 1)	- .07(.06)	- .08(.05)
	Self-rating	.18(.02)***	- .04(.03)
	Partner-rating	.07(.03)**	.29(.03)***
	Chinese	.13(.08)	.12(.07)
	Chinese x Partner-rating	- .16(.05)**	- .12(.04)**
Cerebral	Intercept	- 1.05(.18)***	.26(.27)
	Gender (Female = 1)	- .03(.05)	- .02(.05)
	Self-rating	.13(.02)***	- .04(.03)
	Partner-rating	- .06(.02)**	.18(.03)***
	Chinese	.05(.09)	.05(.08)
	Chinese x Partner-rating	.06(.04)	.04(.04)
Vibrancy	Intercept	- .72(.16)***	- .06(.27)
	Gender (Female = 1)	- .03(.05)	- .02(.05)
	Self-rating	.09(.02)***	.00(.03)
	Partner-rating	- .09(.02)***	.09(.03)**
	Chinese	.01(.10)	.09(.09)
	Chinese x Partner-rating	.02(.04)	- .03(.04)
Attractiveness	Intercept	- .48(.13)***	- .16(.17)
	Gender (Female = 1)	- .03(.06)	- .10(.05)
	Self-rating	.07(.02)***	.02(.02)
	Partner-rating	- .03(.02)	.08(.03)***
	Chinese	.05(.10)	.16(.09)
	Chinese x Partner-rating	- .02(.03)	- .10(.04)**

***$p \leq .001$; **$p \leq .01$; *$p \leq .05$, two-tailed. Reference group for Chinese = Americans.

Study 4 Discussion

My first two hypotheses about no cultural differences in levels of partner-enhancement or in associations between partner-enhancement and relationship quality were mostly supported. Consistent with previous research on the lower level of (and even the lack of) self-enhancement among East Asians (Heine & Hamamura, 2007) and Studies 1-3, Chinese consistently rated themselves less positively than did Americans. Chinese also perceived less positive ratings by their partners and were actually rated less positively by their partners than were Americans. Furthermore, consistent with the prior three studies, American and Chinese couples showed similar levels of perceived and actual partner-enhancement across all four attribute types (with one exception for PEP of Attractiveness, which has no ready explanations and needs to be replicated). As in the American samples, Chinese perceived and received the highest levels of partner-enhancement on Attractiveness attributes. In addition to showing similar levels of partner-enhancement, Chinese and Americans also, more often than not, showed similar associations between partner-enhancement and relationship quality. Nevertheless, three differences were found, two of which involved Relational attributes (both PEP and AEP) and one of which involved Attractiveness attributes (PEP). For all three interactions, the effect of partner-enhancement was less positive for Chinese than for Americans.

My other two hypotheses that PEP would be more positively linked to relationship quality than would AEP and that partner-enhancement of Relational attributes would be more positively linked to relationship quality than partner-enhancement of Cerebral, Vibrancy, and Attractiveness received mixed support in this Chinese sample. The former hypothesis was supported for Relational and Cerebral attributes only. The latter hypothesis was supported for PEP but not AEP.

In summary, in this study, I found that levels of partner-enhancement were similar for Chinese and Americans, but that partner-enhancement could be less beneficial to the relationship quality of Chinese than Americans. Several possible explanations exist for the equal presence of partner-enhancement, but not self-enhancement, among Chinese and Americans, including modesty norms, face, indirect self-enhancement, and social harmony. I thus explored motivations for partner-enhancement in Study 5, a qualitative study of Chinese and American college students who were currently in romantic relationships.

Study 5: What are the Underlying Motivations of Partner-enhancement?

In this study, I conducted semi-structured focus groups with undergraduates in China and the US to understand possible motivations that underlie partner-enhancement in the two countries.

Study 5 Method

Participants

Participants were undergraduates (n = 28 in the US, n = 34 in China) who were currently in exclusive romantic relationships for at least one month. They were recruited from the same institutions as in Studies 3 and 4 (a public university on the west coast of the US and a public university in Beijing, China). In the US, there were 12 men and 16 women, and in China, there were 11 men and 23 women. Of the 28 American participants, fourteen were Asian American, four were mixed-race, four were European American, three were Middle Eastern American, two were Hispanic American, and one was African American. US participants were compensated with two extra credit points whereas Chinese participants were compensated with 30 RMB (roughly $5 USD).

Procedure

I ran eight focus groups (four each in China and the US, with 4-13 participants (M = 7.8) per group). There were two focus groups each of US men, US women, Chinese men, and Chinese women. For the Chinese session, focus group questions were translated to Chinese, back-translated, and discussed by bilingual researchers. Sessions were separated by gender and led by young gender-matched researchers who were fluent in the native language. One researcher led the discussion while one to two researchers took notes. All focus groups were audio-recorded.

Upon arrival to the session, participants were given a list of attributes used in Study 1's questionnaires (needed for a question). After all participants arrived, the researchers and participants introduced themselves to the group. The researchers then explained the purpose of the study (to understand young adults' romantic relationships). Participants discussed their views, opinions, and beliefs about romantic partners' perceptions of each other. Of particular relevance to this study was the question: "Do you think that young adults prefer for their romantic partners to see them more positively than they see themselves, very similarly, or less positively? Why?" Participants were also asked about the specific domains on which they would want to be seen on more positively, very similarly, or less positively by their partners. See Appendix A for a full list of questions asked in the focus group. The focus groups were semi-structured, following a set of questions but allowing participants to bring up and discuss other related topics. The entire session took 1.5 – 2 hours.

Study 5 Results

The themes that I found in the focus group included individual-oriented motivations (*ego boosts*, *personal benefits*, *high expectations*) and social-oriented motivations (*social approval*, *social harmony*, *less pressure*/*stress*, *self-improvement*, *pleasantly surprising partners*).

Preferences for Enhancement

Overall, although some participants expressed desire for verification or de-enhancement (especially when asked about specific attributes), Americans expressed the strongest desire for partner-enhancement, typically for individual-oriented reasons, such as *ego boosts* and *personal benefits* (See Table 8 for focus group quotes by enhancement preferences and individual versus social orientation for Americans and Chinese). For example, one group of women agreed that, "It makes you feel better about yourself", indicating a desire for *ego boosts*. *Personal benefits* was

another common theme. One participant explained that, “If they don’t see you as more positive they might treat you more negatively” whereas another said, "You know your negative traits, but don't want your partner to see them as negatively as you do, because they might be a reason to break up." When later asked about specific attributes, a participant said that, "You want your partner to see you in a positive light and to think you are more trustworthy than you actually are. You do not want your partner to see if you are not a nice guy." Another participant corroborated the personal benefits of partner-enhancement, stating that at the beginning, people want to be enhanced by their partners to "reel them in" but that later on, "you can show them more of you." A social reason was also mentioned. One participant mentioned that compassion was particularly important for partner-enhancement as it, “reaffirms you are being kind to him,” reflecting a desire for *social harmony*.

Table 8

Study 5 Focus Group Quotes by Preferences for Partner-enhancement and Individual versus Social Orientation for Americans and Chinese

Preference	Orientation	**US**	**China**
Enhancement	Individual	*1. It makes you feel better about yourself* *2. If they don't see you as more positive they might treat you more negatively* *3. You don't want him to see you better but it's nice (feels better) when he does* *4. In the beginning, you want them to see you as higher to make them stay around.* *5. You know your negative traits, but you don't want your partner to see them as negatively as you do, because they might be a reason to break up.* *6. You do not want your partner to see your negative traits. You want your partner to see you in a positive light. You want your partner to think that you are more trustworthy than you actually are. You do not want your partner to see if you are not a nice guy.* *7. I think in the beginning, you want people to see you as more positively to "reel them in". After they get to know you, you can show them more of you.*	*1. They hope to have higher evaluations because they have high expectations of their partner* *2. We want higher evaluations from partners because our own evaluations are low due to low self-confidence* *3. Traits that we desire higher evaluations on from partners are traits that make you feel good when people give you good feedback. They are important in our culture.*
	Social	*1. [enhancement on compassion] reaffirms you are being kind to him*	*1. In high school, we hope that their evaluations are higher than our self-evaluations because we are eager for other peoples' approval* *2.[Enhancement] shows that your partner likes being with you and you are fit for the person* *3.We want higher evaluations because if our partners think this, we will try to improve and meet the expectations of them*
De-enhancement	Individual	*1. [Regarding attributes for de-enhancement] Money, so she doesn't expect I can buy her things*	*1. [Regarding attributes for de-enhancement] Athleticism, we don't want our boyfriends to take us to exercise*
	Social	2. *I want her to see me lower in most things, so I can always meet her expectations or surpass them*	*1. When we become older, we hope for equal evaluation, and sometimes underestimation. We never hope so much and don't want high expectations so we won't feel pressured or stressed* *2. They hope to have lower evaluation because it's less pressure and stress* *3. From a long-term view, partner-perceptions will become more positive rather than less positive*

			4. We don't want high evaluations on academic ability because we don't like pressure *5. Our partners should underestimate us slightly so that we can surprise them* *6. We want lower views on our intelligence, academic ability, ambition, and ability to improve ourselves. In Chinese culture, it is threatening to the relationship if the male thinks that the girl is smart, especially smarter than him.* *7. [Regarding attributes for de-enhancement] Social skills. People in China want pure girls. Social skills aren't always good if they involve flirtatious behavior.* *8. [Regarding attributes for de-enhancement] Tolerance. Over the relationship, we hope that boys will give low evaluations so our behaviors can exceed their expectations and they will feel better.*
Verification	Individual	*1. I don't want my girlfriend to expect me to take her out or be able to give her money, so she should see me as wealthy (or poor) as I see myself*	
	Social	*1. You want them to be more congruent with your true qualities towards the end – so they are not in love with a façade* *2. I don't want my girlfriend to ask me something that I cannot do. I don't want her to overestimate my abilities.* *3. In general, most people will want their partners to see themselves similarly, so they won't be disappointed later on.* *4. You don't want your partner to think you're more trustworthy than you are. Especially, when she is telling you secrets and you might tell people, not knowing it's a problem*	*1. We hope to be seen similarly which indicates that our partner knows and understands us* *2. Our partners should see us the way the way we see ourselves because it shows an authentic understanding of us. If you cannot meet a partner's expectations, that will produce conflict.*

In comparison, Chinese participants showed much weaker preferences for partner-enhancement, and mentioned both individual- and social-oriented motivations equally. One participant stated that desire for partner-enhancement depends on age, beginning with desire for social approval (and partner-enhancement) and then changing to desire for less pressure/stress (and no partner-enhancement). "In high school, we hope that their evaluations are higher than our self-evaluations because we are eager for other peoples' approval. When we become older, we hope for equal evaluation, and sometimes underestimation. We never hope so much and don't want high expectations so we won't feel pressured or stressed." It was furthermore mentioned that the desire for partner-enhancement also depends on personality, that people with strong personalities want more enhancement, that people who evaluate themselves as better than they actually are (narcissists) will get lower evaluations [less enhancement] from their partner, and that people who want to be enhanced have high expectations of their partner. Some participants wanted to be enhanced because, "Our own evaluations are low due to low self-confidence ", indicative of *ego boosts*, and, "It shows that your partner likes being with you, and you are fit for the person", indicative of *social harmony*. Many participants also wanted partner-enhancement for social-oriented *self-improvement* reasons. They mentioned that partner-enhancement would inspire them to improve and meet their partner's expectations. Regarding enhancement of specific attributes, one participant mentioned that young Chinese people want enhancement of attributes that are "important in our culture" as it makes them feel good when people give them positive feedback, supporting both *ego-boosts* and *social approval*.

Preferences for De-enhancement

Americans and Chinese also differed greatly in their preferences for de-enhancement. The vast majority of Americans expressed strong preferences against de-enhancement, regardless

of attribute type, whereas many Chinese expressed strong preferences for de-enhancement, typically for social-oriented reasons. Among Americans, one participant stated that, “I want her to see me lower in most things, so I can always meet her expectations or surpass them”, indicating a social-oriented motivation for *pleasantly surprising partners*. Another said that he would want to be de-enhanced on his richness, “so she doesn’t expect I can buy her things”, reflecting *personal benefits*.

Among Chinese participants, *pleasantly surprising partners* was a common motivation for de-enhancement. Participants mentioned that, "From a long-term view, partner-perceptions will become more positive rather than less positive”, “Our partners should underestimate us slightly so that we can surprise them”, and [regarding specific attributes for de-enhancement], “Tolerance. Over the relationship, we hope that boys will give low evaluations so our behaviors can exceed their expectations and they will feel better.” *Social harmony* and *social approval* were also motivating factors. Women mentioned that, “We want lower views on our intelligence, academic ability, ambition, and ability to improve ourselves. In Chinese culture, it is threatening to the relationship if the male thinks that the girl is smart, especially smarter than him,” and that [regarding attributes for de-enhancement], “Social skills. People in China want pure girls. Social skills aren't always good if they involve flirtatious behavior”. Several participants also desired de-enhancement due to the social-oriented motivation of *lower pressure/stress* of meeting a partner’s expectations or of having high expectations for a partner’s views. There was one exception to the social motivations. In support of individual-oriented *personal benefits*, a group of Chinese women said that they wanted to be de-enhanced on athleticism because, “We don't want our boyfriends to take us to exercise.”

Preferences for Verification

Overall, Americans and Chinese showed few differences in their motivations for partner-verification. Both groups typically desired verification for *social harmony*. For instance, one American participant mentioned that, "Most people will want their partners to see themselves similarly, so they won't be disappointed later on," whereas another said that verification was desired on trustworthiness because, "When she tells you secrets you might tell people, not knowing it's a problem". Others mentioned that they did not want their partners to ask them to do things they are unable to do, and that they did not want their partner to be in love with a façade (see Table 4). There was one exception in that one participant mentioned a desire for verification on wealth for *personal benefits* ("I don't want my girlfriend to expect me to take her out or be able to give her money, so she should see me as wealthy or poor as I see myself").

Among Chinese participants, there was also support for verification for *social harmony*. Some participants wanted to be verified because "it indicates that our partner knows and understands us", whereas others expressed that verification reflects genuine understanding and decreases chances of future conflict.

Study 5 Discussion

In summary, Americans tended to prefer partner-enhancement for individual-oriented reasons, whereas Chinese tended to prefer de-enhancement by a partner for social-oriented reasons. Strong themes among Americans were *ego-boosts* (e.g., feeling good about oneself) and especially, *personal benefits* (e.g., better treatment), whereas strong themes among Chinese were *pleasantly surprising partners* (e.g., by surpassing their expectations), *social harmony* (e.g., being unthreatening to partner), and *less pressure/stress* (e.g., to fulfill partner's high expectations).

General Discussion

Overall, this set of studies documented that across three samples of ethnically diverse young adults, and in an international sample of young Chinese couples, levels of perceived and actual partner-enhancement were similar. Despite cultural differences in self-ratings, these cultural similarities held across attribute type and informant with only a few exceptions (which were not consistent across the studies). Participants in all cultural groups were by far the most enhanced by their partners on Attractiveness attributes, but were usually enhanced on the other attribute types as well (typically perceiving and receiving the least enhancement on their Relational attributes). Furthermore, participants perceived slightly less enhancement by their partners than they actually received, across the four attribute types. It should also be noted that Study 3 (and to some extent, Study 4) indicated that participants generally benefited the most from enhancement of Relational attributes. In other words, the rarest form of partner-enhancement was actually the most beneficial.

There are several possible explanations for why partner-enhancement, but not self-enhancement, may be present to the same extent in collectivistic cultures as in individualistic cultures. I had speculated that some relevant cultural mechanisms for the equal presence of partner-enhancement among Chinese and Americans were modesty norms, face, indirect self-enhancement, and social harmony. While indirect self-enhancement and modesty were briefly touched upon by Chinese participant in the focus group (i.e., the ideas that high evaluations from partners are desirable because their own evaluations are low from low self-confidence and that narcissistic people get less partner-enhancement), face did not seem at all relevant, and social harmony received by far the most support. It could be argued that other common themes among Chinese (pleasantly surprising partners, less pressure/stress, social approval, and self-

improvement) also contribute to social harmony through their benefits to the relationship or relationship partner.

More research must be done to identify the possible mechanisms for the greater partner-enhancement of Attractiveness attributes as compared to other attribute types. It should be mentioned that for all four quantitative studies, my post-hoc analysis showed that participants rated themselves the least positively on Attractiveness attributes (all *p*s < .001). Thus, higher partner-enhancement on Attractiveness may actually be a result of lower self-ratings on Attractiveness.

Consistent with previous research on the lower level of (and even the lack of) self-enhancement among East Asians (Heine & Hamamura, 2007), East Asian Americans consistently rated themselves lower on positive attributes than did European Americans (Studies 1-3) and Chinese showed the same pattern in comparison to Americans (Study 4). Furthermore, East Asian Americans and Chinese perceived less positive ratings by their partners and were actually rated less positively by their partners than were European Americans and Americans of various ethnicities (Studies 1-4). Interestingly, I found in Study 3 that East Asian Americans were also viewed as less physically attractive by third-parties than were European Americans. The partners of East Asian Americans were not any less enhancing of their looks, compared to ratings of third-parties, than were partners of European Americans.

This finding brings up an important issue with the methodology in some cross-cultural studies of self-enhancement (e.g., Heine & Hamamura, 2007), namely the assumption that groups have equal levels of a given attribute, such as self-esteem. I had gathered third-party ratings of physical attractiveness because it was easier than obtaining more objective evaluations of Relational, Cerebral, and Vibrancy attributes. However, future research could gather this data

to address the aforementioned issue in studies of self-enhancement. It should be mentioned that the various cultural groups in the present research all showed similar levels of partner-enhancement even when the effects of self-enhancement were removed through the use of third-party ratings as a baseline instead of self-ratings. This finding indicates that for all cultural groups, partner-enhancement of attractiveness arose from their partner's *unrealistically positive* views of them, rather than their self-deprecation coupled with their partner's *realistic* views.

Regarding gender differences, women consistently received higher levels of enhancement on their Attractiveness attributes than did men, regardless of their ethnicity or nationality types. This is consistent with a previous study which found that women were rated more positively by their partners than were men on attractiveness, but not other attributes (Swann et al, 2002) and with another study in which women reported receiving far more compliments from their opposite-gender partners on their appearance than on other any attributes (Doohan & Manusov, 2004). These results may reflect women's higher use of a specific mate retention technique, that is, enhancing one's appearance in front of a partner (Shackelford, Goetz, & Buss, 2005). Given the importance that men place on the attractiveness of a female partner (Feingold, 1990), this pattern could also reflect a relationship maintenance mechanism in which men enhance the value of their partner though positive evaluations of their looks.

Although there were cross-cultural similarities in levels of PEP and AEP and their associations with relationship quality, a few of my results suggest that enhancement by a partner, particularly PEP, may be less beneficial to East Asian Americans than to European Americans, and to Chinese than to Americans. Compared to European Americans, East Asian Americans showed less positive associations between third-party-based PEP of physical attractiveness and relationship quality and Southeast Asian Americans showed less positive associations between

PEP of Vibrancy attributes and relationship quality (Study 3). Also, compared to Americans, Chinese showed less positive associations between PEP and AEP of Relational attributes and relationship quality, and PEP of Attractiveness attributes and relationship quality (Study 4). Findings from the focus groups (Study 5) may help to explain these results. Specifically, Americans and Chinese differed in their stated preferences for partner-enhancement, with Americans strongly preferring partner-enhancement on the whole for individual-oriented reasons, and Chinese showing more varied preferences but most commonly preferring de-enhancement from their partners for social-oriented reasons. It seems that partner-enhancement, especially on Relational attributes, could cause East Asians to feel *pressure/stress* in regards to living up to their partner's views, keep them from *pleasantly surprising their partners* with their good qualities, and detract from *social harmony*. Many Chinese participants mentioned that they would rather be de-enhanced (viewed more negatively than they view themselves) than enhanced or verified (viewed accurately) by their partners for these reasons. In contrast, American participants typically desired partner-enhancement for *personal benefits*, such as "reeling in" a partner, or for *ego boosts*, such as feeling good about themselves.

I also found that, consistent with research on the benefits of social support (McDowell & Serovich, 2007; Wethington & Kesler, 1986), PEP was generally more positively linked to relationship quality than was AEP for Americans (Study 3, three out of four comparisons). For Chinese, there was support in the same direction for Relational and Cerebral attributes (Study 4, two out of four comparisons). There was also some support for my prediction that partner-enhancement of relational as opposed to personal attributes would be more important to relationship quality (Seidman, 2012). In the American sample, this pattern was confirmed for AEP and for PEP of Relational versus Attractiveness attributes, but not for PEP of Relational

versus Cerebral or Vibrancy attributes (Study 3, four out of six comparisons). In the Chinese sample, partner-enhancement of relational as opposed to personal attributes was more important for PEP but not for AEP (Study 4, three out of six comparisons).

Interestingly, both American and Chinese samples showed only positive associations between PEP and relationship quality, but some negative associations between AEP and relationship quality (for Vibrancy attributes in both groups), suggesting that some behaviors associated with actual enhancement of a partner may be detrimental to a relationship. It is possible that, as illustrated in the hypothetical case of Jake and Jane (Study 3 Discussion), AEP comes with the burden of unrealistic expectations that individuals inevitably cannot meet.

My studies contribute to the limited literature on partner-enhancement across cultures, indicating that culture, attribute type, and informant are all important factors in understanding partner-enhancement, and that although Chinese and Americans are similar in levels of partner-enhancement, they may differ in their underlying motivations for or against partner-enhancement. Although this is an important first step, it is possible that participants' focus group responses may have been affected by self-presentation (e.g., trying to appear modest), or that participants may lack insight into their true motivations. Future research should thus test these reported motivations through quantitative methods and examine experimentally whether perceiving enhancement versus derogation from a partner actually leads to such differential feelings/cognitions for Chinese and Americans. Findings may eventually be used in couples' therapy, including interventions to improve relationship quality. For example, a previous experimental study that I conducted (Wu, Chen, & Greenberger, in press) found that responses to partner-enhancement (through bogus partner-feedback) may differ by attribute type and prior well-being.

Several limitations of the current research must be mentioned. First, although my samples were ethnically diverse, I mostly sampled from young college students on the West Coast (and their romantic partners), which limits the generalizability of my findings. Future studies should incorporate college and community samples in different locations and different nations. It is also possible that factors such as social desirability may have affected my results. In Studies 2-4, I measured social desirability and found that social desirability showed consistent and significant small-to-medium associations with positive ratings of one's partner. Thus, future studies of partner-enhancement should be designed to minimize the effects of social-desirability on reporting. Additionally, the current study was cross-sectional in nature. Future studies, perhaps utilizing diary studies, could collect longitudinal data to elucidate possible bidirectional links between enhancement by a partner and relationship quality. Last, further research should be conducted to understand why across cultures, Attractiveness attributes are consistently more enhanced than are other attributes.

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Appendix A

Focus group questions

1. Are there traits that we did not list but are important in the self for young adults today? What are these traits and why are they important?

    a. Are there gender differences in the importance of these traits? If so, what are the differences?

    b. Each of us has certain attributes that we feel are central (or important) to our self-concept and others that we feel are less central. Which of these traits are central in defining young adults' self-concept (or sense of who they are)?

2. Of the traits that we listed and that you mentioned, which attributes do you think are the easiest to change and why? Which are the hardest to change and why?

3. What do you think are the stages that most young adults go through in their romantic relationships?

    a. What sorts of feelings towards their partners do young adults experience during these stages?

4. In our study of college students, we found that most people feel that their partners see them as more physically attractive than they believe themselves to be. However, in other domains such as in kindness and intelligence, this doesn't seem the case. Many people think that their partners see them similarly to how they see themselves in these domains.

    a. Do you agree with this pattern? Why or why not?

    b. Why do you think that young adults think their partners see them as more physically attractive than they think they are?

    c. Why do you think that young adults think their partners see them very similarly to how they see themselves in kindness and intelligence?

    d. Do you think young adults' perceptions of their partners' attributes change from early on in a relationship to later? How do their perceptions change through the relationship and why do these perceptions change?

e. Do you think some traits are more important early in a relationship, and others later in a relationship? Why? What are some examples of traits that change in importance? How do they change in importance, and why do they change in importance?

5. How do young adults know what their partners think of them?

    a. What views that their partners hold of them stand out the most, and why?

6. Do you think that young adults prefer for their romantic partners to see them more positively than they see themselves, very similarly, or less positively? Why?

    a. Are there certain domains (=attributes) where people might prefer to be seen more positively versus very similarly to how they see themselves? What are these domains and why might this be?

    b. What about specific domains where people prefer to be seen very similarly to the way they seem themselves, as opposed to more positively? Why might this be?

    c. What about specific domains where people prefer to be seen less positively than how they see themselves? Why might this be?

    d. Do you think these preferences depend on how much time couples have been in a relationship for, or what stage they are in their relationship? How so?

7. Think about the attributes that young adults find the most important in themselves. What are some of these attributes, and how do people feel about these attributes of theirs?

    a. How do their partners feel about these attributes of theirs? Why?

    b. What would a partner say or do to indicate these feelings? When would a partner say or do these things?

    c. How would this affect a relationship?

8. How often do young adults try to compliment their partners? Why?

    a. When, or during what times, do young adults usually compliment their partners and why?

b. What attributes do young adults usually compliment their partners on, and why?

c. What are some ways through which people compliment their partners? (What do they say or do?)

d. How does this change over the course of a relationship? (When people are first getting to know each other versus later on)

9. How often do young adults criticize their partners? Why?

a. When do young adults usually criticize their partners and why?

b. What attributes do young adults usually criticize their partners on, and why?

c. What are some ways through which people criticize their partners? (What do they say or do?)

d. How does this change over the course of a relationship? (When people are first getting to know each other versus later on)