

A Cross-Cultural Study of Never-Married Chinese and American Adults'

Mate Selection Perceptions and Criteria

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ABSTRACT

Mate selection has garnered much attention in the existing literature. However, most mate selection research has reviewed mate selection preferences and criteria individually. In this study, the researcher attempted to illustrate mate selection as an interactive process in which individuals are affected by external influences, and their mate selection criteria are influenced by their self-appraisals and their perceptions of others' mate selection criteria. Two studies were conducted. Study 1 was based on social exchange theory, sexual strategies theory, and social context frameworks, and used multiple-group structural equation modeling to describe the relationships among gender, receptivity to external influences on mate selection, self-perceived relative mate selection position, and relative mate selection demand, between Chinese and American never-married heterosexual adults. The results indicated that the model fit the data well. Self-perceived relative mate selection position and relative mate selection demand were negatively correlated. Women had a higher relative mate selection demand than men did. Self-perceived relative mate selection position fully mediated the effect of receptivity to external influences on relative mate selection, though the indirect effect was not significant. Path values did not differ between Chinese participants and American participants. Study 2 confirmed that the model fit the data well and replicated all significant correlations among latent variables found in Study 1. Additionally, Study 2 found that receptivity to external influences and self-perceived relative mate selection

position were positively correlated, and that receptivity to external influences had a negative indirect effect on relative mate selection demand, fully mediated by relative mate selection position. Lastly, the researcher discussed findings, implications, strengths, limitations, and future directions of the present study.

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Chapter I: Introduction

Mate selection is a pivotal human experience. It is an individual adventure and a familial, societal, and cultural event. Although few scholars challenge the significance of mate selection to human experience, it is less clear how individuals select their mates and which criteria they use. Because mate selection is also a cultural and societal practice, individuals in different contexts likely approach the process differently. The implications of mate selection for individuals, families, and societies merit further investigation of this process.

Purpose of the Study

In this study, I first reviewed literature in the field to establish the present study's theoretical context. Although there are many competing theories in the area of human mate selection, the majority of them examine mate selection perceptions and criteria individually. Well-studied research questions include, though are not limited to, the relative prioritization of mate selection criteria, and the differences between men and women's mate selection preferences. The present research, on the contrary, viewed the establishment of individuals' mate selection criteria as more of an interactive process, which includes contextual influences, self-appraisals, and perceptions of possible mates' selection demand. Correspondingly, the main endogenous variable for this research was how individuals' minimum mate selection demand compares to their self-appraisal, termed relative demand, rather than individuals' mate selection demand in isolation.

With this in mind, the literature review focused extensively on social exchange theory and sexual strategies theory, which guided the study design and the interpretation of findings. I also briefly presented the distinctive sociocultural contexts for mate selection in China and in America and analyzed key analytical variables, such as gender, that differentiate and characterize

these particular contexts. I then introduced the research questions and hypotheses, and outlined the survey instrument and methods employed to address them. Finally, I discussed the findings, implications, strengths, limitations, and future directions of the present research.

This study served a few main purposes. First, and of most interest, was to pilot a theoretically-driven model describing the relationships among several key variables—specifically, external influences, gender, relative mate selection position, and relative mate selection demand—in negotiating the mate selection process. For this purpose, I employed structural equation modeling. In the models tested, I also introduced two relative scores—relative mate selection position and relative mate selection demand—that compared self-appraisals with perceptions of others' minimum mate selection criteria, and minimum mate selection demand with self-appraisals, respectively. The differences between the two genders' relative mate selection demand constituted another foci of the model. Additionally, by using multiple-group structural equation modeling, I also compared the mate selection process, illustrated in the model, between the Chinese and the American cultural contexts.

Second, I reviewed the application of social exchange theory to mate selection in the existing literature, attending to the cultural differences between mate selection in China and in America. The cross-cultural comparison was a central theme of the present research, because it allowed us to study the mate selection process with a more balanced and culturally sensitive stance, and also to test the model's transferability between significantly distinctive cultural contexts.

Third, I examined the effect of age on the mate selection process. Previous studies on mate selection often used college students as participants, a selection that limits the age range of participants, thus neglecting possible differences in mate selection perceptions and criteria

between younger and older single adults. According to search theory (Lewis & Oppenheimer, 2000, p.31), older single adults would experience higher selection pressure than younger adults would. This study tested whether the selection pressure associated with age affected individuals' relative mate selection demand through their self-perceived relative mate selection position.

Defining Key Terms

Two key terms, closely connected to the literature review, warrant clear definitions at this point. *Self-perceived relative mate selective position* was determined as individuals' self-appraisal minus their perception of possible mates' minimum mate selection criteria. A positive score on relative mate selection position indicated that participants thought they exceeded their possible mates' minimum criteria; a negative score indicated that they thought they did not fulfill their possible mates' minimum criteria. In this paper, *self-perceived relative mate selection position* was also referred to as *relative mate selection position* and at times abbreviated as *relative position*.

Relative mate selection demand was determined as individuals' minimum mate selection criteria minus their self-appraisal. A positive score on relative mate selection demand indicated that participants expected their possible mates to possess higher qualities than they did, i.e., to "marry up," with a negative score indicating that they were willing to accept possible mates possessing lower qualities than they did, i.e., to "marry down." In this paper, *relative mate selection demand* was at times abbreviated as *relative demand*.

Direct ratings of mate selection perceptions and criteria are helpful in comparisons with one another or between different individuals, as they address important questions such as which mate selection traits are more or less important to individuals, or to reveal that individuals of a certain culture might collectively prioritize certain traits over others. However, to understand the roles of self-appraisal, perceptions of possible mates' mate selection criteria, and mate selection

criteria in the process of mate selection, relative scores might be more informative, as they extract the relationships between different variables. Furthermore, establishing relative scores helped to control for rater biases (e.g., in the case participants of one culture rating every context higher because of possible cultural response tendencies).

Additionally, *receptivity to external influences on mate selection* referred to individuals' degree of receptivity to external influences on mate selection, including peer influence on mate selection, parental influence on mate selection, media influence on mate selection, as well as felt pressure on mate selection. In this paper, *receptivity to external influences on mate selection* was referred to as *receptivity to external influences* and sometimes, *external influences*.

Chapter II: Literature Review

Many theories aim to explain how people choose their spouses and why people marry certain people and not others. For instance, researchers adopting an assortative mating perspective focus on the similarity (i.e., positive assortment) and complementarity (i.e., negative assortment) of partners' characteristics (e.g., Klohner & Mendelsohn, 1998). Homogamy in mate selection suggests that similarities in background are key to individuals' attraction to one another and to mate selection (Surra, Gray, Boettcher, Cottle, & West, 2006). Many researchers support the notion that partners with shared characteristics, such as race, religion, and education, tend to have more successful relationships (e.g., Lucas et al., 2004). Need complementarity, a theory proposed by Winch (1955), suggests that unfulfilled personality needs guide mate selection and that individuals choose partners who possess different needs to complement each other. However, it has been suggested that this theory inaccurately predicts mate selection outcomes (Murstein, 1967). Search/interaction marriage model proposes that the mate type of an individual is a random draw from a diverse population (Adachi, 2003). Although "chemistry" (i.e., the compatibility of two partners' personalities) seems, intuitively, to figure significantly in mate selection, the empirical literature offered insufficient evidence to validate this view (Zentner, 2005). Attachment theory has also been applied to understand human mate selection (e.g., Hazan & Diamond, 2000). The current study, departing from these approaches, offers insight into the mate selection process, using social exchange theory, sexual strategies theory, and social context frameworks.

Social Exchange Theory

Of the many theories on mate selection, social exchange theory offers a pathway to examine mate selection as an interactive process. Social exchange theory—increasingly an

interdisciplinary, integrative theoretical paradigm for the social sciences—is based on the premise that social interaction is an exchange of activity, specifically, its rewards and costs (Homans, 1961). Applied to human mate selection, social exchange models assume that individuals with greater assets (i.e., trade value) tend to demand more desirable mates with similar levels of assets (e.g., Hatfield, Utne, & Traupmann, 1979; Sadalla, Kenrick, & Vershure, 1987; Kenrick, Groth, Trost, & Sadalla, 1993). Based upon this assumption, individuals' position in the heterosexual marketplace influences the reactions they receive from members of the opposite sex that in turn influence the individuals' mate selection criteria (Kenrick et al., 1993).

But how do individuals assess their possible mates' reactions? More importantly, how do individuals predict these reactions, given the impossibility of gathering reactions from all possible mates? One hypothesis is that individuals compare their own mate selection assets to possible mates' assets. Because individuals attempt to mate with others at or above their own levels of social status and attractiveness (Sloman & Sloman, 1988), the mate selection criteria of possible mates with considerably fewer or greater assets likely weigh less than do those of possible mates with a similar level of assets. Hence, a critical comparison occurs between an individual's self-appraisal and his or her perception of the mate selection criteria of possible mates with comparable assets.

This process can be compared, to some extent, with the process of trading a used car without additional compensation. For example, if a man seeks to trade his 2003 Honda for another vehicle, he might first assess his Honda's trade value. He might decide that a reasonable and probable trade for his Honda is a Toyota of comparable mileage. The self-assessment helps him identify his target trades—used Toyotas. Subsequently, he may gauge the potential demand of Toyota owners: what trades would they accept for their Toyota? He likely would disregard the

compensation a Bentley owner might demand for the Honda because a Bentley belongs to a different class of cars. He might be similarly uninterested in a 1985 Jeep owner's appraisal of his Honda because the Jeep's value is significantly less than the Honda's value.

If this Honda owner discovers that a recent trend has made used Toyotas highly desirable, such that Toyota owners are seeking to trade their vehicles for Mercedes vehicles, he might lower his mileage requirement or re-assess his target population. Conversely, if he learns that Toyota's reputation is suffering from widespread recalls, thus making Toyota owners eager to sell their Toyotas, he might be more selective with respect to the Toyota he is willing to accept or aim for more well-regarded cars generally.

Researchers have suggested that individuals often appraise their mate value based upon the perceived population of competitors (e.g., Gutierrez, Kenrick, & Partch, 1999).

Correspondingly, their inquiry focuses on the supply side of the social exchange equation, i.e., the assets of same-sex competitors. Naturally, an alternative focus could be the demand side of the equation, i.e., the perceived mate selection criteria of possible mates, which is the focus of the current study.

Sexual Strategies Theory

Sexual strategies theory is grounded in Darwin's theory of evolution and extends the work of Trivers (1972) on parental investment. Buss and colleagues advanced this line of inquiry through empirical and cross-cultural studies (e.g., Buss & Barnes, 1986; Buss, 1989; Buss & Schmitt, 1993). Similarly to social exchange theory, sexual strategies theory assumes that individuals attempt to maximize their personal gain of resources through mate selection. Such personal gains, based upon our evolved mechanisms, center on maximizing the likelihood of raising viable offspring (e.g., Kenrick & Trost, 1989; Kenrick et al., 1993). However, sexual

strategies theory differs from social exchange theory with respect to the conceptualization of gendered preferences for mate selection traits. Social exchange theorists incorporate culturally relative socialization pressures to explain gender differences in mate selection preferences and propose that individuals mate with others who maximize traits valued in a given cultural and societal context (Kenrick et al., 1993). Sexual strategy theorists, however, use parental investment theory to explain such differences. They suggest that females invest more generously (e.g., time and physical resources) in their offspring, and consequently, their mate selection criteria are more stringent than those of males (e.g., Buss, 1989; Trivers, 1985). Furthermore, evolutionary theorists suggest that males and females are valued for gender-specific contributions to the survival of their offspring. Males tend to be valued for qualities such as access to resources, social status, and wealth because these qualities are associated with their assumed ability to invest in their offspring. Females tend to be valued for their physical capacity to give birth to viable offspring; therefore, signs of good physical condition, such as youth and beauty, are particularly valued. Although sexual strategies theory addresses mate selection across cultures, the gendered perspectives in mate selection may assume different expressions in different societal and cultural contexts.

The shifts in gender roles in China. Since the establishment of the People's Republic of China, the collaborative force of policies (e.g., the One Child Policy), the economic growth that has in turn required women's participation in the labor force, and the importation of Western cultural products have significantly elevated women's social status in China. The shift of traditional to more egalitarian gender roles in China is most evident in urban areas, where the One Child Policy was implemented more strictly and where the economy is more developed (Short & Zhai, 1998).

However, the rapid shift of gender roles might encounter cultural resistance. In particular, the current generation of young adults might be exceptionally influenced by their parents—a generation, in contrast, that was raised with more traditional gender roles and that had many siblings but were themselves allowed to have only one child. These parents might serve as gatekeepers of traditional culture, as they strive to ensure their children’s wellbeing in a transitional and uncertain societal environment. The gender-biased mate selection criteria in China might converge increasingly as older generations diminish and newer generations of Chinese become parents of marriage-age young adults. New generations of Chinese might influence their children’s mate selection criteria in a more gender-equal way, given that they would have been less exposed to traditional gender roles. Nevertheless, it can be difficult to predict future generations’ mate selection behaviors. Alternatively, as the current generation of young adults experiences significant levels of anxiety and parental and societal pressure regarding mate selection, and consequently adopts more traditional and gender-biased mate selection criteria, they might pass on a similar legacy to their children when they are in a position to exert parental influence and pressure.

Women marrying up vs. men marrying down. Musick, Brand, and Davis (2011) found that American women’s college education had become associated with an increased probability of marriage. They stated that this change suggests that women’s potential for financial contributions was increasingly more important in men’s mate selection criteria while traditional gender roles in marriage were becoming less influential.

However, this trend might be less true for Chinese couples. Although Sadalla et al. (1987), using American participants, found no evidence of inverse effects of dominance on women’s desirability to men, Chinese women with high personal achievement (indicated by

factors such as education and wealth) might face additional barriers to successful mate selection because of traditional cultural narratives biased against women. Although women's ability to contribute financially is increasingly more relevant in China, traditional cultural narratives of masculinity nonetheless remain dominant. Many terms exist to refer to men who rely on their wives financially, such as "chi ruan fan" (eating soft meal), signifying a man who does not fulfill his role of supporting the family and instead allows his wife to assume that role. A couple in which the wife is more powerful than the husband is often described as "yin sheng yang shuai" (exuberant yin and diminished yang), contradictory to the cultural prescription of the relationship between yin and yang. Such cultural descriptions illustrate the cultural norm regarding the preferred gendered power distribution in marriage.

Li (2008) suggested that uncertainty during societal transitions might promote marriages between similar individuals, as individuals aim to increase their resiliency amid uncertainty and anxiety. Based on the Chinese national census data in 2000 and a sample of 292,004 married couples, Li (2008) noted that 54% of couples have identical education levels. Additionally, in 37% of couples, husbands have a higher education attainment than their wives do, whereas in 9% of couples, wives have a higher education attainment than their husbands do. These data suggested that though Chinese women's education attainment has increased tremendously in recent decades, it is nevertheless rare for women to marry a man with a lower education attainment, increasingly considered a key indicator of social status.

Gender imbalance in China. China's census data suggest a rapid increase in the gender ratio at birth since the implementation of the One Child Policy, from approximately 106 (boys): 100 (girls) in the '60s and '70s to 118 (boys): 100 (girls) in 1999 (Chan, Yip, Ng, Ho, & Chan, 2002). When newer generations reach the marriage age, the low supply of women should

increase women's trade value, following the supply-demand mechanism. In fact, Poston and Glover (2005) estimated that 23 million Chinese boys born between 1980 and 2001 would not be able to marry a Chinese woman. However, Gupta, Ebenstein, and Sharygin (2010) projected that this overwhelming shortage of brides would not affect the marriage market until after 2025, and that the shortage would likely affect mostly the poorest men concentrated in a few provinces.

Although the prospect of marriage seems grim for poor Chinese men in the near future, it may be equally challenging for highly educated Chinese women in the present. Raymo and Iwasawa (2005) proposed a marriage market mismatch to explain the decline in marriage rates among highly educated Japanese women. They suggested these women's low marriage rates indicated the cultural norm of women marrying up and men marrying down in the Japanese society more so than women's economic independence from men. Because of their high education levels, these women face an extremely limited pool of marriage candidates, notably if these women obey the cultural rule of marrying up. A similar hypothesis is possible regarding the highly educated women in contemporary China, a society that has traditionally subscribed to cultural norms similar to those of Japanese society. Although more men than women are at a marriage age in China, highly educated Chinese women are privy to a limited selection pool. Their selection pressure is intensified, as females have fewer reproductive opportunities compared with males (Kenrick et al., 1993). More importantly, when the market offers relatively few well-matched possible mates, the search becomes less efficient, and the cost of searching—including the expended time and the opportunity costs of forgoing possible matches—increases (Lewis & Oppenheimer, 2000). The consequences of these women delaying their mate selection decision can thus be severe.

The convergence of mating values in America. Regan (1998) observed that “the sexes in general were far more similar than they were different in terms of their selection standards” (p. 1301). Buss, Shackelford, Kirkpatrick, and Larsen (2001) noted the convergence between the two sexes in their mating values and most notably, the increasing value conferred on good financial prospects by their American sample during a time span of 50 years, by men significantly more than by women. They speculated that attaching this heightened importance to good financial prospects by men reflected women’s increasing access to economic resources and the greater variance among women in these access levels. Schwartz and Mare (2005) suggested that spouses’ increasing resemblance in their education attainment might have resulted partly from women’s increasing earnings and from men’s competition for women with strong financial prospects and high education attainment.

If this speculation proves true cross-culturally, the convergence between Chinese men and women with respect to how highly they value possible marriage partners’ financial prospects may be more striking. Because of Chinese women’s markedly increased access to economic resources in the past few decades, one would expect Chinese men to significantly increase their expectation of possible mates’ financial prospects. However, I suspect that the convergence of mating values between the two genders in China might be less evident than in America, chiefly because the correction of gender inequality in Chinese society has been notably dramatic over a short time span, and Chinese cultural values might require more time to adjust to this change.

Social Context Frameworks

Whereas sexual strategies theory suggests that men and women are valued for different traits, social context frameworks propose that the contrasting priorities between the genders are also contingent and contextual. External influences—most notably from the media, parents, and

peers—inform individuals how they might be perceived and received by possible mates and thus influence them to adjust their mate selection criteria from self-appraisals accordingly, and different cultural and societal contexts can determine the value of different mate selection traits (e.g., Cameron, Oskamp, & Sparks, 1977; Kenrick et al., 1993). It is for this reason that cross-cultural comparisons between mate selection in China and in America, two distinctive cultural and societal contexts, are particularly relevant in the investigation of the mate selection process.

Collectivism and individualism. According to Toro-Morn and Sprecher (2003), individuals from collectivistic cultures emphasize family continuity in the mate selection process, whereas individuals from individualistic cultures emphasize romantic love. China has been found to be among the most collectivistic cultures and America, the most individualistic (Oyserman, Coon, & Kemmelmeier, 2002). Furthermore, Higgins, Zheng, Liu, and Sun (2002) suggested that, in Chinese society, conforming to society and others' opinions of one's marriage traditionally are of paramount importance, whereas romantic love is presumably the most important criterion for mate selection in, for example, North American culture. The distinct cultural priorities in the mate selection process presumably influence individuals' minimum mate selection criteria for different traits and their perceptions of possible mates' minimum mate selection criteria. For example, using Chinese and American university students as participants, Toro-Morn and Sprecher (2003) found that the Chinese students rated many mate selection traits related to the maintenance of the family more important than the American students did, whereas the American students rated physical attractiveness, among other traits, more important than the Chinese students did.

Media influence. Ferguson, Winegard, and Winegard (2011) proposed that media exposure contributes to the internalization of thin ideals that, in turn, is associated with body

dissatisfaction and eating disorders. Gutierrez et al. (1999) suggested that exposure to highly physically attractive women adversely affects women's self-appraisals of their mate value, whereas exposure to socially dominant men adversely affects men's self-appraisals of their mate value. Similarly, media exposure and individuals' receptivity to media might be important contributing factors to the internalization of marriage pressure, particularly in the Chinese context. Misleading media depictions of the mate selection process may, for instance, construct a "false" normalcy of gender-biased mate selection criteria that individuals may reinforce by following.

Parental influence. Researchers have consistently found that parental influence is a key factor in mate selection. For example, using adult Australian participants, Zietsch, Verweij, Heath, and Martin (2011) found that the family environment influenced the age and income of females' mate choices. They also concluded that, across all traits, family effects accounted for approximately 13% of the variance in mate choice. Parks, Stan, and Eggert (1983) found that perceived support from family and friends was a strong indicator of individuals' romantic relationship involvement. Zhang and Kline (2009) also found that parents and close friends more strongly influenced the marital intentions and relationship commitments of Chinese students in dating relationships compared with American students. Additionally, Buunk, Park, and Duncan (2009) assessed the degree of parental influence on mate choice, using young adults in Netherlands, Iraq, and Canada, and found that individualism-collectivism might be a reliable indicator of the level of parental influence on mate selection in a given culture (parental influence was found to be higher in more collectivistic cultures than in more individualistic cultures). Following this line of inquiry, parental influence on individuals' mate selection is expected to be more significant in China than in America.

Peer influences. Peer influence has been found to be influential to young adults' behaviors and decision-making in a wide range of areas. For example, Andrews, Tildesley, Hops, and Li (2002) found that peer use predicted young adults' cigarette use, binge drinking, and problem use. Through face-to-face interviews with married and cohabiting couples in the Netherlands, Kalmijn and Flap (2001) found that five contexts (work, school, neighborhoods, family networks, and voluntary associations) account for approximately 40% of Dutch couples' meeting places. They also found that schools, in particular, strongly affect couples' homogamy and constitute favorable marriage markets. These empirical evidences suggest that peer influence constitutes a critical component of external influences on the mate selection process.

The Effects of Age

I also considered the effects of age on relative position and relative demand. In their field study, Pennebaker et al. (1979) observed that patrons in drinking establishments lowered their selection standards of members of the opposite sex as the decision time decreased and the selection pressure increased. Similarly, Lewis and Oppenheimer (2000) proposed that age reduces educational sorting opportunities in four ways: one's marriage market capital decreases as fertility and physical attractiveness decrease; education becomes less significant as individuals filter more directly based on possible mates' demonstrated performance (e.g., financial prospects); possible mates marry and thus exit the marriage market; and individuals join workplaces, which tend to have less educationally matched singles than schools do. To some extent, the pressure to be married by a certain age establishes a perceived deadline that in turn amplifies selection pressure.

More specifically, age might amplify selection pressure through its inverse correlations with attractiveness and fertility. Yet at the same time, older, more established individuals might

also enjoy higher status, more wealth, higher educational attainment, and other assets valued in the mate selection process. As such, the effects of age on relative mate selection position and demand as latent variables are unclear.

Objective Value vs. Perception

Self-appraisal is considered a mediator of an individual's trade value (Kenrick et al., 1993). It also regulates how individuals evaluate others' attributes (e.g., Montoya, 2008). Sexual strategies theorists argue that accurate self-assessments of trade value are important in the heterosexual marketplace and for mating with others with similar trade values (Sloman & Sloman, 1998).

In addition, individuals' trade values are influenced by the cultural values of a given context. To some extent, contextual preferences are translated into market demand, i.e., what attributes individuals expect their mates to possess. Because individuals are predicted to strive for mates with comparable levels of assets, those comparable individuals' demand and expectations are, presumably, particularly relevant.

If all heterosexual adults can be assigned an objective trade value, it might be more straightforward for individuals to identify mates with comparable trade values. Unfortunately, realistically, individuals cannot survey comparable possible mates' demand or others' perception of their trade value. The process of appraising and identifying mates with comparable trade values is heavily influenced by individuals' self-perceptions and their perceptions of others' preferences. A similar discussion is present in research on body image. Bergstrom, Neighbors, and Lewis (2004) found that misperceiving what members of the opposite sex consider attractive contributes to eating disorder symptomatology in women, and such perceptions are constantly influenced by individuals' surrounding contexts. Campaigns seeking to alter the cultural and

societal ideal of beauty are, indeed, focused on shifting perceptions, at societal and individual levels.

As a result, with respect to individuals' eventual mate selection criteria, how individuals are perceived is more influential than is their objective trade value. A high education level might generally be a positive asset in the heterosexual marketplace. However, if the cultural script prescribes women to marry 'up' and men, to marry 'down', then wives with a higher education and social status than their husbands might challenge husbands' masculinity, thereby suggesting that husbands should be more educated than should their wives. If such messages are communicated to women collectively and then reinforced by others, including the media, parents, and peers, then women might perceive their high education levels negatively, worrying that it might project an undesirable image and intimidate possible mates. Additionally, the availability of men who are more highly educated and who would consider these highly educated women attainable and suitable will be limited, and these women cannot afford to be overly selective without risking a decrease in their overall mate value, notably as they age. Consequently, these women might lower their selection criteria to maximize their chances of successful mating.

Conversely, a man with average mate selection assets might believe he has an advantage in mating with women with comparable assets if his societal and cultural environment emphasizes that men have a longer decision time and more reproductive opportunities than do women. Attempting to maximize his personal gains in mate selection, he might increase his expectations of a possible mate.

Montoya (2008) argues that objective physical attractiveness—determined by a perceived majority—is most influential in assessments and perceptions of others' attractiveness. However, objective physical attractiveness, despite its name, does not equal objective trade value. Societal

and cultural preferences, for example, influence the majority consensus and therefore adjust individuals' appraisal of others' attractiveness. In the previous example, the objective mate value of a woman with a high education level, as determined by the societal majority, would have been lower than the quality of her actual attributes.

From Mate Selection to Premarital Education

Increasing scholarly and legislative attention focuses on marriage education. In particular, premarital education provides the most widely available context for couples' relationship education (Halford, Markman, & Stanley, 2008). By 2007, five states had passed legislation to promote premarital education (Hawkins, 2007). Because of the intuitive connection between the knowledge this study seeks and premarital education, a brief review of premarital education research follows.

Premarital education research. The main focus of premarital education is threefold: relational skills, awareness/knowledge/attitudes, and motivations/virtues (Hawkins, Carroll, Doherty, & Willoughby, 2004). It draws upon empirical research on couples' interactional process and aims to teach participants learnable relationship skills (e.g., Prevention and Relationship Enhancement Program (PREP); e.g., Markman, Stanley, & Blumberg, 1994), to increase participants' awareness/knowledge of healthy relationship/marriage, and to improve participants' motivation to achieve a healthy marriage (e.g., commitment) (Hawkins et al., 2004).

Many scholars have highlighted the benefits of premarital education. Hawkins (2007) argued that policies that incentivize couples to participate in premarital education are feasible and cost-effective for strengthening marriages and reducing divorce rates. Stanley (2001) argued that the benefits of premarital education include fostering deliberation in couples, highlighting the importance of marriage, showing couples available options for marriage assistance, and

lowering the risk of subsequent marital distress or termination. Stanley, Amato, Johnson, and Markman (2006) found that participation in premarital education was correlated with higher levels of marital satisfaction and commitment and lower divorce rates and levels of conflict. Their study used weighted data—by education, race, gender, and age—from a large, randomized household survey and declared the above correlations were robust across these demographic variables. Carroll and Doherty (2003) conducted a meta-analytic review, finding that premarital programs had a large mean effect size of .80. They also found that participants experienced a 30% average increase in measures of outcome success (i.e., interpersonal skills). Premarital education is also being found effective with a younger population. Gardner, Giese, and Parrott (2004) tested a high school marriage education curriculum with 410 high school students and found that the curriculum yielded an increased knowledge of relationship concepts and positive attitudes that would support a future successful marriage.

Adding mate selection insight and awareness to premarital education. Whereas most couples' education programs focus on components such as awareness, feedback, cognitive change, and skills training (Halford, Markman, Kline, & Stanley, 2003), some couples' relationship problems date back to their mate selection process (e.g., resentment for settling under pressure, lack of romance related to perceived decision pressure). Thus, it seems logical to promote insight in individuals engaged in the mate selection process. Larson (1992) identified nine common constraining beliefs regarding mate selection, such as "there is a 'one and only' right person in the world for me to marry" and "until I find the perfect person to marry I should not get married." He suggested that these constraining beliefs cause mate selection problems and restrict solutions to marital problems. Increasing the awareness of young adults' perceived norms lays the foundation for educational programs that might help correct young adults' constraining

beliefs regarding mate selection. In return, premarital education can help mitigate constraining beliefs and strengthen facilitative beliefs about mate selection (Cobb, Larson, & Watson, 2003).

Furthermore, Benson, Larson, Wilson, and Demo (1993) suggested that excessive intrusion by family members in mate selection might cause relationship problems. From this perspective, knowledge and acknowledgement of the relationship among external influences, perceived norms, and individuals' mate selection criteria can enhance the effectiveness of premarital education programs, by, for example, promoting individuals' healthy differentiation from their family of origins. This issue might be particularly salient in the Chinese context, given the cultural emphasis on family closeness, interpersonal harmony, and obedience to parental wishes. Insight into the mate selection process—on the individual level and the societal level—can assist individuals to draw healthier boundaries within their family of origins, to accept responsibility for their personal choices, and to reduce future relationship problems related to, for instance, the resentment of parents for pressuring them to marry or to marry certain people. Additionally, young adults' insight into their perception of societal norms, their self-appraisals, and their mate selection criteria might guide them in adjusting unrealistic relationship expectations and unfair self-appraisals and in empowering them to select the most suitable spouse.

With respect to intervention, greater insight into the mate selection process can help alleviate individuals' mental and emotional suffering in this potentially stressful process. An optimal mate selection experience may help reduce mental health problems related to the process of mate selection and foster a healthier tone for the process on the societal level. With the greater attention on preventive interventions to relationship conflicts and marriage dissolution, mental health professionals should take an extra step to examine the context of the marriage market

itself, in order to assist individuals in coping with the stress and anxiety related to the mate selection process.

Huang (2005) observed increasing efforts to promote relationship education in China since 2000. He also noted that the lack of governmental funding curbs the reach of relationship education in China and that these education programs generally receive a lower priority than do programs promoting, for example, economic advancement. This lack of support for relationship education programs might be related to the lack of their demonstrated need. To this end, by delineating the relationship among external influences, mate selection perceptions and criteria, this study could provide insight into Chinese young adults' unrealistic expectations of their future mates or common gender-biased mate selection criteria. It could then be argued for the need of premarital education programs to inspire insight and knowledge, and to lower Chinese young adults' stress and anxiety related to mate selection.

Chapter III: Study 1

Methods

Research questions and hypotheses. In the present study, I used structural equation modeling to test a theoretical model explaining the effects of receptivity to external influences and gender on relative mate selection demand. This study addresses two main research questions:

1. Are there differences in never-married heterosexual adults' receptivity to external influences on mate selection, their perceptions of their relative position in the heterosexual marketplace, and their relative mate selection demand, depending on gender and culture and controlling for age?

Hypothesis: Based upon the gender and cultural differences reviewed so far, I hypothesized that never-married heterosexual adults' receptivity to external influences—including parental influence, peer influence, media influence, and felt pressure—on mate selection, perceptions of their relative position, and relative mate selection demand differ depending on gender and culture while controlling for age.

2. Does the hypothesized model (Figure 1) fit the data collected from the target population?

A. Is self-perceived relative position a mediator in the hypothesized model? If so, what is the indirect effect of receptivity to external influences on relative demand?

Hypothesis: Based upon the reviewed literature, I proposed that relative position mediates the relationship between receptivity to external influences and relative demand, and that this indirect effect of receptivity to external influences on relative demand is negative.

- B. What are the relationships between receptivity to external influences and self-perceived relative position and between self-perceived relative position and relative demand?

Hypothesis: I hypothesized that receptivity to external influences has a significant effect on relative position, and that relative position has a significant effect on relative demand. However, there is mixed evidence of the directions of these effects.

Because receptivity to external influences that emphasizes the urgency to get married can increase one's anxiety about mate selection, and in turn lower one's relative position and relative demand, receptivity to external influences might have a negative correlation with relative position and a negative indirect effect on relative demand.

Contrarily, receptivity to external influences can also elevate one's perceived relative position, especially for the younger generation that has been described as narcissistic in some studies (e.g., Twenge, 2006). In this case, relative position would have a negative effect on relative demand.

- C. Do the relationships hypothesized in the model differ between Chinese people and Americans?

Hypothesis: I hypothesized that the predicted relationships in the model differ between Chinese people and Americans.

- D. Do men and women have different standards for their relative mate selection demand?

Hypothesis: Based upon parental investment theory (Trivers, 1972), I hypothesized that women have a higher relative demand than men do.

Quantitative interactive web survey research. “Survey research . . . is a method of collecting data from or about a group of people, asking questions in some fashion about things of interest to the researcher” (Nelson & Allred, 2005, p. 211). This study required a sizable number of participants in China and America, and a web survey design enables accessing potential participants and collecting data from them. It also reaches a maximum diversity of participants and simplifies data analysis.

I used Qualtrics.com, an encrypted, secure website designed for survey research—for data collection. Participants were only shown questions applicable to their situations. For example, female participants were asked for their perceptions of men’s minimum mate selection criteria, whereas male participants were asked for their perceptions of women’s minimum mate selection criteria. By making the questions more relatable to participants’ real life situations, I hoped that the survey would generate more informative data.

Survey design elements. The mate selection attributes investigated in this survey were selected from existing research on mate selection criteria (Kenrick et al., 1993; Buss & Barnes, 1986; Toro-Morn & Sprecher, 2003). However, several changes were made based upon the literature and my hypotheses.

In the existing literature on mate selection criteria, most scholars have adopted three survey measures. In the first survey type, mate selection traits are typically ranked (e.g., Buss & Barnes, 1986, study 2), a design that has been criticized for leading respondents to assume sufficiency on all traits. Because individuals’ field of possible mates often consists of those who already meet minimal criteria for traits considered necessities, rank-ordering traits might downplay the necessity variables (Li, Bailey, Kenrick, & Linsenmeier, 2002).

In the second survey type, mate selection traits typically have been rated one at a time (e.g., Toro-Morn & Sprecher, 2003). Similar to the first survey type, this design has been criticized for not revealing trade-offs that individuals normally make when selecting mates, as individuals' traits are grouped and cannot be picked in isolation (Li et al., 2002).

In the third survey type, respondents have been asked to rate their least acceptable mate selection criteria (e.g., Kenrick et al., 1993). The current study adopts this design in asking about respondents' mate selection criteria (e.g., "What are your minimum mate selection criteria?") for two main reasons. First, this design motivates individuals to consider the trade-offs among mate selection criteria, while reflecting on the importance of different criteria. Second, it distinguishes ideal mate selection preferences from their realistic requirements, which are more likely to influence actual mate selection behaviors.

Additionally, though many studies have focused on the comparability of social status and attractiveness (e.g., Sloman & Sloman, 1988), given their particular importance in the mate selection process, this study allows participants to consider possible mates' overall comparability (e.g., "What is your perception of the minimum mate selection criteria of men with comparable mate selection assets to yours?"). Considering the criticism set forth by Li et al. (2002), which cautions against assuming the sufficiency of necessity traits, I avoid directing participants to focus exclusively on social status and attractiveness. For example, if a man is at or above a woman's levels of social status and attractiveness, yet significantly below her levels of other attributes (e.g., extremely emotionally unstable and unfriendly), he might be unlikely to make a comparable mate for her. Allowing participants to consider the overall comparability of possible mates in mate selection traits might increase our understanding of individuals' mate selection criteria.

This study is distinct from existing studies in its focus on individuals' perception of their relative position in the heterosexual marketplace, and their consequent relative mate selection criteria. Regan (1998) found that both sexes demand long-term mates with a social status at least equal to their own. If a person has an extremely high social status, then his or her criterion regarding his or her mate's high social status is more likely to reflect his or her attribute and the proximate mechanism described in social exchange theory than how he or she perceives this attribute in isolation (i.e., social status is important to mate selection per se). These research interests are supported by the reviewed literature and are reflected in the design of the hypothesized model.

Translation protocol. To ensure that both the Chinese and English versions of the survey instrument were semantically identical, I used the following protocol, adapted from Herrera, DelCampo, and Arnes (1993):

1. Two native Chinese speakers fluent in English produced individual translations of the survey.

2. I, as one of the translators, reviewed the two Chinese versions, discussed challenging cultural concepts with native Chinese speakers, and finally, arrived at a version that seemed most appropriate and reliable.

3. I employed a protocol analysis to assess whether conceptual equivalence was achieved between the English and the Chinese versions (Hines, 1993). I asked a native Chinese speaker to discuss her thinking process while completing a preliminary version of the survey. I used her reflections to identify problematic wording that was not conceptually equivalent to the English version.

4. An independent native Chinese speaker fluent in English back-translated the survey instrument to ensure that both versions conveyed the intended meaning.

Participants.

Selection. This study's target population was never-married heterosexual adults, 18 to 39 years old, who were citizens and residents of the People's Republic of China or America. I found participants of this age range of particular interest, considering the legal age to marry in both countries and the age-specific distribution of never-married individuals in available census data (National Bureau of Statistics of China, 2012; United States Census Bureau, 2010). Because I hypothesized that the experience of a divorce may significantly alter one's perception of and criteria for mate selection, individuals who had been divorced were excluded from this study.

Recruitment. Given young adults' frequent use of social networking websites and access to the Internet, after obtaining IRB approval (Appendix A), I enlisted my acquaintances in China and America to serve as field agents to forward the recruitment letter and the survey link to their contacts. The survey was hosted on Qualtrics.com, and the participants' responses remained confidential.

To encourage survey participation, I offered a lottery incentive as well as a summary of the study's findings. Three prizes—including one Amazon gift card worth 50 U.S. dollars, and two Amazon gift cards worth 25 U.S. dollars—were offered separately to Chinese participants and American participants. The participants who opted to be included in the lottery and/or received a summary of the findings were redirected to a website at the end of the survey to provide their email address. To protect participants' confidentiality, participants' email addresses and survey responses were stored separately. After data collection was complete, a random

drawing was conducted using willing participants' email addresses. The winning participants were sent their electronic gift cards via email.

Characteristics. 708 participants who met the inclusion criteria participated in the study. 69 participants did not complete a large portion of the survey, so their responses were excluded from analyses, thus yielding 639 qualifying participants. The Chinese sample consisted of 361 participants (205 women, 156 men; mean age = 25.08, $SD = 3.40$). The American sample consisted of 278 participants (205 women, 73 men; mean age = 24.58, $SD = 3.97$).

At the time of the survey, 46.9% of the participants were single and not involved in a relationship; 9.5% were casually dating; 35.5% were in a serious relationship; and 8.0% were engaged. 81.3% of the American participants self-identified as non-Hispanic White; 7.9%, White Hispanic; 3.2%, Black or African American; 9.4%, Asian; and 1.4%, American Indian or Alaska Native. 95.3% of the Chinese participants self-identified as of Han ethnicity, and 4.2%, ethnic minorities. In terms of the highest level of education, .5% of the participants did not graduate from high school, 3.0% graduated from high school, 10.5% had some college education, 13.5% had an associate's degree, 26% had a bachelor's degree, 18.6% had some graduate education, 23.2% had a master's degree, and 4.2% had a doctoral degree. Additionally, 31.3% of American participants and 67.3% of Chinese participants reported having no religious affiliation. 10.4% of American participants and 66.8% of Chinese participants were only children.

Measures. Based upon the existing literature, this study used 18 items to assess participants' self-appraisal, their perceptions of possible mates' minimum mate selection criteria, and their minimum mate selection criteria. These 18 items constructed six composites—status, attractiveness, family orientation, agreeableness, extraversion, and intellect. The status consisted of high social status, wealthy, highly educated, high earning capacity and/or potential, good

family background and heredity, and powerful. Family orientation consisted of healthy, wants children, good housekeeper, and honest and trustworthy. Agreeableness consisted of easygoing, friendly, and kind and understanding. Extraversion consisted of exciting and has a sense of humor. Intellect consisted of creative and intelligent. The item physically attractive indicated attractiveness. The mean item scores became the composite scores. Additionally, emotional stability was initially considered a separate composite but was dropped due to concerns regarding the cross-cultural transferability of this construct. Similarly, the item “religious” was also dropped from the composite of family orientation, due to significant historical, political, and cultural differences between the U.S. and China in this aspect. In three different mindsets (i.e., evaluating oneself, interpreting possible mates’ minimum mate selection criteria, and establishing one’s minimum mate selection criteria), participants rated the above-mentioned items on a scale from 1 to 10, with 10 indicating the highest self-appraisals, the highest perceived minimum criteria, or the highest minimum criteria held.

In addition, two relative scores—relative position and relative demand—were computed for the six composites (as noted earlier, relative position was determined as individuals’ self-appraisal minus their perception of possible mates’ minimum mate selection criteria; relative demand was determined as individuals’ minimum mate selection criteria minus their self-appraisal). Table 1 summarized the Cronbach alphas for the five composites consisting of more than one item.

Furthermore, four indicators—receptivity to parental influence, peer influence, media influence, and felt pressure on mate selection—measured receptivity to external influences. Participants rated how well a series of statements applied to them (1 = *not at all*, 5 = *completely*). Receptivity to parental influence was measured with two items ($\alpha = .76$): “my parents are an

important source of information on mate selection to me” and “in terms of mate selection, my parents’ opinions are very important to me.” Receptivity to peer influence was measured with two items ($\alpha = .76$): “in terms of mate selection, my peers’ opinions are very important to me” and “peers are an important source of information on mate selection to me.” Felt pressure on mate selection was measured with four statements ($\alpha = .65$): “I feel pressured by my parents to get married,” “it is important to my parents that I get married,” “I feel pressured by my peers to get married,” and “it is important to me that I get married.” Receptivity to media influence was measured with two statements ($\alpha = .46$): “the media are an important source of information on mate selection to me” and “I believe the media’s depiction of mate selection accurately reflects social reality.” However, because of low reliability between the two items, only the first item was used to measure receptivity to media influence.

Analysis of covariance. I first conducted a series of ANCOVA tests to examine the effects of gender and culture, controlling for age, on participants’ perceptions of possible mates’ minimum mate selection criteria, self-appraisals, and minimum mate selection criteria, as well as on the two computed dependent variables—relative position and relative demand.

I likewise conducted a series of ANCOVA tests to examine the effect of gender and culture, controlling for age, on participants’ receptivity to media influence, receptivity to peer influence, receptivity to parent influence, and their felt pressure on mate selection.

Because of the large number of comparisons performed, I used a conservative Bonferroni-corrected alpha ($\alpha = .05/34 = .0015$), and bootstrapping when the assumption of homogeneity was violated. I found a range of meaningful differences between genders and countries.

Structural equation modeling. Because different social contexts influence individuals' mate selection criteria, my model first assumed the effect of receptivity to external influences on relative demand. Based upon social exchange theory, I proposed that one way to explain how this effect occurs is through the inclusion of relative position, i.e., receptivity to external influences affects relative position, which affects relative demand. Based upon the sexual strategies theory and parental investment theory, I also proposed that gender affects relative demand. Additionally, I tested whether the inclusion of the effect of age on relative position improved the model fit.

I used structural equation modeling to test the proposed model and maximum likelihood estimation to impute the missing data. All analyses were conducted using Mplus 7.1 (Muthén & Muthén, 1998-2012). I used the comparative fit index (CFI) and the root mean square error of approximation (RMSEA) to evaluate overall model fit. Bentler (1990) suggested that a CFI value greater than .90 indicates a good fit. Similarly, Yu and Muthén (2002) suggested that a RMSEA less than .06 indicates a good fit. Although a model's chi-square value is sensitive to the sample size and is considered a poor indicator of models with large sample sizes (Marsh, Balla, & McDonald, 1988), I also reported this value to follow field conventions. To evaluate between-group invariance, I first tested the invariance of factor loadings between the two groups. I freely estimated the factor loadings in the two groups, and then constrained them to be invariant across the two groups. I calculated the difference between the chi-square statistics for the two models, and compared the chi-square difference statistics to a chi-square distribution. I also tested the invariances of paths and intercepts between the two groups, following the same procedures.

Because identical instruments measured relative position and relative demand only in different scenarios, it is conceivable that some method or instrument variance is shared across

scenarios on the same measurement instruments. Thus, I allowed for correlations between the same indicators on relative position and relative demand. I allowed for a few correlations between indicators on the same latent variables that are theoretically highly correlated. For example, I estimated the correlation between status and intellect because intelligence is associated with high education achievement, and high education achievement was one of the items that were used to measure status.

Results

Analysis of covariance. Table 2 and Table 3 presented the effects of gender and culture on different mate selection criteria and external influences, respectively, controlling for age.

Between-gender. Across both countries, women, compared with men, perceived their possible mates as having a lower demand for status. Women also had a higher demand for status and a lower demand for attractiveness than men did. Women had higher relative demands for status and extraversion, and a lower relative demand for attractiveness than men did.

Between-country. Chinese people had lower levels of self-appraisals of status, intellect, family orientation, and attractiveness than Americans did. Chinese people's perceptions of their relative position in status and family orientation were also lower than Americans', but they had higher relative demands for status, family orientation, and extraversion than Americans did.

Compared with Americans, Chinese people perceived their possible mates as having a lower demand for attractiveness while having a lower demand for attractiveness themselves. Additionally, they seemed more receptive to media influence and felt more pressured regarding mate selection than Americans did.

Interaction effects between country and gender. Chinese women had a higher relative demand for intellect than American women did, whereas Chinese men had a lower relative demand for intellect than American men did.

Structural equation modeling.

Measurement model. I first tested the fit of the measurement model. Model fit statistics suggested that the measurement model fit the data well: $\chi^2(86, N = 639) = 205.49, p < .001$; CFI = .96; RMSEA = .05, 90% confidence interval [CI] = .04–.06. The factor loadings for the measurement model are presented in Table 4, which indicated that parameter tests for all factor loadings were significant at $p < .001$.

Structural model. I then tested the hypothesized structural model presented in Figure 1. In this model, I included the effect of age on relative position. The model fit statistics suggested a poor fit: $\chi^2(234, N = 639) = 617.52, p < .001$; CFI = .89; RMSEA = .07, 90% confidence interval [CI] = .07–.08. In particular, age presented a poor correlation with relative position: $b = .01, SE = .02, p = .61, \beta = .03$ (for Chinese people); and $b = -.01, SE = .02, p = .49, \beta = -.05$ (for Americans). I then tested the model without age as an exogenous variable (Figure 2): $\chi^2(204, N = 639) = 528.61, p < .001$; CFI = .90; RMSEA = .07, 90% confidence interval [CI] = .06–.08. The chi-square difference statistics suggested that the model fit improved significantly after removing age, with $\chi^2(30, N = 639) = 88.91, p < .001$, suggesting that age was not an efficient covariate in the model. Hence, I removed age from the model.

Assessment of invariance constraints. To assess the model's invariance between the two groups, I first held factor loadings invariant between the two groups. The model fit statistics were: $\chi^2(217, N = 639) = 546.20, p < .001$; CFI = .90; RMSEA = .07, 90% confidence interval [CI] = .06–.08. The chi-square difference statistics suggested that the model fit did not worsen

significantly after imposing the path invariances: $\chi^2(13, N = 639) = 17.59, p = .17$. The other model fit statistics remained the same after imposing the invariance constraints.

I then constrained path values to be invariant between the two groups, one at a time. When the paths from receptivity to external influences to relative position were constrained to be equal between the two groups, the model fit statistics were: $\chi^2(218, N = 639) = 546.44, p < .001$; CFI = .90; RMSEA = .07, 90% confidence interval [CI] = .06–.08. The chi-square difference statistics suggested that the model fit did not worsen significantly after imposing the path invariances: $\chi^2(1, N = 639) = .24, p = .62$. The other model fit statistics remained the same after imposing the invariance constraints.

When I added the path invariance from relative position to relative demand, the model fit statistics were: $\chi^2(219, N = 639) = 554.82, p < .001$; CFI = .90; RMSEA = .07, 90% confidence interval [CI] = .06–.08. The chi-square difference statistics suggested that the model fit worsened slightly after imposing the path invariances: $\chi^2(1, N = 639) = 8.38, p = .004$. The other model fit statistics, however, remained the same after imposing the invariance constraints.

When I added the path invariance from gender to relative demand, the model fit statistics were: $\chi^2(220, N = 639) = 555.33, p < .001$; CFI = .90; RMSEA = .07, 90% confidence interval [CI] = .06–.08. The chi-square difference statistics suggested that the model fit did not worsen significantly after imposing the path invariances: $\chi^2(1, N = 639) = .53, p = .47$. The other model fit statistics remained the same after imposing the invariance constraints.

Next, I held intercepts of the indicators invariant between the two groups. The model fit statistics were: $\chi^2(233, N = 639) = 795.02, p < .001$; CFI = .83; RMSEA = .09, 90% confidence interval [CI] = .08–.09. The chi-square difference statistics suggested that the model fit worsened significantly after imposing the path invariances: $\chi^2(13, N = 639) = 239.69, p < .001$. The other

model fit statistics also worsened after imposing the invariance constraints. In conclusion, the best fitting model was likely to be the one that held factor loadings and path values invariant between the two groups. The model explained 39.9% of relative mate selection demand for Chinese participants and 35.9% for American participants (Figure 3).

Path values. Relative mate selection position was negatively correlated with relative demand. The more that individuals' mate selection self-appraisal exceeded what they thought their possible mates demanded in a spouse, the more their mate selection demand fell short of their self-appraisal: $b = -.60$, $SE = .06$, $p < .001$, $\beta = -.62$ (for Chinese people), and $\beta = -.59$ (for Americans). Women had a higher relative demand in mate selection than men did: $b = -.26$, $SE = .09$, $p = .005$, $\beta = -.12$ (for Chinese people; 0 = *female*, 1 = *male*); and $\beta = -.11$ (for Americans; 0 = *female*, 1 = *male*). Additionally, the correlation between receptivity to external influences and self-perceived relative position was insignificant: $b = -.07$, $SE = .13$, $p = .57$, $\beta = -.04$ (for both groups).

Mediation tests. The direct effect of receptivity to external influences on relative demand was reduced to zero when relative position was included in the model as the mediating variable. However, the indirect effect of receptivity to external influences on relative demand was not significant: $b = .04$, $SE = .08$, $p = .57$, $\beta = .02$.

Discussion

Study 1 found that the proposed model, after removing the effect of age, fit the data acceptably. Path values in the model were invariant for Chinese and American participants. Relative position had a negative correlation with relative demand. Women had a higher relative demand than men did. Also, relative position mediated the effect of receptivity to external influences on relative demand.

A limitation of Study 1 was that the sample size of American males ($N = 73$) was small compared to that of American females ($N = 205$), Chinese males ($N = 156$), and Chinese females ($N = 205$). It is possible that unequal sample sizes might have affected the correlation between gender and relative demand, and that the model was not highly representative of American males. Another limitation of Study 1 concerned participant demographics. Probably due to the recruitment method, participants represented a highly educated population. It is possible that participants' educational background influenced their mate selection perceptions and criteria in different ways, possibly rendering them less representative of the general population.

Chapter IV: Study 2

To confirm the model developed and to reconcile concerns over sampling issues in Study 1, I conducted a second study with a sample more equally distributed among Chinese men, Chinese women, American men, and American women.

Methods

Participants. 672 never-married heterosexual adults, 18 to 39 years old, citizens and residents of People's Republic of China or America, were recruited using panel services provided by two online recruitment websites. The survey was hosted on Qualtrics.com (for Americans) and sojump.com (for Chinese people), both encrypted, secure websites designed for survey research. The Chinese sample consisted of 333 participants (174 women, 159 men; mean age = 26.52, $SD = 4.10$). The American sample consisted of 339 participants (169 women, 170 men; mean age = 25.90, $SD = 5.62$).

At the time of the survey, 51.2% of the participants were single and not involved in a relationship; 10.7% were dating but not serious; 34.2% were in a serious relationship; and 3.9% were engaged. The American participants were 54.0% non-Hispanic White; 21.2%, White Hispanic; 19.2%, Black or African American; 7.1%, Asian; 1.8%, American Indian or Alaska Native; and .6%, native Hawaiian or other Pacific Islander. 94.9% of the Chinese participants self-identified as of Han ethnicity, and 5.1%, ethnic minorities. In terms of the highest level of education, 1.7% of the participants did not graduate from high school; 12.6% graduated from high school; 21% had some college education; 14.9% had an associate degree; 37.5% had a bachelor's degree; 5.5% had some graduate education; 6.0% had a master's degree; and .7% had a doctoral degree. Additionally, 31.3% American participants and 71.8% of Chinese participants

reported having no religious affiliation. 11.5% of American participants and 59.5% of Chinese participants were only children.

Measures. As in Study 1, I examined the reliability of indicators to relative position and relative demand (Table 5). Composite scores were formed for receptivity to media influence ($\alpha = .80$), receptivity to peer influence ($\alpha = .89$), receptivity to parent influence ($\alpha = .84$), and felt pressure ($\alpha = .80$).

Analysis of covariance. I conducted a series of ANCOVA tests to examine the effect of gender and culture, controlling for age, on participants' perceptions of possible mates' minimum mate selection criteria, self-appraisals, and minimum mate selection criteria, as well as on the two computed dependent variables—self-perceived relative position and relative demand. I then conducted a series of ANCOVA tests to examine the effect of gender and culture, controlling for age, on participants' receptivity to media influence, receptivity to peer influence, receptivity to parent influence, and their felt pressure.

Because of the large number of comparisons performed, I used a conservative Bonferroni-corrected alpha ($\alpha = .05/34 = .0015$), and bootstrapping when the assumption of homogeneity was violated. I found a range of meaningful differences between genders and countries.

Structural equation modeling. I used structural equation modeling and the same procedures employed in Study 1 to test the hypothesized model. All analyses were conducted in Mplus 7.1 (Muthén & Muthén, 1998-2012).

Results

Analysis of covariance. Table 6 and Table 7 presented the effects of gender and culture on different mate selection criteria and external influences, respectively, controlling for age.

Table 8 summarized the results from analyses of covariance in both Study 1 and Study 2.

Between-gender. Compared with men, women had higher demands for status and intellect and higher relative demands for status and extraversion.

Between-country. Compared with Americans, Chinese people had higher demands for as well as higher self-appraisals of status, extraversion, and family orientation, but a lower relative demand for attractiveness. Chinese people also perceived possible mates as having higher demands for status, agreeableness, family orientation, and extraversion than Americans did. Additionally, Chinese people seemed more receptive to media influence, peer influence, and parental influence, and felt much more pressure on mate selection than Americans did.

Interaction effects between country and gender. Chinese women had a higher relative demand for intellect than American women did, whereas Chinese men had a lower relative demand for intellect than American men did. Chinese women had a lower self-appraisal of their intellect than American women did, whereas Chinese men had a higher self-appraisal of their intellect than American men did.

Chinese women had a lower demand for agreeableness than American women did, whereas Chinese men had a higher demand for agreeableness than American men did. Chinese women had a slightly lower self-appraisal of agreeableness than American women did, whereas Chinese men had a much higher self-appraisal than American men did.

Structural equation modeling.

Measurement model. I first tested the fit of the measurement model. Model fit statistics suggested that the measurement model fit the data well: $\chi^2(86, N = 672) = 245.51, p < .001$; CFI

= .97; RMSEA = .05., 90% confidence interval [CI] = .05–.06. The factor loadings for the measurement model are presented in Table 9, which indicated that parameter tests for all factor loadings were significant at $p < .001$. The factor loadings also remained relatively stable, compared with those of Study 1.

Structural model. I then tested the hypothesized structural model presented in Figure 1. In this model, I included the effect of age on relative position. The model fit statistics suggested an acceptable fit: $\chi^2(234, N = 672) = 592.40, p < .001$; CFI = .94; RMSEA = .07, 90% confidence interval [CI] = .06–.07. However, age presented a poor correlation with relative position: $b = -.02, SE = .02, p = .14, \beta = -.09$ (for Chinese people); and $b = .01, SE = .01, p = .33, \beta = .06$ (for Americans). I then tested the model without age as an exogenous variable (Figure 2): $\chi^2(204, N = 672) = 513.39, p < .001$; CFI = .94; RMSEA = .07, 90% confidence interval [CI] = .06–.07. The chi-square difference statistics suggested that the model fit improved significantly after removing age, with $\chi^2(30, N = 672) = 79.01, p < .001$, suggesting that age was not an efficient covariate in the model, confirming the finding of Study 1. Age was consequently removed from the model.

Assessment of invariance constraints. To assess the invariance of the model between the two groups, I first held factor loadings invariant between the two groups. The model fit statistics were: $\chi^2(217, N = 672) = 539.59, p < .001$; CFI = .94; RMSEA = .07, 90% confidence interval [CI] = .06–.07. The chi-square difference statistics suggested that the model fit did not worsen significantly after imposing the path invariances: $\chi^2(13, N = 672) = 26.20, p = .02$. The other model fit statistics remained the same after imposing the invariance constraints.

I then constrained path values to be invariant between the two groups, one at a time. When the paths from external influences to relative position were constrained to be equal

between the two groups, the model fit statistics were: $\chi^2(218, N = 672) = 542.01, p < .001$; CFI = .94; RMSEA = .07, 90% confidence interval [CI] = .06–.07. The chi-square difference statistics suggested that the model fit did not worsen significantly after imposing the path invariances: $\chi^2(1, N = 639) = 2.42, p = .12$. The other model fit statistics remained the same after imposing the invariance constraints.

When the paths from relative position to relative demand were constrained to be equal as well, the model fit statistics were: $\chi^2(219, N = 672) = 542.13, p < .001$; CFI = .94; RMSEA = .07, 90% confidence interval [CI] = .06–.07. The chi-square difference statistics suggested that the model fit did not worsen significantly after imposing the path invariances: $\chi^2(1, N = 672) = .12, p = .73$. The other model fit statistics remained the same after imposing the invariance constraints.

When the paths from gender to relative demand were constrained to be equal as well, the model fit statistics were: $\chi^2(220, N = 672) = 544.37, p < .001$; CFI = .94; RMSEA = .07, 90% confidence interval [CI] = .06–.07. The chi-square difference statistics suggested that the model fit did not worsen significantly after imposing the path invariances: $\chi^2(1, N = 672) = 2.24, p = .13$. The other model fit statistics remained the same after imposing the invariance constraints.

Next, I held intercepts of the indicators invariant between the two groups. The model fit statistics were: $\chi^2(233, N = 672) = 642.50, p < .001$; CFI = .93; RMSEA = .07, 90% confidence interval [CI] = .07–.08. The chi-square difference statistics suggested that the model fit worsened significantly after imposing the path invariances: $\chi^2(13, N = 672) = 98.13, p < .001$. The other model fit statistics also worsened after imposing the invariance constraints. In conclusion, the best fitting model was likely to be the one that held factor loadings and path values invariant between the two groups, the same result found in Study 1. The model explained 51.4% of the

relative mate selection demand for Chinese participants, and 44.1% for American participants (Figure 4).

Path values. Relative position was negatively correlated with relative demand. The more that individuals' mate selection self-appraisal exceeded what they thought their possible mates demanded in a spouse, the more their mate selection demand fell short of their self-appraisal: $b = -.65$, $SE = .04$, $p < .001$, $\beta = -.70$ (for Chinese people), and $\beta = -.65$ (for Americans). Women had a higher relative demand in mate selection than men did: $b = -.30$, $SE = .07$, $p < .001$, $\beta = -.16$ (for Chinese people; 0 = *female*, 1 = *male*); and $\beta = -.13$ (for Americans; 0 = *female*, 1 = *male*). Additionally, receptivity to external influences and self-perceived relative position were positively correlated: $b = .18$, $SE = .09$, $p = .03$, $\beta = .09$ (for Chinese people), and $\beta = .12$ (for Americans).

Mediation tests. The direct effect of receptivity to external influences on relative demand was reduced to zero when relative position was included in the model as the mediating variable. This result confirmed the presence of full mediation. The indirect effect of receptivity to external influences on relative demand indicated that the more receptive they were to external influences, the lower their relative demand was: $b = -.12$, $SE = .06$, $p = .03$, $\beta = -.06$ (for Chinese people), and $\beta = -.08$ (for Americans). According to Kenny (2013), for indirect effects, a small effect size is .01; medium, .09; and large, .25. Following this guideline, the indirect effect of receptivity to external influences on relative demand had a small to medium effect size.

Discussion

Study 2 confirmed the model developed in Study 1. The model fit the data well, and most findings were stable across the two studies. Additionally, Study 2 found that receptivity to external influences correlated positively with relative position.

Chapter V: General Discussion

Discussion of the Findings

Model development. The model developed in the present research attempted to improve the understanding in mate selection of the relation between receptivity to external influences and relative demand through relative position. One explanation of this relation, given the full mediation effect of relative position found in this model, is that receptivity to external influences on mate selection elevated individuals' self-perceived relative position, which led to lower relative demand. In other words, the more receptive individuals were to external influences, the more confident they felt about their relative mate selection position, and in turn, the more accepting they were of others possessing lower qualities than they did as possible mates. Overall, model fit statistics from the two studies suggested that the model fit the data acceptably and consistently. The two-study design afforded the opportunity to validate the model.

Relative position and relative demand. One of the most interesting findings of this study is the negative correlation between self-perceived relative position and relative demand. Counterintuitively, the more that individuals' self-appraisals exceeded their perceived minimum demands of possible mates (i.e., the better their self-perceived relative mate selection position), the lower their minimum demands were, compared to their self-appraisals (i.e., the lower their relative mate selection demands) (Table 10). This result seems to imply that individuals were not fully using their opportunity to maximize their mate selection gains. One possible explanation for this finding is that, perhaps as individuals placed themselves on the higher end of the mate selection market, they realized that possible mates of equal mate selection qualities were limited. The more they perceived themselves as exceeding possible mates' minimum demands, the more heavily affected their selection criteria were by the perceived availability of possible mates of

comparable qualities. Additionally, though individuals with strong relative positions might accept mates possessing lower qualities than them, it does not necessarily mean they would accept mates perceived low in value. They were merely lowering their comparative standards. For example, a person with a relative position score of two (i.e., he perceived himself as exceeding his possible mates' minimum demand by two points) might have a relative demand score of one (i.e., he demanded possible mates to exceed his self-appraisal by at least one point). In comparison, a person with a relative position score of one (i.e., he perceived himself as exceeding his possible mates' minimum demand by one point) might have a relative demand score of two (i.e., he demanded his possible mates to exceed his self-appraisal by at least two points). The first individual might perceive himself as a nine overall while demanding a mate who is a 10 overall, whereas the second individual might perceive himself as a five overall and demand a mate who is a seven overall. Although the first individual's relative demand score was lower than the second individual's (one vs. two), his minimum demand was in fact much higher than the second individual's (10 vs. seven), because his self-appraisal was much higher than the second individual's (nine vs. five).

If one considers oneself as far exceeding possible mates' minimum demand, one might be at risk of over-qualifying those whom one considers possible mates. The negative correlation between relative position and relative demand reflected individuals' anxiety over the mate selection market as containing an insufficient number of high-quality possible mates. By lowering their relative demands, individuals with strong relative positions enhance their chances of successful mating, and pursue maximum mate selection gain in a realistic manner.

Receptivity to external influences on relative position and relative demand. In Study 2, receptivity to external influences had a significant positive correlation with relative position.

This result indicated that the more receptive participants were to external influences on mate selection (including media, parent, and peer influences, as well as felt pressure), the better they perceived their relative mate selection position.

Because relative position referred to the difference between one's self-appraisal and one's perception of possible mates' minimum demand, external influences could influence one's self-appraisal or one's perception of possible mates' minimum demand, or both, so the more receptive one was to external influences, the higher one's self-perceived relative position was. Cai, Kwan, and Sedikides (2012) found that, for Chinese people, younger individuals were more narcissistic—characterized as having unduly positive self-views (e.g., Sedikides & Gregg, 2008; Judge, LePine, & Rich, 2006)—than older ones, individuals with higher socioeconomic backgrounds were more narcissistic than those with lower socioeconomic backgrounds, individuals who were only-children were more narcissistic than those who had siblings were, and urban dwellers were more narcissistic than rural dwellers were. The majority of the Chinese participants fit the profile of being younger, with higher socioeconomic backgrounds, and only children, and thus possibly more narcissistic. Because individuals who are more narcissistic tend to have elevated self-appraisals, participants of this study may be more likely to have elevated self-appraisals.

External influences also had a negative indirect effect on relative demand. One explanation is that external influences (i.e., parental influence, peer influence, media influence, and felt pressure on mate selection) elevated individuals' mate selection pressure, so that the more receptive individuals were to external influences, the more willing individuals were to “settle,” i.e., choose someone of relatively lower perceived values. Twenge (2006) argued that today's young Americans were much more self-centered, anxious, and depressed. Findings of

this study seemed to support the argument that the more self-confident young adults are, the more prone to anxiety they are, as indicated by the inverse effect of relative position on relative demand.

Marrying up vs. marrying down. Consistent with parental investment theory (Trivers, 1972), women had a higher relative mate selection demand than men did. Previous literature often compared the different priorities in mate selection between the two genders (e.g., men value possible mates' attractiveness more than women do, and women value possible mates' status more than men do). In this study, I focused on individuals' minimum demand in relation to their self-appraisal, i.e., whether individuals were adamant about marrying up (i.e., marrying someone of higher perceived values) or willing to marry down (i.e., marrying someone of lower perceived values). Table 11 showed the estimated marginal means of participants' relative demands by gender and country and controlling for age. Chinese women had positive mean scores on all relative demands in Study 2, and on all relative demands except attractiveness in Study 1, thus indicating a general goal to marry up. Men, in contrast, only had consistent positive scores on attractiveness and family orientation, and seemed particularly forgiving of possible mates' status and intellect (i.e., they would accept possible mates possessing much lower qualities than theirs for these two criteria). Across the two cultures, women consistently had higher relative demands than men did in all criteria and average positive scores on all relative demands except for attractiveness, suggesting women not only held more stringent criteria in mate selection than men did, but also aimed to marry up. Moreover, constructing relative demand as a latent variable allowed comparing individuals' relative demand as a collective factor between the two genders. Women across the two cultures and the two studies had a higher relative mate selection demand than men did.

Within the Chinese context in particular, women consistently demanded possible mates to have higher qualities than they did, echoing the traditional cultural prescription of relationships between husbands and wives. Determined to marry up, Chinese women might overlook potential mates with commensurate qualities, lose valuable selection time, and experience increasing selection pressure as they age. At the same time, Chinese men often experience significant pressure, not to marry soon, but to accumulate more mate selection assets before they feel confident about finding a mate. Particularly since mate selection criteria regarding personality and attitudes, such as extraversion and agreeableness, are difficult to measure, change, or advertise, men often focus on improving their status and wealth. Such a trend generates tremendous materialistic pressure on men, and might lead to resentment and future relationship conflicts. On a societal level in China, Ye and Lin (as quoted in Hudson & den Boer, 2002) noted that “the existence of lots of unmarried [Chinese] men after marriage age should attribute to the rational ‘marrying up’ of women at marriage age, and the relatively low social-economic situation of the unmarried men.” Hudson and den Boer (2002) also summarized evidence suggesting that increasing numbers of surplus males contribute to societal instability.

Cultural differences. Consistent across the two studies, Chinese women had higher relative demands than American women did for status, family orientation, extraversion, and intellect, and lower relative demands than American women did for agreeableness and attractiveness (Table 11). Moreover, Chinese women had their highest relative demand for status and lowest relative demand for attractiveness, and American women had positive relative demands for agreeableness. Chinese men had a higher relative demand than American men did for family orientation, and both groups of men had negative scores on their relative demands for intellect, suggesting that they were willing to marry down on this criterion). Additionally,

Chinese participants were more receptive to media influence and felt more pressured regarding mate selection than American participants did.

It is worth noting that this study employed a conservative Bonferroni-corrected alpha ($\alpha = .05/34 = .0015$) due to the large number of comparisons performed. This stringent standard excluded certain cultural differences that would otherwise have been consistent through the two studies if a more relaxed level of alpha were implemented. For example, Chinese people in both studies had higher (but not statistically significantly enough) minimum demands on status, family orientation and extraversion than the Americans did. Tables 2, 3, 6, and 7 listed such differences of lesser, albeit potentially meaningful, significance (i.e., $p < .05$, and $p < .01$).

In contrast to the differences found between the Chinese and the American groups, the present research also found the model to have partial measurement invariance between the two groups. Although cultural differences in mate selection between the two countries are undeniable—evident in the many differences found when mate selection criteria were compared individually, the invariance of factor loadings and path values in the model suggested that perhaps there are many substantial similarities in the overall mate selection process between the two cultural contexts.

Age. Surprisingly, age did not have a significant effect on self-perceived relative mate selection position, nor did its inclusion improve the model's fit with the data. Because participants' age ranged from 18 to 39 years, a considerably wide age range for never-married adults, this finding suggested that the mate selection process depicted in the model might apply relatively indiscriminately to never-married heterosexual adults of different age groups. More specifically, it also suggested that younger never-married adults were non-exempt, simply by having more selection time, from pressures of mate selection, and that their relative demands

were similarly affected by external influences. Conversely, older never-married adults may not be automatically more resilient to external influences on mate selection than younger never-married adults are, as their self-perceived relative position and relative demand were similarly affected by external influences.

Clinical Implications

Most existing premarital education programs target couples, and thus program contents are tailored for those already in a relationship (e.g., PREP; e.g., Markman et al., 1994). Yet the findings of the current study would appear to suggest that interventions are called for at an earlier stage. The values and expectations of young adults when they choose a spouse may affect not only their choice of spouse but also future relationship problems. For example, if a young woman is determined to marry up, she may rule out decent marriage candidates who, on the surface, do not seem to be of higher perceived value (e.g., not very wealthy). If she does marry someone whose perceived value is lower than hers, she may have to deal with the social consequences of not marrying up (e.g., her parents may express disappointment in her; her peers may make snide remarks about her choices). Under stress, she may grow regretful about her choice and even resentful towards her spouse, a feeling that may lead to relationship dissatisfaction and conflicts with her spouse. Although existing premarital education programs can help her and her spouse communicate their feelings constructively in this regard, it would seem much more efficient if this young woman receives assistance in prioritizing her mate selection values and expectations, discussing her mate choice with her parents and friends, and differentiating her feelings and emotions from theirs on this issue. There would also seem to be worth in discussing other relationship qualities she or her potential mate may not be considering,

such as loyalty, character, commitment to an egalitarian relationship, and the degree to which these characteristics are found in the potential mate's family of origin.

Moreover, the process of mate selection can be covert. Individuals may have a sense of someone not being a suitable mate, but the rationales behind such judgments can be vague and presumptuous. For this reason, it makes sense to make these covert judgments overt. On a popular dating show in China, a woman rejected a man who seemed kind and well educated. When asked why by the host, she stated that he was just not her type, which included being mature and steady. The host challenged her answer, as the man seemed nothing, if not mature and steady, and suggested that he lacked other criteria that she was embarrassed to name (e.g., he did not own a house or a car).

In fact, individuals may often feel constrained to acknowledge their mate selection criteria, or may not even be consciously aware of these criteria. Although narratives such as women marrying up are culturally enforced, there are negative connotations (e.g., "gold digger") associated with the open endorsement of such criteria. As such, many individuals are ensnared by a double bind. On the one hand, societal norms encourage women to marry up, and on the other hand, judgments await those who do so openly. Using the findings of this study, a premarital education class tailored for the general public can certainly acknowledge that women, cross-culturally, demand to marry someone of higher perceived value than themselves. As a first step, this knowledge may help normalize the negative connotations associated with women wanting to marry up. At the same time, a discussion of a wide range of mate selection criteria could create more openness and flexibility.

Because women marrying up seems to be part of the dominant societal discourse regarding mate selection, it might be particularly relevant to bring awareness to this norm in the

mate selection process, and when appropriate, to empower individuals to consider a wide range of criteria and adjust their mate selection standards as they deem appropriate. On an individual level, narrative therapy may be a good fit to help individuals navigate the stressful mate selection process. Therapists can highlight the uniqueness of the clients' individual experiences in finding and choosing a spouse, help the clients externalize dominant societal narratives, and support and validate clients' wishes to mate with those who might not fit the dominant societal discourse of women marrying up (White & Epston, 1990). On a societal level, media and individuals share the responsibility to reassess and challenge the norm for women to marry up, which creates stress and anxiety for both genders—with men being pressured to constantly increase their mate selection assets, and women, to only mate with men with more mate selection assets than them.

A premarital education class may also challenge unrealistic mate selection expectations, as they hinder individuals' success in mate selection (e.g., Larson, 1992). For example, both male and female Americans had positive scores on their relative demand for attractiveness, suggesting that on average, Americans demanded their possible mates to be more attractive than themselves. Obviously, not every individual can mate with someone more attractive than oneself (i.e., both partners cannot be more attractive than the other), even though one's attractiveness is hardly objective. Similarly, both Chinese men and women had positive scores on their relative demand for family orientation, thus suggesting that on average, Chinese people demanded their possible mates to be more family-oriented than they were. As unrealistic expectations may increase individuals' selection time and pressure, individuals are encouraged to prioritize their expectations, and make appropriate compromises. In this regard, a premarital education class can help individuals adjust their unrealistic expectations and constraining beliefs (Cobb et al., 2003).

The purpose of such a premarital education class is not to impose specific mate selection values on individuals, but mainly to help them clarify and prioritize their mate selection values and expectations. Such classes can supplement existing premarital education programs because they intervene preventively, and also address relationship conflicts rooted in constraining beliefs and expectations regarding mate selection in general.

Conclusion

A main contribution of this study is the development of a model that accounts for various external influences, gender, self-appraisal, perceptions of possible mates' selection criteria, and minimum mate selection demand. The fact that this model was validated by a second sample in Study 2 inspires faith in its stability for the selected population.

Another contribution of this study is the establishment of two relative scores, relative position and relative demand. The existing literature on mate selection has focused on hierarchically establishing the importance of various mate selection criteria. However, the extent to which individuals value different mate selection criteria is inevitably influenced by their own situations, and possibly reflects their self-appraisals more so than their valuation of these criteria. From this perspective, how much individuals are willing to negotiate their mate selection demand, measured by the comparison between their minimum demand and self-appraisal, might provide more interesting information than a straightforward ranking or a score of the importance of various traits.

This study also has limitations. Due to the use of a web-survey, the participants were limited to individuals with Internet access. Thus, sampling bias is a potential concern for this study (Courtney & Craven, 2005; Dillman & Bowker, 2001). Although this study employed recruitment strategies designed to reach participants of as wide a socioeconomic background as

possible, participants were of a more privileged background compared with the general population, as evidenced by their educational attainment. This demographic bias was more pronounced in Study 1, due to the use of field agents. As these field agents were often highly educated individuals (e.g., individuals enrolled in graduate programs), their recruits via social networking websites may have been biased towards a more educated population. Study 2's recruitment method considered this bias, and produced a demographic more representative of the general population in terms of highest educational attainment. In Study 1, 98.2% of the American participants and 95.3% of the Chinese participants received education beyond high school (ranging from some college education to a doctoral degree). In Study 2, 75.2% of the American participants and 96.1% of the Chinese participants received education beyond high school (ranging from some college education to a doctoral degree). In contrast, available census data shows that only 59.8% of Americans between the age of 18 and 39 years old and 8.9% of the overall Chinese population received education beyond high school (information on education attainment for Chinese adults by more narrowly defined age groups is unavailable) (National Bureau of Statistics of China, 2011; United States Census Bureau, 2012). Although education attainment is only one facet of participants' socioeconomic status, it suggested that participants in this study were likely to be more privileged individuals. Although I attempted to reach participants beyond college students, a sub-population most frequently studied in mate selection research, future studies on this topic would benefit from gathering participants who are more representative of the general population, and specifically, individuals with a lower socioeconomic status. Acknowledging the risk of using solely web surveys, I also contend that younger adults, who are the focus of this study, are more likely than the general population to have access to and familiarity with the Internet.

Furthermore, future studies on the subject may benefit from including emotional stability—an item found significant to mate selection in previous literature but excluded from this study due to concerns regarding this item’s cross-cultural transferability—into the model as an indicator for relative position and relative demand. More specifically, there is a need to examine what emotional stability precisely means in the Chinese cultural context, how it factors into the mate selection process in different cultures, and what would be its culturally adequate Chinese translation to enable more appropriate cross-cultural comparisons.

Clearly, the model cannot explain every individual’s mate selection process, nor all individuals’ mate selection processes to the same degree. I am keenly aware that the many factors involved in mate selection are often intricate and difficult, if not impossible, to quantify. For example, love at first sight describes attraction before knowledge of the person’s status and personality. People may also decide someone is “the one,” based upon “a feeling.” Instead of aiming to account for all involving factors in mate selection, the current research adopted a systemic perspective and examined the relationships among a few particularly interesting variables—receptivity to external influences, gender, self-perceived relative mate selection position, and relative mate selection demand. Additionally, by constructing relative mate selection position and demand as latent variables, indicated by well-researched mate selection criteria, the present research was able to move beyond the comparison of criteria to provide a fresh vantage point for understanding the mate selection process.

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Appendix A

IRB Approval Letter



Office of Research Compliance
Institutional Review Board
North End Center, Suite 4120, Virginia Tech
300 Turner Street NW
Blacksburg, Virginia 24061
540/231-4606 Fax 540/231-0959
email irb@vt.edu
website <http://www.irb.vt.edu>

MEMORANDUM

DATE: May 28, 2013
TO: Fred Piercy, Ruoxi Chen, John K. Miller, Ph.D.
FROM: Virginia Tech Institutional Review Board (FWA00000572, expires April 25, 2018)
PROTOCOL TITLE: A Cross-Cultural Study of Never Married Heterosexual Adults' Mate Selection Perceptions and Criteria
IRB NUMBER: 13-074

Effective May 28, 2013, the Virginia Tech Institution Review Board (IRB) Chair, David M Moore, approved the Amendment request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

<http://www.irb.vt.edu/pages/responsibilities.htm>

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As: **Exempt, under 45 CFR 46.110 category(ies) 2**
Protocol Approval Date: **February 11, 2013**
Protocol Expiration Date: **N/A**
Continuing Review Due Date*: **N/A**

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

Invent the Future

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
An equal opportunity, affirmative action institution

Date*	OSP Number	Sponsor	Grant Comparison Conducted?

* Date this proposal number was compared, assessed as not requiring comparison, or comparison information was revised.

If this IRB protocol is to cover any other grant proposals, please contact the IRB office (irbadmin@vt.edu) immediately.

Appendix B

Email Solicitation to Potential American Participants

Dear all,

We are conducting a cross-cultural survey on how never-married heterosexual adults choose their future spouses. If you are a never-married heterosexual (self-identified) adult, 18 to 39 years old, a citizen and resident of either America or China, we sincerely invite you to complete this short (less than 15 minutes) survey.

Your responses will be anonymous. We'll be happy to provide you a summary of our overall findings. You'll also have an opportunity to participate in a lottery, which will draw two \$50 Amazon gift cards and four \$25 Amazon gift cards. The winning ratio will depend on how many participants will be in the study, but is estimated to be about 1 in 80. If you wish to receive the summary and/or participate in the lottery, we ask that you leave your email at the end of the survey. No response will be linked to an individual respondent.

You'll have the freedom to skip any item, not complete or withdraw from the survey at any time without being penalized in any way. We anticipate minimal risk to you from participating in this survey. This research project has been approved, as required, by the Institutional Review Board for Research Involving Human Subjects at Virginia Tech. The completion of the survey signifies your voluntary willingness to participate. To participate in this study, please click here: https://virginiatech.qualtrics.com/SE/?SID=SV_1z6L4EWtOkvzzhj

If that doesn't work, try cutting and pasting the address into the web browser.

Should you have any questions or concerns about this research, its conduct, research participants' rights, and/or in the event of a research-related injury, please contact:

Ruoxi Chen: ruoxic@vt.edu

David M. Moore, Chair, IRB: 540-231-4991; moored@vt.edu

We thank you for your time and consideration!

Ruoxi Chen
Virginia Tech

Appendix C

Email Solicitation to Potential Chinese Participants

你好，

我们正在进行一项关于异性恋青年择偶标准的跨国问卷调查。如果你未婚且无婚史，认为自己的性取向是异性恋，在18到39岁之间，且是中国或美国的公民和居民，我们诚挚地邀请你参与这项问卷调查。

填写整份问卷所需的时间约不超过15分钟。你在问卷中的回答将是匿名的。我们将很乐意向你提供一份本问卷调查的结果总结。同时，我们还将抽取2张价值50美金(约合312元人民币)的亚马逊礼品卡和4张价值25美金(约合156元人民币)的亚马逊礼品卡。中奖率将取决于最终参与本问卷的人数，但估计约为1/80。如果你希望收到一份结果总结或参与我们的抽奖，我们将在问卷的结末请你留下你的电子邮箱；你在问卷中的回答将不会和你的电子邮箱相关联。

你有权拒绝回答某一问题或中途退出问卷的填写，并将不会受到任何惩罚。虽然本问卷中的个别问题有影响你情绪的可能，但这种可能性很小。本研究已通过维吉尼亚理工大学涉及人类受试者研究伦理委员会的审核。完成本问卷将表示你的参与纯属自愿。请点击以下网址以参与此调查：

https://virginiatech.qualtrics.com/SE/?SID=SV_38yGNPZ2OJNulMx

若点击以上网址没有用，请尝试复制粘贴该网址到你的网页浏览器。若你对本研究（包括其进行、参与者的权利、与研究相关的伤害事件等）有任何疑问，请联系：

陈若汐：ruoxic@vt.edu

David M. Moore, Chair, IRB: (001) 540-231-4991; moored@vt.edu

谢谢你的时间和参与！

陈若汐

维吉尼亚理工大学

Appendix D

Survey of Heterosexual Adults' Mate Selection Perceptions and Criteria

- For American Participants

Q1. We are conducting a survey on how never-married heterosexual adults choose their future spouses. If you are a never-married heterosexual (self-identified) adult, 18 to 39 years old, a citizen and resident of America, we sincerely invite you to complete this short (less than 15 minutes) survey.

Your responses will be anonymous. You'll have the freedom to skip any item, not complete or withdraw from the survey at any time without being penalized in any way. We anticipate minimal risk to you from participating in this survey. This research project has been approved, as required, by the Institutional Review Board for Research Involving Human Subjects at Virginia Tech. The completion of the survey signifies your voluntary willingness to participate. Should you have any questions or concerns about this research, its conduct, research participants' rights, and/or in the event of a research-related injury, please contact: Ruoxi Chen: ruoxic@vt.edu

To participate in this study, please click "NEXT".

Q2. What is your gender?

- 1) Male
- 2) Female

Q3. How old are you?

___ Years Old

Q4. What is your race? (Please select one or more of the following categories)

- 1) Non-Hispanic White
- 2) White Hispanic
- 3) Black or African American
- 4) Native Hawaiian or Other Pacific Islander
- 5) Asian
- 6) American Indian or Alaska Native

Q5. Would you describe yourself as heterosexual?

- 1) Yes
- 2) No

Q6. Are you an only child?

- 1) Yes

2) No

Q7. What is your highest level of education?

- 1) Less than middle school.
- 2) I graduated from middle school.
- 3) I graduated from high school.
- 4) I have some college education.
- 5) I have an associate degree.
- 6) I have a bachelor's degree.
- 7) I have a bachelor's degree and some graduate education.
- 8) I have a master's degree.
- 9) I have a doctoral degree.
- 10) Other (please specify): _____

Q8. What religion, if any, do you most affiliate yourself with?

- 1) Buddhism
- 2) Taoism
- 3) Islamism
- 4) Christianity
- 5) Catholicism
- 6) Hinduism
- 7) Judaism
- 8) None
- 9) Other (please specify): _____

Q9. Which of the following areas have you spent the most time in?

- 1) Urban
- 2) Suburban
- 3) Rural

Q10. What's your current relationship status?

- 1) Single, and not involved in any relationship
- 2) Dating, but not serious
- 3) In a serious relationship
- 4) Engaged
- 5) Married

Q11. How long has your current relationship been?

___ Year(s) ___ Month(s)

Q12. Have you ever had a divorce?

- 1) Yes
- 2) No

Q13. On average, how many hours per week do you spend watching TV programs and movies?

___ Hours/Week

Q14. On average, how many hours per week do you spend surfing the Internet?
 ___ Hours/Week

Q15. On average, how many hours per week do you spend watching programs related to dating and matchmaking?
 ___ Hours/Week

Q16. How much do the following statements apply to you? Please rate on a scale from 1 to 5, with 5 indicating the statement applies to you completely.

Statements	1 Not at all	2 Slightly	3 Moderately	4 Very Much	5 Completely
The media are an important source of information to me on choosing a spouse.					
I believe mate selection in the media accurately reflects social reality.					
In terms of choosing a spouse, my peers' opinions are very important to me.					
My peers are an important source of information to me on choosing a spouse.					
I feel pressured by my peers to get married.					
My parents are an important source of information to me on choosing a spouse.					
In terms of choosing a spouse, my parents' opinions are very important to me.					
I feel pressured by my parents to get married.					
My parents will decide whom I will marry.					
It is important to my parents that I get married.					

It is important to me that I get married.					
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Q17 only appeared to male participants.

Q17. Think of women with comparable qualities to yours. What do you think are their minimum criteria in choosing a spouse? Please rate the following criteria on a scale from 1 to 10. For example, on the criterion "wealthy," if you think women with comparable qualities to yours would only marry a wealthiest man, please select 10; if you think these women would marry a least wealthy man, please select 1.

Criteria	Your Perception of the Minimum Mate Selection Criteria of Women with Comparable Qualities to Yours									
	1	2	3	4	5	6	7	8	9	10
Highly Educated										
High Earning Capacity and/or Potential										
Physically Attractive										
Healthy										
Wants Children										
Good Family Background and Heredity										
Good Housekeeper										
Kind and Understanding										
Intelligent										
Creative										
Exciting										
Easygoing										
Has a Sense of Humor										
Friendly										
Powerful										
Religious										
High Social Status										

Wealthy										
Honest and Trustworthy										
Popular										
Emotionally Stable										

Q18 only appeared to female participants.

Q18. Think of men with comparable qualities to yours. What do you think are their minimum criteria in choosing a spouse? Please rate the following criteria on a scale from 1 to 10. For example, on the criterion "wealthy," if you think men with comparable qualities to yours would only marry a wealthiest woman, please select 10; if you think these men would marry a least wealthy woman, please select 1.

Criteria	Your Perception of the Minimum Mate Selection Criteria of Men with Comparable Qualities to Yours									
	1	2	3	4	5	6	7	8	9	10
Highly Educated										
High Earning Capacity and/or Potential										
Physically Attractive										
Healthy										
Wants Children										
Good Family Background and Heredity										
Good Housekeeper										
Kind and Understanding										
Intelligent										
Creative										
Exciting										
Easygoing										
Have a Sense of Humor										
Friendly										
Powerful										
Religious										

High Social Status										
Wealthy										
Honest and Trustworthy										
Popular										
Emotionally Stable										

Q19 only appeared to male participants.

Q19. How much do the following statements apply to you? Please rate on a scale from 1 to 5, with 5 indicating the statement applies to you completely.

Statements	1 Not at All	2 Slightly	3 Moderately	4 Very Much	5 Completely
Women with comparable qualities to mine find age difference an important consideration in choosing a spouse.					
Women with comparable qualities to mine find education difference an important consideration in choosing a spouse.					

Q20 only appeared to female participants.

Q20. How much do the following statements apply to you? Please rate on a scale from 1 to 5, with 5 indicating the statement applies to you completely.

Statements	1 Not at All	2 Slightly	3 Moderately	4 Very Much	5 Completely
Men with comparable qualities to mine find age difference an important consideration in choosing a spouse.					
Men with comparable qualities to mine find education difference an important consideration in choosing a spouse.					

Q21 only appeared to male participants.

Q21. Please rate yourself on the following criteria on a scale from 1 to 10. For example, on the criterion "wealthy," if you consider yourself a wealthiest man, please select 10; if you consider yourself a least wealthy man, please select 1.

Criteria	Your Self-Appraisal									
	1	2	3	4	5	6	7	8	9	10
Highly Educated										
High Earning Capacity and/or Potential										
Physically Attractive										
Healthy										
Wants Children										
Good Family Background and Heredity										
Good Housekeeper										
Kind and Understanding										
Intelligent										
Creative										
Exciting										
Easygoing										
Have a Sense of Humor										
Friendly										
Powerful										
Religious										
High Social Status										
Wealthy										
Honest and Trustworthy										
Popular										
Emotionally Stable										

Q22 only appeared to female participants.

Q22. Please rate yourself on the following criteria on a scale from 1 to 10. For example, on the criterion "wealthy," if you consider yourself a wealthiest woman, please select 10; if you consider yourself a least wealthy woman, please select 1.

Criteria	Your Self-Appraisal									
	1	2	3	4	5	6	7	8	9	10
Highly Educated										
High Earning Capacity and/or Potential										
Physically Attractive										
Healthy										
Wants Children										
Good Family Background and Heredity										
Good Housekeeper										
Kind and Understanding										
Intelligent										
Creative										
Exciting										
Easygoing										
Have a Sense of Humor										
Friendly										
Powerful										
Religious										
High Social Status										
Wealthy										
Honest and Trustworthy										
Popular										
Emotionally Stable										

Q23. How much do the following statements apply to you? Please rate on a scale from 1 to 5, with 5 indicating the statement applies to you completely.

Statements	1 Not at All	2 Slightly	3 Moderately	4 Very Much	5 Completely
My age gives me an advantage in choosing a spouse.					
My education gives me an advantage in choosing a spouse.					

Q24 only appeared to male participants.

Q24. What are your minimum criteria in choosing a spouse? Please rate the following criteria on a scale from 1 to 10. For example, on the criterion "wealthy," if you would only marry a wealthiest woman, please select 10. If you would marry a least wealthy woman, please select 1.

Criteria	Your Minimum Mate Selection Criteria									
	1	2	3	4	5	6	7	8	9	10
Highly Educated										
High Earning Capacity and/or Potential										
Physically Attractive										
Healthy										
Wants Children										
Good Family Background and Heredity										
Good Housekeeper										
Kind and Understanding										
Intelligent										
Creative										
Exciting										
Easygoing										
Have a Sense of Humor										
Friendly										

Powerful										
Religious										
High Social Status										
Wealthy										
Honest and Trustworthy										
Popular										
Emotionally Stable										

Q25 only appeared to female participants.

Q25. What are your minimum criteria in choosing a spouse? Please rate the following criteria on a scale from 1 to 10. For example, on the criterion "wealthy," if you would only marry a wealthiest man, please select 10. If you would marry a least wealthy man, please select 1.

Criteria	Your Minimum Mate Selection Criteria									
	1	2	3	4	5	6	7	8	9	10
Highly Educated										
High Earning Capacity and/or Potential										
Physically Attractive										
Healthy										
Wants Children										
Good Family Background and Heredity										
Good Housekeeper										
Kind and Understanding										
Intelligent										
Creative										
Exciting										
Easygoing										
Have a Sense of Humor										

Friendly										
Powerful										
Religious										
High Social Status										
Wealthy										
Honest and Trustworthy										
Popular										
Emotionally Stable										

Q26. How much do the following statements apply to you? Please rate on a scale from 1 to 5, with 5 indicating the statement applies to you completely.

Statements	1 Not at All	2 Slightly	3 Moderately	4 Very Much	5 Completely
Age difference is an important consideration to me in choosing a spouse.					
Education difference is an important consideration to me in choosing a spouse.					

Q27. Are there any other criteria important to you in choosing a spouse? What are they?

Q28. What are your views of the different pressures, if any, on men and women in choosing a spouse?

Pressure on men specifically: _____

Pressure on women specifically: _____

Appendix E

Survey of Heterosexual Adults' Mate Selection Perceptions and Criteria

- For Chinese Participants

Q1. 我们正在进行一项关于异性恋青年择偶标准的问卷调查。如果你未婚且无婚史，认为自己的性取向是异性恋，在18到39岁之间，且是中国公民或居民，我们诚挚地邀请你参与这项问卷调查。

填写整份问卷所需的时间约不超过15分钟。你在问卷中的回答将是匿名的。你有权拒绝回答某一问题或中途退出问卷的填写，并将不会受到任何惩罚。虽然本问卷中的个别问题有影响你情绪的可能，但这种可能性很小。本研究已通过维吉尼亚理工大学涉及人类受试者研究伦理委员会的审核。若你对本研究（包括其进行、参与者的权利、与研究相关的伤害事件等）有任何疑问，请联系：陈若汐：

ruoxic@vt.edu

完成本问卷将表示你的参与纯属自愿。如果你自愿填写本问卷，请点击“下一页”。

Q2. 您的性别是：

- 1) 男
- 2) 女

Q3. 您的年龄是：

___ 岁

Q4. 您的民族是：

- | | | | | |
|--------------------|--------|------|------|-------|
| 1)汉 | 2)壮 | 3)蒙古 | 4)回 | 5)藏 |
| 6)维吾尔 | 7)苗 | 8)彝 | 9)布依 | 10)朝鲜 |
| 11)满 | 12)侗 | 13)瑶 | 14)白 | 15)土家 |
| 16)哈尼 | 17)哈萨克 | 18)傣 | 19)黎 | |
| 20)其它 (请注明: _____) | | | | |

Q5. 您认为自己是异性恋吗？

- 1) 是
- 2) 不是

Q6. 您是独生子女吗？

- 1) 是

- 2) 不是
- Q7. 您的最高学历是：
- 1) 未从初中毕业
 - 2) 初中毕业
 - 3) 高中毕业
 - 4) 接受过部分大学教育
 - 5) 大专学位
 - 6) 本科学位
 - 7) 本科学位，并接受过部分研究生教育
 - 8) 硕士学位
 - 9) 博士学位
 - 10) 其它（请注明：_____）
- Q8. 如果您有宗教信仰的话，你最信仰哪一宗教？
- 1) 佛教
 - 2) 道教
 - 3) 伊斯兰教
 - 4) 基督教
 - 5) 天主教
 - 6) 我没有宗教信仰
 - 7) 其它（请注明：_____）
- Q9. 迄今为止，您在以下哪种区域环境中生活的时间最长？
- 1) 城市
 - 2) 城郊
 - 3) 农村
- Q10. 迄今为止，您在以下那个省级行政区中生活的时间最长？
- | | | | |
|-------|-------|-------|-------|
| 1)北京 | 2)天津 | 3)河北 | 4)陕西 |
| 5)内蒙古 | 6)辽宁 | 7)吉林 | 8)上海 |
| 9)黑龙江 | 10)江苏 | 11)浙江 | 12)安徽 |
| 13)福建 | 14)江西 | 15)山东 | 16)河南 |
| 17)湖北 | 18)湖南 | 19)广东 | 20)广西 |
| 21)海南 | 22)重庆 | 23)四川 | 24)贵州 |
| 25)云南 | 26)西藏 | 27)山西 | 28)甘肃 |
| 29)青海 | 30)宁夏 | 31)新疆 | 32)香港 |
| 33)澳门 | 34)台湾 | | |

Q11. 您目前的婚恋状况是:

- 1) 单身, 且无恋爱关系
- 2) 约会中, 但不认真
- 3) 处于认真的恋爱关系中
- 4) 已订婚
- 5) 已婚

Q12. 你目前的这段感情开始多久了?

___ 年零 ___ 月

Q13. 您离过婚吗?

- 1) 离过
- 2) 没离过

Q14. 您平均每周花多少小时看电视节目、电影?

___ 小时 / 每周

Q15. 您每周平均花多长时间上网?

___ 小时 / 每周

Q16. 您平均每周花多少小时看与约会 / 相亲有关的节目?

___ 小时 / 每周

Q17. 以下陈述多大程度上与你的情况相符? 请在以下各项上打出 1 到 5 间的一个分数 (5 代表该陈述与你的情况完全符合)。

陈述	1 完全不符 合	2 只有一 点儿符 合	3 符合程 度一 般	4 非常符 合	5 完全符 合
媒体是我择偶的一个重要信息来源。					
我认为媒体对于择偶现象的展示与社会现实相符。					
在择偶的问题上, 同龄人的意见对我很重要。					

同龄人是我择偶的一个重要信息来源。					
同龄人让我有结婚的压力。					
我的父母是我择偶的一个重要信息来源。					
在择偶问题上，我父母的意见对我很重要。					
我的父母让我有结婚的压力。					
我的结婚对象将由我父母决定。					
我结婚对我父母来说很重要。					
结婚对我来说很重要。					

Q18 只由男性答卷者回答。

Q18. 你认为和你条件相配的女性有什么样的最低择偶标准？请在以下各项上打出1到10间的一个分数。比如，在“富有”一项上，如果你认为和你条件相配的女性只会肯嫁最富有的男性，请选10；如果你认为和你条件相配的女性会肯嫁最不富有的男性，请选1。

标准	你认为和你条件相配的女性的最低择偶标准									
	1	2	3	4	5	6	7	8	9	10
学历高										
赚钱的能力强 / 潜力大										
外表吸引人										
健康										
想要孩子										
良好的家庭背景和遗传										
善于持家										
善良、善解人意										

智商高										
有创造力的										
令人兴奋的										
随和										
有幽默感										
友好										
有权力的										
有宗教信仰的										
社会地位高										
富有										
诚实可信										
人缘儿好										
情绪稳定的										

Q19 只由女性答卷者回答。

Q19. 你认为和你条件相配男性有什么样的最低择偶标准？请在以下各项上打出 1 到 10 间的一个分数。比如，在“富有”一项上，如果你认为和你条件相配男性只会肯娶最富有的女性，请选 10；如果你认为和你条件相配男性会肯娶最不富有的女性，请选 1。

标准	你认为和你条件相配男性的最低择偶标准									
	1	2	3	4	5	6	7	8	9	10
学历高										
赚钱的能力强 / 潜力大										
外表吸引人										
健康										
想要孩子										
良好的家庭背景和遗传										
善于持家										

善良、善解人意										
智商高										
有创造力的										
令人兴奋的										
随和										
有幽默感										
友好										
有权力的										
有宗教信仰的										
社会地位高										
富有										
诚实可信										
人缘儿好										
情绪稳定的										

Q20 只由男性答卷者回答。

Q20. 以下陈述多大程度上与你的看法相符？请在以下各项上打出 1 到 5 间的一个分数（5 代表该陈述与你的看法完全符合）。

陈述	1 完全不符合	2 只有一点儿 符合	3 符合程度一 般	4 非常符合	5 完全符合
和我条件相配的女性认为年龄差异是择偶中的一个重要考虑因素。					
和我条件相配的女性认为学历差异是择偶中的一个重要考虑因素。					

Q21 只由女性答卷者回答。

Q21. 以下陈述多大程度上与你的看法相符？请在以下各项上打出 1 到 5 间的一个分数（5 代表该陈述与你的看法完全符合）。

陈述	1 完全不符合	2 只有一点点 符合	3 符合程度一 般	4 非常符合	5 完全符合
和我条件相配的男性认为年龄差异是择偶中的一个重要考虑因素。					
和我条件相配的男性认为学历差异是择偶中的一个重要考虑因素。					

Q22 只由男性答卷者回答。

Q22. 请你在以下各项上给自己打出 1 到 10 间的一个分数。比如，在“富有”一项上，如果你认为你是最富有的男人之一，请选 10；如果你认为你是最不富有的男人之一，请选 1。

标准	自评									
	1	2	3	4	5	6	7	8	9	10
学历高										
赚钱的能力强 / 潜力大										
外表吸引人										
健康										
想要孩子										
良好的家庭背景和遗传										
善于持家										
善良、善解人意										
智商高										
有创造力的										
令人兴奋的										

随和										
有幽默感										
友好										
有权力的										
有宗教信仰的										
社会地位高										
富有										
诚实可信										
人缘儿好										
情绪稳定的										

Q23 只由女性答卷者回答。

Q23. 请你在以下各项上给自己打出 1 到 10 间的一个分数。比如，在“富有”一项上，如果你认为你是最富有的女人之一，请选 10；如果你认为你是最不富有的女人之一，请选 1。

标准	自评									
	1	2	3	4	5	6	7	8	9	10
学历高										
赚钱的能力强 / 潜力大										
外表吸引人										
健康										
想要孩子										
良好的家庭背景和遗传										
善于持家										
善良、善解人意										
智商高										
有创造力的										
令人兴奋的										

随和										
有幽默感										
友好										
有权力的										
有宗教信仰的										
社会地位高										
富有										
诚实可信										
人缘儿好										
情绪稳定的										

Q24. 以下陈述多大程度上与你的看法相符？请在以下各项上打出 1 到 5 间的一个分数（5 代表该陈述与你的看法完全符合）。

陈述	1 完全不符合	2 只有一点儿符合	3 符合程度一般	4 非常符合	5 完全符合
我的年龄是我在择偶上的一个优势。					
我的学历是我在择偶上的一个优势。					

Q25 只由男性答卷者回答。

Q25. 你的最低择偶标准是什么？请在以下各项上打出 1 到 10 间的一个分数。比如，在“富有”一项上，如果你只会肯娶最富有的女性，请选 10；如果你会肯娶最不富有的女性，请选 1。

标准	自评									
	1	2	3	4	5	6	7	8	9	10

学历高										
赚钱的能力强 / 潜力大										
外表吸引人										
健康										
想要孩子										
良好的家庭背景和遗传										
善于持家										
善良、善解人意										
智商高										
有创造力的										
令人兴奋的										
随和										
有幽默感										
友好										
有权力的										
有宗教信仰的										
社会地位高										
富有										
诚实可信										
人缘儿好										
情绪稳定的										

Q26 只由女性答卷者回答。

Q26. 你的最低择偶标准是什么？请在以下各项上打出 1 到 10 间的一个分数。比如，在“富有”一项上，如果你只会肯嫁最富有的男性，请选 10；如果你会肯嫁最不富有的男性，请选 1。

标准	自评									
	1	2	3	4	5	6	7	8	9	10

学历高										
赚钱的能力强 / 潜力大										
外表吸引人										
健康										
想要孩子										
良好的家庭背景和遗传										
善于持家										
善良、善解人意										
智商高										
有创造力的										
令人兴奋的										
随和										
有幽默感										
友好										
有权力的										
有宗教信仰的										
社会地位高										
富有										
诚实可信										
人缘儿好										
情绪稳定的										

Q27. 以下陈述多大程度上与你的看法相符？请在以下各项上打出 1 到 5 间的一个分数（5 代表该陈述与你的看法完全符合）。

陈述	1 完全不符合	2 只有一点儿 符合	3 符合程度一 般	4 非常符合	5 完全符合
----	------------	------------------	-----------------	-----------	-----------

年龄差异是我在择偶中的一个重要考虑因素。					
学历差异是我在择偶中的一个重要考虑因素。					

Q28. 在择偶中，还有其它哪些标准对你来说很重要吗？

Q29. 你认为男性和女性在择偶中各面临何种压力？

男性在择偶中所特别面对的压力： _____

女性在择偶中所特别面对的压力： _____

Appendix F

List of Tables

Table 1

Reliability of Composites that Consisted of More than One Item — Study 1

	Perceived Possible				
	Mates' Demand	Self-Appraisal	Demand	Relative Position	Relative Demand
Status	.86	.82	.85	.80	.80
Family Orientation	.70	.60	.61	.59	.61
Agreeableness	.86	.78	.84	.70	.71
Extraversion	.61	.65	.52	.56	.58
Intellect	.63	.53	.53	.60	.60

Table 2

The Effects of Country and Gender, Controlling for Age, on Mate Selection Criteria — Study 1

Composites and Effects	Perceived Possible Mates' Demand	Self-Appraisal	Demand	Relative Position	Relative Demand
Status					
Country		$F(1, 574) = 24.2^{***}$	$F(1, 570) = 9.75^{**}$	$F(1, 538) = 25.1^{***}$	$F(1, 551) = 65.9^{***}$
<i>M</i>		^a $C = 5.58, A = 6.25$	$C = 5.62, A = 5.17$	$C = -.42, A = .36$	$C = .028, A = -1.07$
Gender	$F(1, 556) = 18.7^{***}$	$F(1, 574) = 5.59^*$	$F(1, 570) = 27.0^{***}$		$F(1, 551) = 63.0^{***}$
<i>M</i>	^b $F = 5.64, M = 6.29$	$F = 5.75, M = 6.08$	$F = 5.77, M = 5.02$		$F = .021, M = -1.06$
Age			$F(1, 570) = 7.90^{**}$		
Interaction					
Family Orientation					
Country		^c $F(1, 574) = 10.5^{**}$	$F(1, 573) = 6.46^*$	$F(1, 540) = 14.6^{***}$	$F(1, 552) = 39.4^{***}$
<i>M</i>		$C = 7.39, A = 7.80$	$C = 7.80, A = 7.48$	$C = -.26, A = .26$	$C = .41, A = -.31$
Gender					
<i>M</i>					
Age	$F(1, 559) = 5.29^*$	$F(1, 574) = 7.71^{**}$			
Interaction					
Agreeableness					
Country					
<i>M</i>					
Gender					
<i>M</i>					
Age					
Interaction					$F(1, 558) = 4.40^*$
Extraversion					
Country			$F(1, 578) = 4.34^*$		$F(1, 557) = 17.5^{***}$
<i>M</i>			$C = 6.82, A = 6.54$		$C = .15, A = -.40$
Gender		$F(1, 576) = 4.07^*$			$F(1, 557) = 12.2^{***}$
<i>M</i>		$F = 6.68, M = 6.96$			$F = .10, M = -.36$
Age		$F(1, 576) = 7.49^{**}$	$F(1, 578) = 6.15^*$		
Interaction					
Intellect					
Country		$F(1, 581) = 14.9^{***}$	$F(1, 577) = 7.45^{**}$	$F(1, 555) = 3.88^*$	
<i>M</i>		$C = 6.90, A = 7.43$	$C = 6.69, A = 7.10$	$C = .28, A = .61$	
Gender	$F(1, 569) = 9.87^{**}$	$F(1, 581) = 7.77^{**}$			$F(1, 562) = 14.7^{***}$
<i>M</i>	$F = 6.48, M = 6.97$	$F = 6.97, M = 7.36$			$F = .03, M = -.57$
Age					
Interaction		$F(1, 581) = 6.53^*$	$F(1, 577) = 5.79^*$		$F(1, 562) = 22.4^{***}$
Attractiveness					
Country	$F(1, 566) = 17.7^{***}$	$F(1, 583) = 28.6^{***}$	$F(1, 577) = 27.7^{***}$		
<i>M</i>	$C = 6.92, A = 7.64$	$C = 6.06, A = 6.94$	$C = 6.36, A = 7.22$		
Gender			$F(1, 577) = 27.0^{***}$	$F(1, 554) = 4.65^*$	$F(1, 562) = 12.8^{***}$
<i>M</i>			$F = 6.37, M = 7.22$	$F = -1.02, M = -.60$	$F = .011, M = .63$
Age					
Interaction	$F(1, 566) = 6.50^*$			$F(1, 554) = 7.79^{**}$	

^a C denotes China, and A denotes America. ^b F denotes female, and M denotes male. [°] This symbol denotes that $.001 < p < .0015$, which is a conservative Bonferroni-corrected alpha ($\alpha = .05/34 = .0015$). All the means reported in this table are estimated marginal means. In the relative position column, a positive mean score indicates that self-appraisal on the criterion exceeds the perceived demand of possible mates, whereas a negative mean score indicates that self-appraisal mates on the criterion is less than the perceived demand of possible mates. In the relative demand column, a positive mean score indicates that the minimum demand for the criterion exceeds the self-appraisal, whereas a negative mean score indicates that the minimum demand for the criterion is less than the self-appraisal. $*p < .05$. $**p < .01$. $***p < .001$.

Table 3

The Effects of Country and Gender, Controlling for Age, on Receptivity to External Influences —

Study 1

Effects	Media Influence	Peer Influence	Parent Influence	Felt Pressure
Country	$F(1, 633) = 11.3***$		$F(1, 632) = 7.04**$	$F(1, 624) = 92.0***$
<i>M</i>	^a C = 1.65, A = 1.40		C = 2.93, A = 3.16	C = 3.00, A = 2.24
Gender			$F(1, 632) = 7.33**$	
<i>M</i>			^b F = 3.17, M = 2.92	
Age			$F(1, 632) = 8.65**$	$F(1, 624) = 26.3***$
Interaction	$F(1, 633) = 4.21*$			$F(1, 624) = 6.38*$

^a C denotes China, and A denotes America. ^b F denotes female, and M denotes male. All the means reported in this table are estimated marginal means. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4

Factor Loadings for the Measurement Model — Study 1

	Unstandardized Loadings	SE	Standardized Loadings	Z ^a
<i>Relative Position</i>				
Intellect	1.00 ^b		.60	
Family Orientation	.84	.08	.61	10.09
Agreeableness	.77	.09	.56	8.93
Status	.78	.08	.50	9.63
Extraversion	1.02	.10	.70	10.73
Attractiveness	.89	.12	.47	7.59
<i>Relative Demand</i>				
Intellect	1.00 ^b		.61	
Family Orientation	.79	.07	.65	12.12
Agreeableness	.83	.07	.64	11.76
Status	.88	.06	.59	13.77
Extraversion	1.09	.08	.78	13.44
Attractiveness	.84	.09	.48	9.23
<i>External Influence</i>				
Peer Influence	1.00 ^b		.63	
Parent Influence	1.07	.15	.58	7.04
Felt Pressure	.72	.12	.41	6.04
Media Influence	.50	.09	.33	5.51

^a All significant at $p < .001$. ^b Parameter was fixed to 1.00 during estimation.

Table 5

Reliability of Composites that Consisted of More than One Item — Study 2

Composites	Perceived Possible				
	Mates' Demand	Self-Appraisal	Demand	Relative Position	Relative Demand
Status	.89	.89	.89	.82	.81
Family Orientation	.80	.72	.75	.61	.64
Agreeableness	.89	.86	.89	.76	.77
Extraversion	.65	.72	.58	.61	.64
Intellect	.78	.72	.70	.58	.61

Table 6

The Effects of Country and Gender, Controlling for Age, on Mate Selection Criteria — Study 2

Composites and Effects	Perceived Possible Mates' Demand	Self-Appraisal	Demand	Relative Position	Relative Demand
Status					
Country	$F(1, 667) = 24.0^{***}$	$F(1, 667) = 37.4^{***}$	$F(1, 667) = 53.8^{***}$		
<i>M</i>	^a C = 6.96, A = 6.29	C = 6.51, A = 5.67	C = 6.62, A = 5.62		
Gender	$F(1, 667) = 7.31^{**}$	$F(1, 667) = 9.55^{**}$	$F(1, 667) = 19.2^{***}$		$F(1, 667) = 73.2^{***}$
<i>M</i>	^b F = 6.44, M = 6.81	F = 5.87, M = 6.30	F = 6.42, M = 5.82		F = .55, M = -.48
Age	$F(1, 667) = 5.71^*$			$F(1, 667) = 13.7^{***}$	$F(1, 667) = 11.8^{***}$
Interaction					
Family Orientation					
Country	$F(1, 667) = 50.9^{***}$	$F(1, 667) = 42.0^{***}$	$F(1, 667) = 70.9^{***}$		$F(1, 667) = 4.22^*$
<i>M</i>	C = 8.31, A = 7.47	C = 8.11, A = 7.33	C = 8.39, A = 7.40		C = .28, A = .071
Gender	$F(1, 667) = 4.78^*$				
<i>M</i>	F = 8.02, M = 7.76				
Age			$F(1, 667) = 3.94^*$		
Interaction	^o $F(1, 667) = 10.5^{**}$	$F(1, 667) = 11.9^{***}$	$F(1, 667) = 16.2^{***}$		
Agreeableness					
Country	$F(1, 667) = 14.9^{***}$	$F(1, 667) = 10.1^{**}$	$F(1, 667) = 5.88^*$		
<i>M</i>	C = 8.47, A = 8.01	C = 8.48, A = 8.11	C = 8.58, A = 8.30		
Gender			$F(1, 667) = 8.44^{**}$		$F(1, 667) = 6.44^{**}$
<i>M</i>			F = 8.61, M = 8.27		F = .28, M = .001
Age			$F(1, 667) = 5.07^*$		
Interaction	$F(1, 667) = 8.12^{**}$	$F(1, 667) = 13.1^{***}$	$F(1, 667) = 15.1^{***}$		
Extraversion					
Country	$F(1, 667) = 28.4^{***}$	$F(1, 667) = 35.9^{***}$	$F(1, 667) = 51.4^{***}$		
<i>M</i>	C = 7.79, A = 7.16	C = 7.63, A = 6.84	C = 7.67, A = 6.82		
Gender					$F(1, 667) = 13.7^{***}$
<i>M</i>					F = .22, M = -.21
Age					
Interaction	$F(1, 667) = 9.84^{**}$	$F(1, 667) = 12.7^{***}$	$F(1, 667) = 6.16^*$		
Intellect					
Country					
<i>M</i>					
Gender	$F(1, 667) = 4.37^*$		^o $F(1, 667) = 10.9^{**}$		$F(1, 667) = 26.4^{***}$
<i>M</i>	F = 7.25, M = 7.54		F = 7.58, M = 7.15		F = .10, M = -.50
Age					
Interaction	$F(1, 667) = 8.89^{**}$	$F(1, 667) = 13.2^{***}$			$F(1, 667) = 13.4^{***}$
Attractiveness					
Country		$F(1, 667) = 9.40^{**}$		$F(1, 667) = 8.42^{**}$	$F(1, 667) = 11.6^{***}$
<i>M</i>		C = 7.19, A = 6.70		C = -.49, A = -.97	C = .11, A = .61
Gender					
<i>M</i>					
Age	$F(1, 667) = 4.49^*$				
Interaction	$F(1, 667) = 6.54^*$				

^a C denotes China, and A denotes America. ^b F denotes female, and M denotes male. [°] This symbol denotes that $.001 < p < .0015$, which is a conservative Bonferroni-corrected alpha ($\alpha = .05/34 = .0015$). All the means reported in this table are estimated marginal means. In the relative position column, a positive mean score indicates that self-appraisal on the criterion exceeds the perceived demand of possible mates, whereas a negative mean score indicates that self-appraisal mates on the criterion is less than the perceived demand of possible mates. In the relative demand column, a positive mean score indicates that minimum demand for the criterion exceeds the self-appraisal, whereas a negative mean score indicates that the minimum demand for the criterion is less than the self-appraisal. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 7

The Effects of Country and Gender, Controlling for Age, on Receptivity to External Influences —

Study 2

Effects	Media Influence	Peer Influence	Parent Influence	Felt Pressure
Country	$F(1, 667) = 142.5^{***}$	$F(1, 667) = 204.1^{***}$	$F(1, 667) = 57.4^{***}$	$F(1, 667) = 434.5^{***}$
<i>M</i>	^a C = 2.79, A = 1.91	C = 3.71, A = 2.67	C = 3.44, A = 2.84	C = 3.73, A = 2.37
Gender	$F(1, 667) = 9.73^{**}$		$F(1, 667) = 4.77^*$	
<i>M</i>	^b F = 2.23, M = 2.47		F = 3.23, M = 3.06	
Age				
Interaction		$F(1, 667) = 5.95^*$		

^a C denotes China, and A denotes America. ^b F denotes female, and M denotes male. All the means reported in this table are estimated marginal means. $*p < .05$. $**p < .01$. $***p < .001$.

Table 8

Country, Gender, and Their Interaction Effect on Mate Selection Criteria — Summary

Study	Scenarios	Gender Differences	Country Differences	Interaction Effect
Study 1	Perceived Minimum Criteria	Status: M > F ^a	Attractiveness: C < A ^b	
	Self-Appraisal		Status: C < A Intellect: C < A Family Orientation: C < A Attractiveness: C < A	
	Minimum Criteria	Status: M < F Attractiveness: M > F	Attractiveness: C < A	
	Relative Position		Status: C < A Family Orientation: C < A	
	Relative Demand	Status: M < F Extraversion: M < F Attractiveness: M > F	Status: C > A Family Orientation: C > A Extraversion: C > A	Intellect: C-F > A-F; C-M < A-M ^c
Study 2	Perceived Minimum Criteria		Status: C > A Extraversion: C > A Family Orientation: C > A Agreeableness: C > A	
	Self-Appraisal		Status: C > A Extraversion: C > A Family Orientation: C > A	Intellect: C-F < A-F; C-M > A-M Agreeableness: C-F < A-F; C-M > A-M
	Minimum Criteria	Status: M < F Intellect: M < F	Status: C > A Extraversion: C > A Family Orientation: C > A	Agreeableness: C-F < A-F; C-M > A-M
	Relative Position			
	Relative Demand	Status: M < F Extraversion: M < F	Attractiveness: C < A	Intellect: C-F > A-F; C-M < A-M

^a M denotes male, and F denotes female. ^b C denotes China, and A denotes America. ^c C-F denotes Chinese female, A-F denotes American female, C-M denotes Chinese male, and A-M denotes American male. $p < .0015$.

Table 9

Factor Loadings for the Measurement Model — Study 2

	Unstandardized Loadings	SE	Standardized Loadings	Z ^a
<i>Relative Position</i>				
Intellect	1.00 ^b		.65	
Family Orientation	.90	.06	.69	15.45
Agreeableness	1.06	.07	.78	15.41
Status	.77	.07	.48	11.59
Extraversion	1.13	.07	.78	16.38
Attractiveness	1.22	.10	.62	12.57
<i>Relative Demand</i>				
Intellect	1.00 ^b		.68	
Family Orientation	.81	.05	.68	16.45
Agreeableness	.96	.06	.71	16.90
Status	1.00	.06	.67	17.63
Extraversion	1.20	.06	.86	19.42
Attractiveness	1.02	.07	.57	13.87
<i>External Influence</i>				
Peer Influence	1.00 ^b		.78	
Parent Influence	.75	.05	.59	13.85
Felt Pressure	1.03	.06	.79	17.31
Media Influence	.82	.05	.65	15.29

^a All significant at $p < .001$. ^b Parameter was fixed to 1.00 during estimation.

Table 10

Mean Composite Scores for Relative Mate Selection Position and Demand

Composites	Relative Mate Selection Position		Relative Mate Selection Demand	
	Study 1	Study 2	Study 1	Study 2
Status	-.021	-.54	-.32	.044
Attractiveness	-.92	-.74	.24	.36
Extraversion	-.15	-.24	-.032	.014
Intellect	.45	.17	-.22	-.19
Agreeableness	.12	.053	.11	.15
Family Orientation	-.036	-.17	.096	.17
Overall	-.098	-.24	-.006	.092

Table 11

*Estimated Marginal Means of Relative Demand Composites — By Gender and Country,
Controlling for Age*

Relative Demands		Study 1			Study 2		
		China	US	All	China	US	All
Status	Female	.64	-.60	.021	.71	.39	.55
	Male	-.59	-1.53	-1.06	-.49	-.47	-.48
Family Orientation	Female	.42	-.24	.089	.29	.14	.22
	Male	.41	-.37	.020	.26	-.002	.13
Agreeableness	Female	.041	.28	.16	.23	.34	.28
	Male	.12	-.19	-.039	-.038	.041	.001
Extraversion	Female	.38	-.17	.10	.34	.10	.22
	Male	-.087	-.63	-.36	-.26	-.15	-.21
Intellect	Female	.46	-.40	.032	.40	-.20	.10
	Male	-.87	-.26	-.57	-.63	-.37	-.50
Attractiveness	Female	-.079	.10	.011	.11	.53	.32
	Male	.80	.45	.63	.11	.69	.40

Appendix G
List of Figures

Figure 1

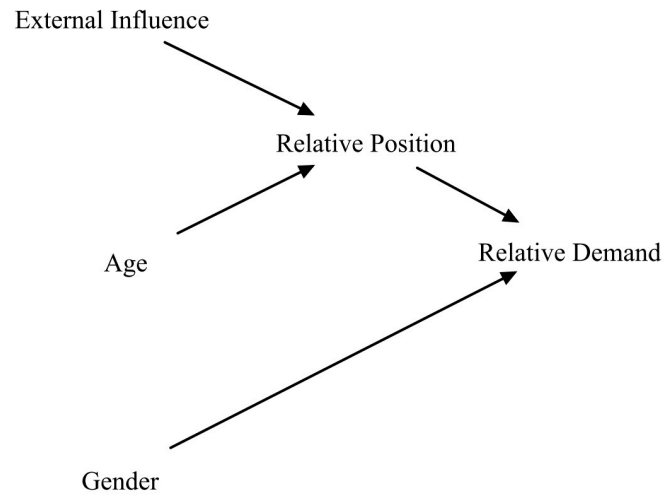


Figure 1. Hypothesized Model 1.

Figure 2

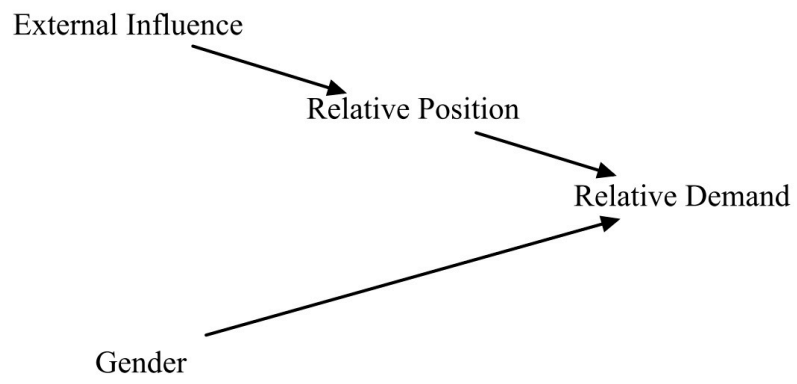


Figure 2. Hypothesized Model 2.

Figure 3

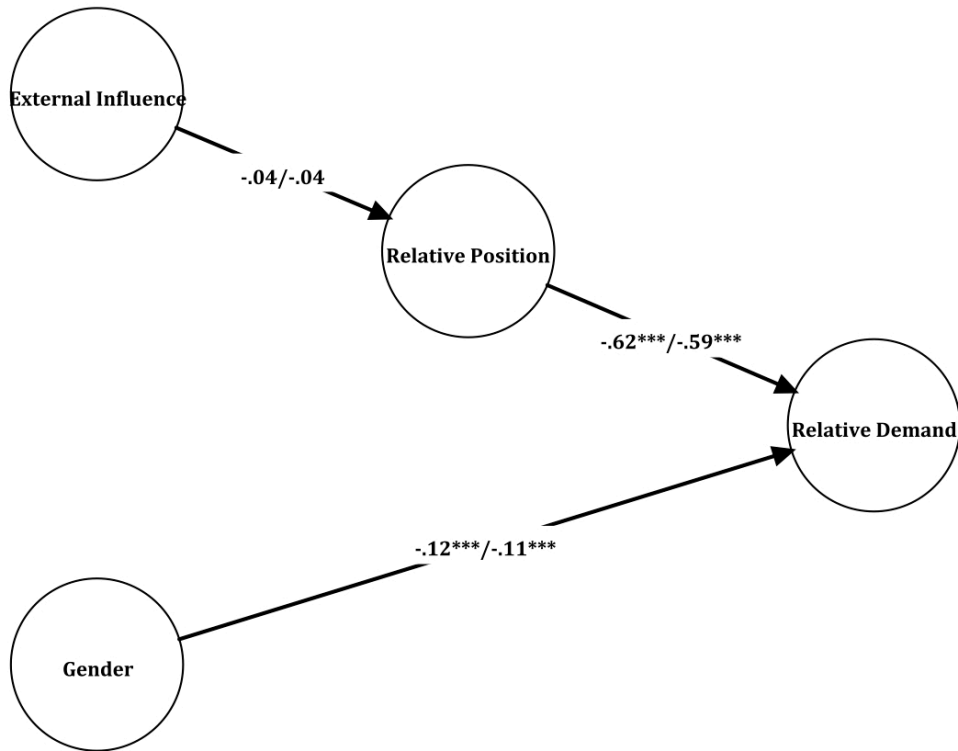


Figure 3. Structural model of the effect of receptivity to external influences on relative mate selection demand as mediated by relative mate selection position – Study 1, $\chi^2(220, N = 639) = 555.33$, CFI = .90, RMSEA = .07. Model estimated as multiple-groups comparison between Chinese people ($n = 361$; first estimate shown) and Americans ($n = 278$; second estimate shown). Gender was coded as 0 = female, 1 = male. Values shown are standardized parameter estimates.

*** $p < .001$.

Figure 4

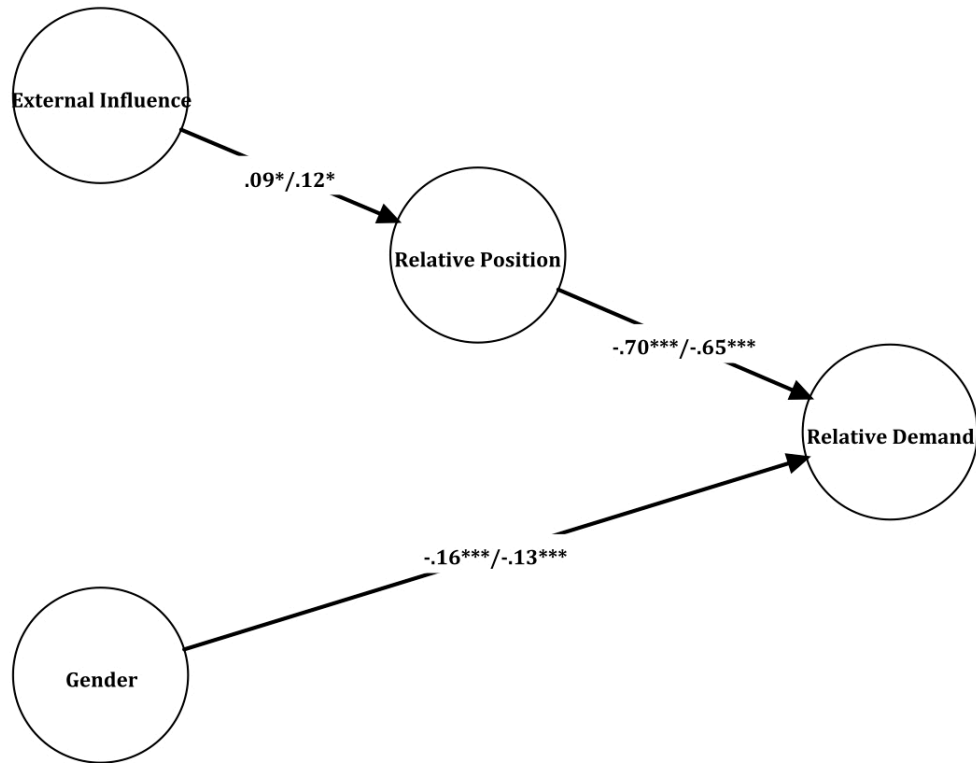


Figure 4. Structural model of the effect of receptivity to external influences on relative mate selection demand as mediated by relative mate selection position – Study 2, $\chi^2(220, N = 672) = 544.37$, CFI = .94, RMSEA = .07. Model estimated as multiple-groups comparison between Chinese people ($n = 333$; first estimate shown) and Americans ($n = 339$; second estimate shown). Gender was coded as 0 = *female*, 1 = *male*. Values shown are standardized parameter estimates. * $p < .05$. *** $p < .001$.