

11-2014

East Asian Low Marriage and Birth Rates: The Role of Social Status Affordance in Marriage and Childbearing Behavior

Jose C. YONG

Singapore Management University, jc.yong.2012@phdps.smu.edu.sg

Follow this and additional works at: http://ink.library.smu.edu.sg/etd_coll

 Part of the [Experimental Analysis of Behavior Commons](#), and the [Social Psychology Commons](#)

Citation

YONG, Jose C.. East Asian Low Marriage and Birth Rates: The Role of Social Status Affordance in Marriage and Childbearing Behavior. (2014). Dissertations and Theses Collection (Open Access).

Available at: http://ink.library.smu.edu.sg/etd_coll/113

This Master Thesis is brought to you for free and open access by the Dissertations and Theses at Institutional Knowledge at Singapore Management University. It has been accepted for inclusion in Dissertations and Theses Collection (Open Access) by an authorized administrator of Institutional Knowledge at Singapore Management University. For more information, please email libIR@smu.edu.sg.

East Asian low marriage and birth rates: The role of social status
affordance in marriage and childbearing behavior

JOSE C. YONG

SINGAPORE MANAGEMENT UNIVERSITY

2014

East Asian low marriage and birth rates: The role of social status
affordance in marriage and childbearing behavior

by

Jose C. Yong

Submitted to School of Social Sciences in partial fulfillment of the requirements
for the Degree of Master of Science in Psychology

Thesis Committee:

Dr. Norman Li (Supervisor/Chair)
Associate Professor of Psychology
Singapore Management University

Dr. Christie Scollon
Associate Professor of Psychology
Singapore Management University

Dr. Park Guihyun Grace
Assistant Professor of Psychology
Singapore Management University

Singapore Management University
2014

Copyright (2014) Jose C. Yong

ABSTRACT

Although declines in marriage and birth rates are generally associated with industrialization and economic advancement, countries with a dominantly East Asian cultural population exhibit the lowest marriage and birth rates in the developed world. This study aims to identify and verify a new latent construct, social status affordance, as an underlying account for the differences in long-term mating outcomes (i.e., marriage and childbearing) between developed East Asian countries and other developed countries. Drawing on an understanding of the specific East Asian cultural values of harmony and deference and, subsequently, the importance of social status conferred by educational and occupational prestige as a means of demonstrating worth and exerting influence while minimizing social confrontations and conflict, this study argues that sufficiently prestigious jobs are therefore more valued and more scarce in developed East Asian countries compared to other developed countries. The dynamic created by such competition for scarce prestigious jobs leads to the perception of less jobs available that are sufficiently prestigious, which leads to overall lower social status affordance in developed East Asian countries. As social status is valued as a trait that enables life outcomes, including mating goals, lower social status affordance may underlie lower marriage and birth rates in developed East Asian countries. The results, to a larger extent, support the propositions of this study, and suggestions for East Asian countries facing low marriage and birth rates are made given the implications of the findings obtained.

Singapore Management University
2014

Copyright (2014) Jose C. Yong

TABLE OF CONTENTS

Chapter 1: Introduction	1
Reasons for the birth rate declines of modernized countries	2
Same same, but different: The East Asian anomaly	4
Broad features of East Asian cultures	5
The importance of endowed social status in East Asian culture	6
Social status and mating	10
Social status affordance	14
The current study	17
Chapter 2: Method	20
Participants	20
Procedure and materials	21
Chapter 3: Results	22
Attitudes towards marriage and desire for children	22
Social status affordance	23
The mediation model	24
Chapter 4: Discussion	30
Limitations and future directions	33
Chapter 5: Conclusions	34
Chapter 6: References	36

1. INTRODUCTION

A trend that is well established by population studies is that modernization and economic development tend to be associated with a decline in fertility rates (e.g., Lee, 2003). There are at least 25 countries today that have birth rates that are below an average of 1.5 births per woman and these countries report this rate to be too low (United Nations, 2004), as a replacement rate of at least 2.1 is regarded as necessary for sustaining populations (two children to replace the mother and her partner plus some extra fertility to make up for children who do not live to reproductive age). A host of socioeconomic problems are rife with falling birth rates, such as declines in labor supply, decreasing international competitiveness, an influx of migrant workers, and ageing populations (McDonald, 2007).

Notably, among the modernized countries facing the problem of low birth rates, countries that have a dominantly East Asian cultural population are worst hit (Worldstat, 2013). This study seeks to introduce a novel concept of *social status affordance* to account for the marriage and birth rates of countries, and subsequently understand what makes East Asian countries' birth rates the lowest among developed nations by drawing on the relatively higher value that East Asian cultures place on externally endowed social status (i.e., social status conferred by one's educational or occupational prestige) as well as the importance of social status as a mate preference. The premium that East Asian cultures place on endowed social status may result in a narrower view of sufficiently respectable jobs available in society. As social status is a trait that is valued in romantic long-

term mates (particularly as a female mate preference), the affordance for mating created by the availability of sufficiently high status jobs may enable or hinder long-term mating outcomes (i.e., marriage and childbearing). This study thus aims to identify and verify the construct of social status affordance through the status perceptions of jobs as a factor contributing to mating outcomes, which will hopefully streamline further directions for discussion and policy implementation for East Asian countries dealing with low birth rates.

1.1. Reasons for the birth rate declines of modernized countries

As countries develop industrially and become more economically advanced, their populations experience increased job uncertainty in early adulthood, greater financial risk, and (which gives rise to) greater incentives to invest in higher education and labor market experience (Billari & Kohler, 2004). Compared to traditional societies which consider having more offspring to be a hedge against risk, parents now regard having more children as increasingly costly (Becker, 1981), and would rather focus on the “quality” of children than on “quantity” (Westley, Choe, & Retherford, 2010).

Greater social liberalization and gender equity also enable women to pursue higher education and participate in the workforce. For these women, exit from the market due to pregnancy and childbirth presents huge opportunity costs in terms of income and work experience (Adserà, 2004). If women are provided with opportunities closely equivalent to those of men in education and market employment, but these opportunities will be compromised by having children,

women will then restrict the number of children they have (Chesnais, 1996; Esping-Andersen, 1996).

Another major factor involves attitudes towards marriage. For many populations, marriage mediates the willingness to have children (Hirschman & Rindfuss, 1980; Hirschman, 1985; Kozak, 2011), and marriage rates are declining globally as well. Early in the 20th century, the proportion of women in Northwestern Europe remaining single at the end of their childbearing period reached 20% (Hajnal, 1965; Therbom, 2004). While such high levels of non-marriage did not always directly translate into lower birth rates as out-of-wedlock or cohabitation births were common, they still played a role in birth rate decline (Jones, 2007). Today, the big countries in Europe, namely Italy, France, Spain, Germany, and the UK, account for 78% of the European population, and they all demonstrate declines in marriage rates for every decade since the 1970s and currently exhibit the lowest marriage rates. Overall, 89% of the European population lives in a country experiencing such a trend (Eurostat, 2013). Similar patterns have been documented for the US (Goldstein & Kenney, 2001), Asia (Cho & Retherford, 1974), and other regions of the world (e.g., Cohen, 2013). Similar to falling birth rates, declines in marriage plague countries that are economically more developed and have greater gender equity. Women with more education across the world are less likely to be married (the US and Jamaica are exceptions to this pattern, and in Hungary, Argentina, Canada, and Ireland, only women with university educations are less likely to be married), and older women

in all countries are more likely than younger women to be married, indicating a trend of later marriages (Cohen, 2013). The same economic opportunity costs that women face for having children may also curtail desires for marriage (e.g., Becker, 1960; Willis, 1973; Jensen, 2012), alongside radical changes in marriage institutions and traditions (Smith, 1980; Amato, 2004; Cherlin, 2005). A combination of non-marriages and later marriages, which restricts the number of offspring that a woman can have since her reproductive years are limited, therefore also contribute to declining birth rates.

1.2. Same same, but different: The East Asian anomaly

Although the aforementioned patterns are observed generally in economically developed countries, the negative effects of economic advancement on marriage and birth rates appear far more acute for East Asian cultures compared to other cultures. Asian countries sustained high birth rates and large family units up until the mid-twentieth century, while the West began economically developing, liberalizing, and subsequently experiencing marriage and birth rate declines earlier. Declining birth rates in Asia was only first observed in Japan as her birth rate dropped from 4.54 in 1947 to 2.04 in 1957 (Retherford & Ogawa, 2006). This decline to the replacement-level birth rate then began 20 years later for three other East Asian societies: In 1960, Singaporean, South Korean, and Taiwanese women were still having roughly six children each on average, but birth rates dropped to the replacement level of 2.1 children per woman in 1975 in Singapore, 1983 in South Korea, and 1984 in Taiwan (Westley, Choe, &

Retherford, 2010). Some scholars initially suggested that these similar trends simply reflected a “convergence to the West” for developing Asian countries. However, developed East Asian countries have now outdone the West and have the lowest birth rates rates (1.22) compared to other developed regions, such as Europe (1.50) and the US (2.06) (Worldstat, 2013).

Likewise, while marriage rates are declining generally across economically advanced nations, East Asian countries have taken the lead despite not having a headstart with some of the highest rates of non-marriage (Jones, 2007). Between 1970 to 2000, the percentages of women between the ages of 30-34 staying single has grown from 7.2% to 26.6% among Japanese, 1.4% to 10.7% among South Koreans, 5.6% to 31.2% in Hong Kong, 11.1% to 21.6% among Singaporean Chinese, and 9.5% to 18.2% among Malaysian Chinese (Jones, 2004). In addition, while Western Europe experienced a subsequent resurgence in marriage, this does not appear to be a prospect for developed East Asian cultures as non-marriage and singlehood figures remain on steady decline (Jones, 2007). These recent developments strongly indicate that the East Asian pattern of marriage and birth rate decline has to be explained on its own terms.

1.3. Broad features of East Asian cultures

The East Asian cultural sphere is most basically defined by reference to a category of regions, countries, and groups that were historically derived from and influenced by the culture of China. The developed East Asian nations that are plagued by low marriage and birth rates include Japan, South Korea, Hong Kong,

Singapore, Taiwan, and to a lesser extent, China and Malaysia. China's population is dispersed unevenly over a large area and only one-third of the population lives in developed, urban regions towards the east, including Beijing, Shanghai, and Guangzhou (Taube & Ögütçü, 2002). Likewise, marriage and birth rate problems are rife in those areas, but not in the other less developed and more traditional central and western regions. China's case is further complicated by a limited supply of brides as a result of its one-child policy, in place since 1979. Malaysia and Singapore are interesting cases that emphasize the role of uniquely East Asian cultural characteristics which moderate the effects of economic development on marriage and birth rates. In these two multiethnic countries, it is specifically the Chinese ethnic group that drives marriage and birth rate declines in the population relative to other ethnic groups (Jones, 2007). However, because the Chinese constitute a majority in Singapore but a minority in Malaysia, the unique East Asian cultural patterns associated with economic development and marriage and birth rates are far more pronounced in Singapore than in Malaysia, making Singapore more homogeneously "East Asian" in cultural characteristics. Therefore, for the purposes of this discussion, modern East Asian countries will constitute Japan, South Korea, Hong Kong, Taiwan, and Singapore.

With their historical roots in ancient China, East Asian cultures traditionally share a Confucian ethical philosophy, practice various forms of Buddhism, and use a historically common writing system (Reischauer & Fairbank, 1960; Yum, 1997). Political, legal, and economic structures as well as social

norms appear strongly shaped by Confucian and Buddhist ethics and have persisted in spite of economic advancements and social liberalization (Chan, 1963; Berger & Hsiao, 1988; Tu, 1996). East Asian society therefore tends to be highly rule-driven, and East Asian political ethics often downplay the rights of citizens in political decision-making and emphasize pragmatic ends that citizens have a duty to help achieve (Austin, 2001). As described by the influential sociologist, Peter Berger (1988, p. 7), features of East Asian culture include “a very strong achievement-oriented work ethic; a highly developed sense of collective solidarity, both within the family and in artificial groupings beyond the family; the enormous prestige of education, with the concomitant motivation to provide the best education for one’s children; and severe [...] meritocratic norms and institutions, which, while egalitarian in design, serve to select out elites when they are at an early age.” These features – collective solidarity, prestige in education and profession, and elitist norms and institutions – have since been validated through numerous studies across the social sciences (e.g., Kitayama & Cohen, 2007; Hofstede & Bond, 1988; Tu, 1996; Marsh, 2006; Chinese Culture Connection, 1987). A result of these features is that endowed social status, i.e., social status that is conferred to a person from one’s rank in an established organized hierarchy, such as one’s educational background or one’s occupation, is crucial to navigating the East Asian cultural way of life.

1.4. The importance of endowed social status in East Asian culture

While social status is universally desired across the world, the aforementioned features of East Asian culture create a cultural dynamic that requires East Asian individuals to be especially sensitive to and mindful of social status by means of one's place in the hierarchy. Social status has been argued to be the basis for the Confucian system of social order (Lin, 1936). This stems from an East Asian authority-deference norm which dictates that a person's social status imbues him or her with influence and should not be challenged by others with subordinate status. Deference is associated with collectivism, interdependence, and a concern with social harmony, as individuals with such an orientation are obliged to subdue their interests for the sake of the collective (Markus & Kitayama, 1991; Triandis, 2001). In a culture that frowns upon ostentatious confrontation, conflict, and self-interest (e.g., Wheeler, Reis, & Bond, 1989), the premium placed on endowed forms of prestige such as education and career may be further reinforced, as increasing one's social status through prestige is one of the very few legitimate means for upward social mobility or even merely asserting oneself. Endowed social status stands in contrast to social status that is acquired through autonomously dominant, assertive, or aggressive behaviors, which is typically encountered in individualistic cultures where individuals are given space or may be even expected to enact independent behaviors to achieve honor, prestige, and status (c.f. Leung & Cohen, 2011).

A related aspect of East Asian culture that underscores the importance of endowed social status is the concept of *face*. Face is essentially defined by what other people see and is a highly visible characteristic that affects the presentation of self in society (Earley, 1997; Wilson, 1992). Ho (1976, p. 883) argued that face is “the respectability and/or deference which a person can claim [...] by virtue of [one’s] relative position” in a hierarchy and the proper fulfillment of one’s role. Thus, while everyone in a hierarchy can have some face, some individuals may have more face than others due to having a higher positional rank. Implicitly, people already have face unless they lose it. A person can “gain” face, and one person can “give face” to another, but the primary focus is on not losing face, which includes being seen as a failure or behaving in a distasteful manner in public (Hamamura, Meijer, Heine, Kamaya, & Hori, 2009; Markus & Kitayama, 1991; Foster, 2000). This is reflected in the expression “saving face”, a saying that came into English from British expatriates living in China (Face, 2003). Face differs from basic impressions management because it also concerns the honor of one’s in-groups. A desire to avoid shame from letting the family down has been argued to be the primary motivator behind the avoidance of losing face (Carroll & Gannon, 1997), and these motivations may underlie East Asians’ relatively stronger loss and risk aversion compared to Westerners (Bao, Zhou, & Su, 2003). In a face culture, people are obliged to work together to preserve each other’s face, and because it is undesirable to openly cause another to lose face, formalities are carefully observed, and direct conflicts are avoided (Gelfand et al., 2001; Gelfand, Lim, & Raver, 2004; Sanchez-Burks & Mor Barak, 2004; Gelfand, Nishii, &

Raver, 2006). Successful enhancement of face leads to pride, satisfaction, and confidence, while losing face results in a strong sense of shame (Redding & Ng, 1982). The goal of “facework” is thus to maintain or enhance one’s standing in relevant social groups through the non-confrontational shaping of interdependent members’ impressions, and this is typically done through academic achievement, having a salient occupation of high social rank, and family prestige (Yan, 1995).

One’s social status can thus be an obsessive concern in East Asian culture, and East Asian individuals can be especially mindful of face when deciding whether or not to enact certain behaviors or pursue certain goals. For instance, a cross-cultural study found that the social status of entrepreneurship as well as shame from business failure predicted interest in entrepreneurship more strongly for East Asian countries than for Anglo countries (Begley & Tan, 2001). Twenge and Campbell’s (2002) meta-analysis of self-esteem and socioeconomic status found an overall positive relationship between self-esteem and socioeconomic status, but Asians and Asian Americans had the highest effect sizes, and occupation and education produce higher correlations with self-esteem for them than income does. East Asian culture has also traditionally placed a high value on education as a means for achieving upward mobility, social respect, and self-improvement (Lee, 1987; Chinese Culture Connection, 1987; Tai, 1989). These studies show that social status endowed through academic prestige (such as pursuing higher education) and occupational prestige (such as having a job that is

highly respected) therefore plays a tremendous role in the life of an East Asian individual.

1.5. *Social status and mating*

Various factors drive the role that social status conferred by jobs plays in mating outcomes. From an evolutionary perspective, females have evolved to prefer males who have adequate social status when seeking a long-term mate. Drawing on Trivers' (1972) seminal theory of parental investment, researchers have hypothesized that the interaction between ancestral females' parental investment of their own "intrinsic" physiological resources, through gestation and lactation, and males' relatively "extrinsic" investments of material resources, such as food, shelter and protection, led to evolved differences in mate preferences between the sexes (Buss & Schmitt, 1993; Kenrick, Groth, Trost, & Sadalla, 1993; Symons, 1979). Studies have supported this prediction, demonstrating that men, more so than women, value cues related to health and fertility, while women tend to place higher value on cues to resources (e.g., Buss, 1989; Kenrick, Sadalla, Groth, & Trost, 1990; Kenrick & Keefe, 1992; Li, Bailey, Kenrick, & Linsenmeier, 2002; Shackelford, Schmitt, & Buss, 2005). In humans as well as other mammals, social status is an effective proxy for the ability to acquire and retain resources (e.g., Cummins, 2005), and females thus place a premium on male social status. Because of the evolutionary nature of this female mate preference, modern women still value social status and earning power in a mate despite the fact that many women are capable of supporting and acquiring

resources for themselves in today's modern world. In a comprehensive examination of medical students and professionals, Townsend (1998) found that women had a stronger preference for social status (contra men's stronger preference for youth and attractiveness) in a long-term mate. This female preference for social status in a long-term mate guides women's mating behavior such that they preferred a less attractive but high status man over a more attractive but low status man, and also a man whose social status (defined by academic qualifications, career prospects, and earning capacity) was either on par or higher compared to theirs. As women's social status and financial prospects increase, they place even greater weight on mates with high social status and financial prospects (Ardener, Ardener, & Warmington, 1960; Wiederman & Allegeier, 1992; Gil-Burmann, Pelaez, & Sanchez, 2002). The preference for a mate whose social status is higher than oneself drives a phenomenon known as hypergamy – marrying up in status – and its prevalence in East Asian cultures can have a detrimental effect on mating among educated, career-driven unmarried adults (Jones, 2007). More specifically, when women rise in social status by virtue of having higher education and careers in an increasingly gender egalitarian environment afforded by modernization, the mating pool for these women necessarily shrinks as the number of eligible mates with compatible (i.e., adequate) social status decreases.

Indeed, the education levels and workforce participation rates of East Asian women are increasing across various age groups. In Japan, Singapore, and

South Korea, the proportion of women between the reproductive ages of 25-34 participating in the workforce has more than doubled between 1970-2004 (Jones, 2007). As East Asian women's social status and earning capacity increases, their standards for the same social status traits in a long-term partner are likely to increase as well. East Asian men are possibly aware of the pressure to keep up with the increasing standards set by the women. In a study by Li, Patel, Balliet, Tov, and Scollon (2011) comparing Singaporeans and Americans' materialism and attitudes towards marriage and children, Singaporean women and men were found to be equally materialistic. This could potentially reflect that the Singaporean mating market is very difficult for men, and that they feel pressured to be more materially successful in order to compete for mates. People's versions of their ideal selves mirrors what the opposite sex desires in their mates, and men have been found to prioritize social status in themselves in response to female preferences (Li, 2007). Therefore, in the Singaporean sample, men's higher materialism possibly reflects a response to women's materialistic standards. Similarly, when unmarried Japanese men and women aged 25-34 were asked why they had not married, both sexes tended to answer "felt no need", but men also tended to say that they "can't afford marriage" while women tended to respond with "can't meet an appropriate partner" (Iwasawa, 2004), where "appropriate" may mean "of satisfactory social status". East Asian men may therefore be compelled to work harder and longer to get a job of sufficient prestige and to advance their careers before actively seeking a wife.

Realistic livelihood constraints in modernized East Asian countries also govern both men and women's needs for jobs with adequate social status for marriage and childbearing. Housing and cost of living in urbanized and developed East Asian countries are reportedly among the highest in the world today (Mercer's 2014 Cost of Living, 2014; The Economist Intelligence Unit, 2014). People who cannot afford the costs associated with starting a family will be discouraged from doing so, while those who are determined enough will have to spend a substantial number of years to save enough capital first. As job prestige and income are correlated to some extent (because perceived prestige differs culturally while income is more stable; e.g., Sobek, 1996), people are also compelled to seek jobs that can pay sufficiently before they consider long-term mating goals (Westley, Choe, & Retherford, 2010). In sum, social status plays a critical role in mating outcomes, and jobs may play a crucial role for East Asian individuals in facilitating mating because East Asian individuals depend more critically on occupational prestige to confer social status than individuals from other cultures, and the cost of starting a family in developed East Asian countries is prohibitively expensive. Given this context, it becomes possible to consider the likelihood that marriage and birth rates can be dependent on a society's perceived affordance for social status.

1.6. Social status affordance

A fundamental tenet of microeconomics is that when there is heavy demand for a good and its supply remains unchanged, its value (price) increases.

The basis for the fluctuation of value is scarcity – there can never be sufficient resources to produce all the goods that people desire. The intensive competition for prestigious jobs in East Asian cultures creates precisely such a dynamic – as more and more people desire a limited number of high social status occupations, these occupations necessarily become scarcer (while the number of jobs considered to be low in status increases), even though the absolute number of jobs remains unchanged. Social status itself is a scarce resource; acquisition of a high status position places other individuals in a position of lower status (Salvador, 2005). As competition for respectable and prestigious jobs becomes fiercer and the availability of such jobs becomes scarcer, (1) there will be greater inequality between the higher and lower status jobs, and (2) the ratio of high status to low status jobs will become smaller. To further illustrate this point, consider two individuals, one who has no dietary restrictions, and another who is vegan. If these individuals are presented with a menu that has steak, fish and chips, and salad, the overall affordance for satiating hunger will be higher for the individual who has no dietary restrictions than for the individual who is vegan, because there are more items on the menu that enable the individual who has no dietary restrictions to satiate his hunger, while the individual who is vegan only has salad.

As people from East Asian cultures tend to regard prestige and social status so highly, and are willing (or perhaps obliged) to strive for it in the form of occupations, then the number of job types that truly signal high social status will be limited to a few. In contrast to a culture that does not value social status in such

a manner, the number of reasonably respectable and prestigious available jobs will be greater. This will be driven by the fact that people from cultures that prize endowed social status less intensively will not be competing as fiercely for such jobs, and they will generally also be less concerned about the social status aspects of jobs in general. In such cases, the prestige of the job may derive from more “intrinsic” traits of the job itself, such as the value that the job creates for society or one’s enjoyment of the job, rather than “extrinsic” factors, such as how much the job pays or how other people see the job.

While there is a dearth of studies demonstrating differences in perception of jobs between East Asian cultures and other cultures, some insights from various anecdotal sources are indicative of such differences. For instance, while the perception of engineering jobs in the UK is improving (Brown, 2013), and the impression of engineering in the US is one of dignity, valuable societal contribution, and heroism (Guenther, 2010; Brown, 2010), engineering in Singapore is regarded rather lowly. Singaporeans apparently believe that engineers are highly dispensable as engineering jobs are underappreciated and easily outsourced for cheaper labor (Ko, n.d.). It is therefore seen as a dead-end job and the brightest minds in Singapore are not choosing to go into engineering (Chew, 2012). The job of firefighting is another example. An informal survey among Taiwanese firefighters indicated that many are frustrated, overwhelmed, and dissatisfied with the job, and feel that there is insufficient recognition for their efforts (Taiwanese firefighters vs. multi-tasking robots, 2012). In contrast,

firefighters are held in high esteem by Americans and are often glamorized as “sexy” and as “heroes” (Scott & Tracy, 2007). This is despite the fact that both American firefighters and the public are aware that firefighting is not an easy job (Pappassun, 2006). Prestigious jobs, on the other hand, appear to be perceived less ambiguously. A cross-cultural study of occupational prestige perceptions (with a particular interest in ambiguous job perceptions towards physiotherapy) revealed that, among English, Australian, South Korean, and Hong Kong participants, there was strong agreement for high prestige jobs, which the study found to be namely judges, doctors, solicitors, and architects (Turner & Whitfield, 2006). These sources, albeit informal and anecdotal for some, highlight differences in the public consciousness of jobs between East Asian cultures and other cultures. While East Asian cultures share the same views towards highly prestigious jobs with other cultures, East Asian individuals possibly consider a wider range of jobs as less prestigious than their counterparts, particularly from the West, due to the overwhelming demand for scarce, high social status occupations.

The overall perception of social status in a culture can thus be termed as an *affordance*, considering the enabling aspects of social status in terms of enacting influence and power. One domain that social status affords is mating opportunity, as it is a determinant of male mate value by which females make assessments. Women will perceive the desirability of the mating pool to be smaller if the men do not have sufficient social status, and men have to compete more intensely (i.e., invest more time and effort and incur more costs) to increase their social status if

it is harder to enter this small mating pool. Jobs, occupations, and careers are one such representation of social status in East Asian cultures. Because of the importance accorded to occupational social status in East Asian cultures as discussed earlier, it is hypothesized that East Asian cultures are more likely to have a lower overall social status affordance, as the number of available high prestige jobs are fewer, compared to another culture that has higher regard for its jobs on average. That is, when individuals consider the range of jobs available in their culture, they are more likely to feel that there is less (more) social status affordance when there are fewer (many) sufficiently high status jobs. Further, in terms of mating, lower social status affordance is expected to lead to inertia to marry, as (1) women will hold out longer until they meet a man who has sufficiently high social status to be considered compatible and satisfactory, and (2) men will correspondingly expend more time on studies (e.g., acquiring further education) and work (e.g., gaining a promotion) before focusing on marriage.

1.7. The current study

This study posits that the perception of jobs in a culture determines the culture's social status affordance, which in turn has an effect on the culture's attitudes towards mating goals, namely marriage and having children. When a culture perceives that there are more sufficiently prestigious or respectable jobs available, the culture will have a higher social status affordance, which will translate into more positive attitudes towards marriage and childbearing. Based on previous research (e.g., Li et al., 2011), developed East Asian countries have less

positive attitudes towards marriage and having children relative to developed Western countries, which thereby leads to less and/or later marriages as well as lower birth rates for developed East Asian countries compared to developed Western countries. Given the greater importance of endowed social status for East Asian cultures relative to other cultures, it is also expected that people from developed East Asian countries will perceive the number of prestigious or respectable jobs to be less than people from developed Western countries. This study essentially hypothesizes that East Asian countries differ in their attitudes towards marriage and having children, and that the effect of country on marriage and childbearing is mediated by social status affordance.

Social status affordance is a latent measure that has to be indirectly measured. Based on classic socioeconomic status measures introduced by Duncan's (1961) socioeconomic index, Treiman's (1977) occupational prestige scale, and Siegel's (1970; 1971) prestige scoring system, social status affordance will be operationalized as the overall social status "provided" by jobs in terms of three face-valid measures, namely (1) perceived prestige – how prestigious the job is, i.e., how esteemed and respected by others you will be if you had the job, (2) perceived acceptability – how acceptable the job is for you assuming you had the necessary skills to do the job, and (3) perceived pay – how well the job pays. Participants will rate a range of jobs that are representative of developed countries based on the four different types of perceptions, and higher (lower) scores indicate more (less) positive perceptions of jobs, which denotes higher (lower) social status

affordance. Participants will also complete surveys measuring their attitudes towards marriage and having children. Response samples will be taken from two different cultural samples, namely Singapore as representative of a modernized East Asian country, and Australia as representative of a modernized Western country. Consistent with the expectations for developed East Asian countries and other developed countries, Singapore has significantly lower marriage and birth rates than Australia (Central Intelligence Agency, 2014). The following predictions will thus be tested:

1. Between-country differences in relevant psychological variables: (a) Reflecting differences in marriage rates, Singaporeans will have less positive attitudes towards marriage and want to marry later than Australians; (b) reflecting differences in birth rates, Singaporeans will have less desire for children and have children later than Australians; (c) reflecting differences in social status affordance, Singaporeans will have less positive perceptions about the prestige, acceptability, and pay of jobs available than Australians.
2. Between-country differences in desires for marriage and childbearing are mediated by social status affordance. Figure 1 illustrates the hypothesized model with pathways denoted by a (effect of country on social status affordance), b (effect of social status affordance on marriage and childbearing attitudes), c (direct effect of country on marriage and childbearing attitudes), and c' (indirect effect of country on marriage and childbearing attitudes as mediated by social status affordance).

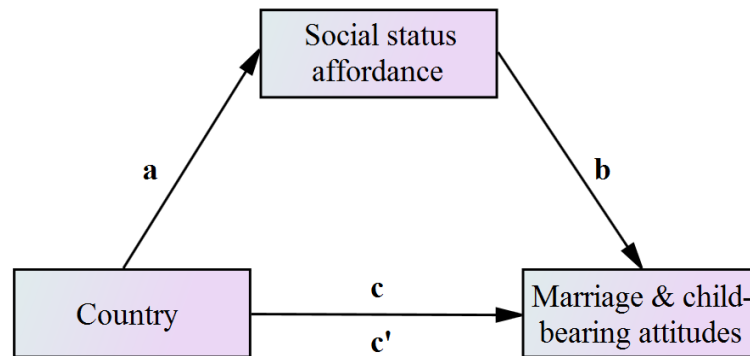


Figure 1. Theoretical model of social status affordance mediating the effects of country on marriage and child-bearing attitudes.

2. METHOD

To test these predictions, data was collected on attitudes towards marriage, desire for children, ideal age of having children, and perceptions towards available jobs in the country, namely perceived prestige, acceptability, and pay in both Singapore and Australia. To ensure that the data reflected responses from the target cultural groups of interest, the invitation for participation was directed at ethnically Chinese Singaporeans and non-Asian Australians who had lived in their respective countries all their lives. The data from the two countries were analyzed together, with country as the between-subject variable.

2.1. Participants

A total of 181 undergraduates taking psychology modules at two major universities, one in Singapore and one in Australia, participated in the study for

credit. Of these participants, 13 indicated a romantic preference for the same sex, and were thus omitted from the analyses. The final data set comprised of 112 ethnically Chinese Singaporeans (67 male and 45 female) and 57 ethnically non-Asian Australians (19 male and 38 female) who had lived all their lives in their respective countries.

2.2. *Procedure and materials*

Participants filled out a packet of surveys containing the following instruments.

2.2.1. *Attitudes toward marriage*

To measure attitudes toward marriage, the Favorableness of Attitudes Toward Marriage Scale (Hill, 1951; Salts et al., 1994) as modified by Li et al. (2011) was used. A 5-point Likert-type scale (e.g., 1 = not at all difficult, 5 = very difficult) for the first seven of the nine items (e.g., “In your opinion, would adjustment to married life be difficult for you?”; $\alpha = .76$) and a 2-point answer scale (e.g., 1 = no, 2 = yes) for the remaining two items will be used. Appropriate items were reverse-scored and a total score was computed for each participant. Additionally, participants were asked about the age they thought marriage was ideal.

2.2.2. *Desire for children*

Desire for children was measured with a few items. The face-valid item, “Having children of my own (at some point) is important to me” (1 = strongly

disagree, 7 = strongly agree; Li et al., 2011), and the number of children desired was used. Additionally, participants were asked about the age they thought having children was ideal.

2.2.3. *Social status affordance*

Social status affordance was measured by assessing participants' perceptions of a pre-tested list of 36 jobs that is representative of jobs available in modern and economically developed countries. Participants were asked to rate the jobs based on (1) *Prestige*, "How prestigious is this job – how esteemed and respected by others will you be if you had this job?" (1 = not prestigious at all, 10 = very prestigious), (2) *Acceptability*, "How acceptable is the job for you assuming you had the required skill set to do it?" (1 = not acceptable at all for me, 10 = very acceptable for me), and (3) *Pay*, "How well does the job pay?" (1 = pays very poorly, 10 = pays very well). An average score for each item was computed for each participant.

3. RESULTS

3.1. *Attitudes towards marriage and desire for children*

Using SPSS General Linear Model (GLM), people's attitudes towards marriage and desire for children was analyzed. For scores on the modified Favorable Attitudes Toward Marriage instrument, there was an effect of country, $F(1, 168) = 17.72, p < .001$, whereby Australians reported more favourable

attitudes toward marriage ($M = 25.44$, $SD = 3.60$) than Singaporeans ($M = 22.89$, $SD = 3.78$). Additionally, among participants who indicated a desire to eventually marry ($n = 163$), there was an effect of country on ideal age of marriage, $F(1, 162) = 9.48$, $p = .002$, whereby Australians wanted to marry earlier ($M_{age} = 26.1$, $SD = 3.10$) than Singaporeans ($M_{age} = 27.3$, $SD = 2.08$). These results directly support prediction 1a.

Analyzing differences in desire for children, there was an effect of country on number of children desired, $F(1, 168) = 24.99$, $p < .001$, whereby Australians reported wanting more children ($M = 3.19$, $SD = 1.29$) than Singaporeans ($M = 2.29$, $SD = 1.02$). Additionally, among participants who indicated a desire to eventually have children ($n = 162$), there was an effect of country on ideal age of having children, $F(1, 161) = 4.75$, $p = .031$, whereby Australians wanted to have children earlier ($M_{age} = 27.9$, $SD = 2.59$) than Singaporeans ($M_{age} = 28.8$, $SD = 2.27$). Contrary to expectations, there was no significant difference between Singapore and Australia on the importance placed on having children, $F(1, 168) = .422$, $p = .517$. These results partially support prediction 1b.

3.2. *Social status affordance*

Using SPSS GLM, the social status affordance of Singapore and Australia was contrasted. There was an effect of country on perceived job prestige, $F(1, 168) = 12.79$, $p < .001$, whereby Australians reported that they felt the jobs available endowed sufficient prestige, esteem, and respectability ($M = 6.51$, $SD = 1.06$) than Singaporeans ($M = 5.97$, $SD = 0.87$). There was also an effect of country on

perceived job pay, $F(1, 168) = 10.37, p = .002$, whereby Australians reported that the jobs available paid more ($M = 6.18, SD = 0.81$) than Singaporeans did ($M = 5.75, SD = 0.82$). There was no significant difference between Singapore and Australia on the perceived acceptability of jobs, $F(1, 168) = .775, p = .380$. These results provide partial support for prediction 1c that Australians have higher social status affordance than Singaporeans.

3.3. *The mediation model*

Next, the effect of country on marriage and childbearing attitudes as mediated by social status affordance (prediction 2) was assessed with a non-parametric statistical significance test of the cross product of the “*a*” and “*b*” pathway coefficients using bootstrapping (Preacher & Hayes, 2004, 2008), which is a superior method to the causal-steps approach (does not directly test the significance of the difference between the direct and indirect pathways, and also artificially loses power; Baron & Kenny, 1986) and the Sobel test (assumes a normal distribution of the cross product, which has been shown to be generally incorrect; Sobel, 1982). In the present set of analyses, parameter estimates were based on 5,000 bootstrap samples. The bias corrected and accelerated 95% confidence intervals were then examined. These confidence intervals are similar to the 2.5 and 97.5 percentile scores of the obtained distribution of the cross product over the k samples, but with z score-based corrections for bias due to the underlying distribution (Preacher & Hayes, 2004, 2008). If the confidence intervals do not contain zero, the point estimate is significant at the level indicated.

Eight mediation analyses were conducted using job prestige and job pay as social status affordance measures on the effects of country on ideal age of marriage, ideal age of having children, attitudes towards marriage, and number of children desired. The point estimates of the $a \times b$ cross product (mean and standard error for the 5,000 samples) and the relevant bootstrapped confidence intervals (for $p < .05$) are shown in Table 1.

Table 1. Bootstrapped point estimates and BCa CI for the total and specific indirect effects of country on ideal marriage age, ideal childbearing age, marriage attitudes, and desired number of children.

Mediations tested	Product of $a \times b$			
	coefficients		BCa 95% CI	
	Point estimate	<i>SE</i>	Lower	Upper
Job prestige mediating ideal				
age of marriage	0.136	0.178	-0.062	0.868
Job pay mediating ideal age of				
marriage	-0.136	0.140	-0.491	0.078
Job prestige mediating ideal				
age of childbearing	0.126	0.179	-0.090	0.806
Job pay mediating ideal age of				
childbearing	-0.094	0.126	-0.425	0.094
Job prestige mediating				
marriage attitudes	0.793	0.247	0.382	1.389

Job pay mediating marriage attitudes	0.770	0.276	0.281	1.383
Job prestige mediating number of children desired	0.279	0.100	0.115	0.511
Job pay mediating number of children desired	0.320	0.105	0.121	0.528

Note: BCa CI = bias corrected and accelerated confidence intervals.

Overall, confidence intervals were found to contain zero for four out of eight of the bootstrapping analyses conducted. Social status affordance measures mediated the effects of country on marriage attitudes and number of children desired (see Figures 2a, 2b, 2c, and 2d), but not the ideal age of either marriage or having children (see Figures 2e, 2f, 2g, and 2h). These results generally provide support for prediction 2 that social status affordance mediates the relationship between country and attitudes towards marriage and having children.

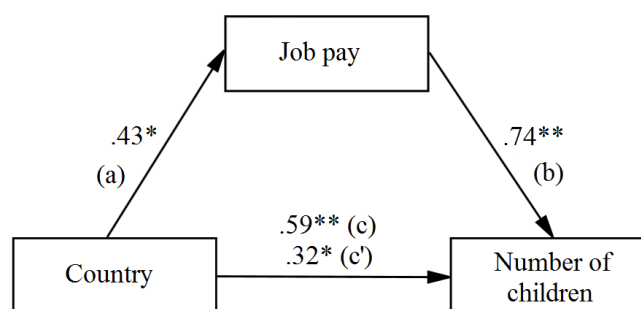


Figure 2a. Unstandardized regression coefficients for the proposed relationship between country and number of children desired as mediated by job pay. Path *c*

represents the direct effect while path c' represents the indirect effect. * $p < .05$, ** $p < .01$.

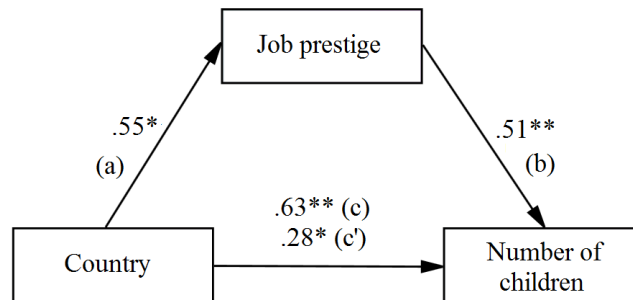


Figure 2b. Unstandardized regression coefficients for the proposed relationship between country and number of children desired as mediated by job prestige. Path c represents the direct effect while path c' represents the indirect effect. * $p < .05$, ** $p < .01$.

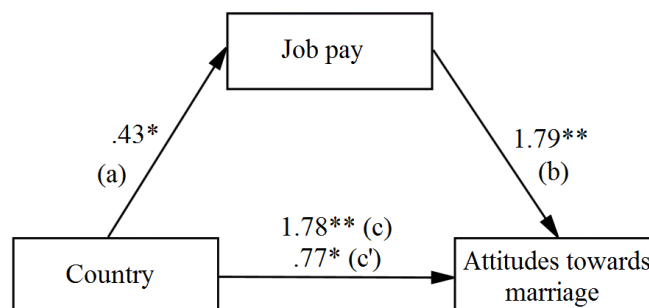


Figure 2c. Unstandardized regression coefficients for the proposed relationship between country and attitudes towards marriage as mediated by job pay. Path c

represents the direct effect while path c' represents the indirect effect. * $p < .05$, ** $p < .01$.

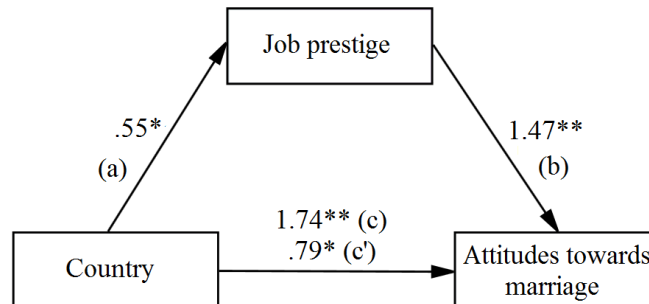


Figure 2d. Unstandardized regression coefficients for the proposed relationship between country and attitudes towards marriage desired as mediated by job prestige. Path c represents the direct effect while path c' represents the indirect effect. * $p < .05$, ** $p < .01$.

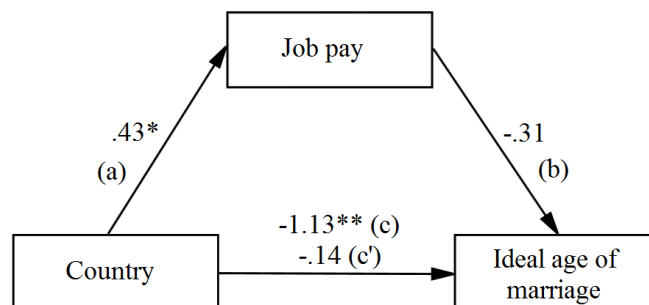


Figure 2e. Unstandardized regression coefficients for the proposed relationship between country and ideal age of marriage as mediated by job pay. Path c represents the direct effect while path c' represents the indirect effect. * $p < .05$, ** $p < .01$.

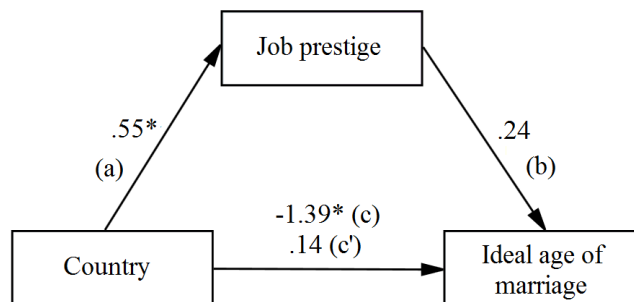


Figure 2f. Unstandardized regression coefficients for the proposed relationship between country and ideal age of marriage as mediated by job prestige. Path *c* represents the direct effect while path *c'* represents the indirect effect. * $p < .05$, ** $p < .01$.

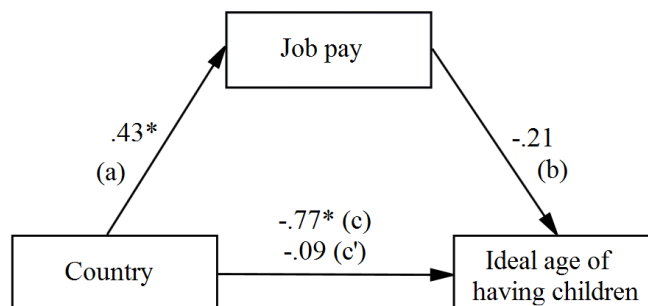


Figure 2g. Unstandardized regression coefficients for the proposed relationship between country and ideal age of having children as mediated by job pay. Path *c* represents the direct effect while path *c'* represents the indirect effect. * $p < .05$, ** $p < .01$.

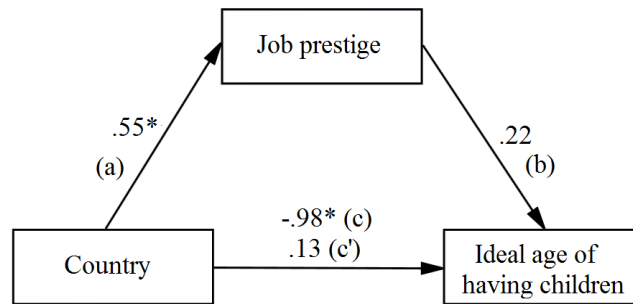


Figure 2h. Unstandardized regression coefficients for the proposed relationship between country and ideal age of having children as mediated by job prestige.

Path *c* represents the direct effect while path *c'* represents the indirect effect. * $p < .05$, ** $p < .01$.

4. DISCUSSION

The results generally provide support for social status affordance as a factor underlying attitudes towards marriage and having children, which also underlie the mating outcomes of various cultures.

- 1a. In accordance with Li et al. (2011), it was predicted that Singaporeans would have less positive attitudes towards marriage than their Western counterparts, who are Australians in the case of this study. As predicted, Singaporeans had less positive attitudes towards marriage than Australians. Additionally, Singaporeans indicated a preference to marry later than Australians. These marriage attitudes and preferences likely underlie the lower marriage rates of Singaporeans versus Australians.

- 1b. It was predicted that Singaporeans will have less desire for children than Australians. Contrary to Li et al. (2011), this study did not find a significant difference between Singaporeans and Australians in terms of the importance placed on having children. However, despite valuing children similarly, Singaporeans wanted to have lesser children and have children later than Australians. Therefore, practical concerns may underlie the lower birth rate of Singaporeans versus Australians (which will be discussed in light of social status affordance later), as this was not found to be due to Singaporeans valuing offspring lesser than Australians. These childbearing preferences likely underlie the lower birth rate of Singaporeans compared to Australians, as Singaporeans prefer having less children, and delaying childbearing places women at a less fertile stage in their lives to have children, thereby also physically limiting the number of children they can have.
- 1c. It was predicted that the social status affordance in Singapore is less than that of Australia. Social status affordance was operationalized as the perception of prestige conferred by available jobs, the perception of how well available jobs paid, and the perception of whether people find available jobs acceptable to take up. The more positively a culture collectively views the perceptions of available jobs, the higher the overall social status affordance of the culture. Of these three latent variables underlying social status affordance, Singaporeans had significantly less

positive views on the prestige and pay of available jobs than Australians. Singaporeans and Australians did not differ significantly in terms of how acceptable they felt available jobs were. It is plausible that the perceived acceptability of jobs differs from their perceived prestige because acceptability is a highly personal while prestige is impersonal. That is, I may believe, for instance, that the job of being a doctor or a lawyer is socially regarded as highly prestigious, but due to personal preferences may or may not find the work acceptable for myself. Further research should be conducted to clarify these findings. The results therefore support, to a larger extent, the prediction that social status affordance in Singapore is lower than in Australia.

2. This study sought to examine a model whereby social status affordance mediates the relationship between country and attitudes towards marriage and childbearing. Consistent with predictions, the two measures for social status affordance that differed between Singapore and Australia, namely perceived prestige of available jobs and perceived pay of available jobs, indeed mediated the effects of country on attitudes towards marriage as well as number of children desired. Ideal ages for marriage and childbearing were not mediated by social status affordance, which suggests that attitudes towards marriage and ideal age of marriage, as well as number of children desired and ideal age of childbearing, are not so straightforwardly related. The results provide support for the mediation

model and therefore suggest that differences in social status affordance underlie the differences that countries have in mating attitudes and, subsequently, marriage and birth rates.

Taken together, this study links people's desire for marriage and children to the social status affordance of the culture they belong. As individuals from developed East Asian countries depend highly on social status markers conferred by occupational prestige in order to enable important life outcomes, such as bestowing honor on one's in-groups or, importantly for the focus of this study, achieving mating objectives, competition for jobs that are perceived to be of sufficient prestige drives the value and scarcity of these jobs such that the overall number of jobs perceived to be of sufficient status decreases. Jobs at the middle to lower end of the social status spectrum, such as insurance agents, clerks, and soldiers, are driven lower in perceived prestige for individuals from developed East Asian countries compared to individuals from other developed countries, while jobs at the upper end of the spectrum maintain their highly sought after prestigious status. The lower overall social status affordance for developed East Asian countries vis-à-vis other developed countries may therefore account for their lower overall mating outcomes, namely lower marriage and birth rates.

4.1. Limitations and future directions

Chinese Singaporean and non-Asian Australians were surveyed in this study. While the results generally accord with Li et al.'s (2011) sample using Singaporeans and Americans, more studies with other representative countries for

modernized East Asian countries and other developed countries should be conducted to further validate the findings.

This study also presents a first attempt at verifying the latent construct of social status affordance, and this was done using the face-valid operationalization of social status affordance as perceptions of job prestige, job pay, and job acceptability based on socioeconomic status research (Duncan, 1961; Treiman, 1977; Siegel, 1970; 1971). More measures should be identified to further bolster the validity of social status affordance and its usefulness in accounting for marriage and birth rate outcomes.

Regression analyses were employed on survey data to investigate directional predictions in this study. To obtain greater confidence in the specified causal relationships, other methods, including experimental ones, should be used. For example, social status affordance cues can be primed and attitudes toward marriage and desire for children subsequently obtained. We would expect that when people are primed with the belief that there are sufficient jobs with adequate prestige and pay, they will respond more favorably to assessments of their future mating behaviors.

5. CONCLUSIONS

The results of this study have important implications for the fertility issues faced by modernized East Asian cultures. Fertility poses serious problems for the

sustainability of whole nations, such as sustaining populations, maintaining international competitiveness, as well as supporting a growing ageing population (McDonald, 2007). Identifying causal antecedents to low marriage and birth rates can enable the proposition and undertaking of strategic steps to resolve the issue. Currently, the efforts appear inadequate, as causal antecedents such as social liberalization and expensive housing have been identified, but solutions to deal with the problem are harder to come by. For instance, restructuring the uniquely East Asian economy to lower housing prices will be immensely difficult and will take a long time, and reversing the effects of social liberalization by suggesting that people revert back to traditional norms denying females rights to education and jobs is not acceptable. More research needs to identify causal factors unique to East Asian culture that may be adjustable, and this study sought to determine if the overemphasis on endowed social status, which leads to a myopic view on job prestige, could be one such factor.

This study provides preliminary support for the underlying effects of social status affordance, where the higher a country's social status affordance, the more positive its outcomes for marriage and birth rates. This study suggests the possibility for some concrete steps that developed East Asian countries plagued with low marriage and birth rates to be taken. For example, marketing campaigns can be conducted to increase the perceived prestige of currently low status jobs. As suggested by Turner and Whitfield (2006), some jobs, such as physiotherapy, are perceived as having low prestige in some countries but high prestige in others.

Campaigns raising awareness about the value of the work or increases in employee remuneration for these ambiguously lower prestige jobs may benefit society at large in terms of overall job social status perceptions and, subsequently, facilitate marriage and childbearing outcomes. With more jobs valued in the market, occupational inequality also should decrease, leading to a more holistic culture that values all sectors. This will approach the kind of society that Plato felt was the most successful and even morally upright in *The Republic*, where every craft had its respectable place in society and therefore left no craftsman unvalued.

6. REFERENCES

- Adserà, A. (2004). Changing fertility rates in developed countries: The impact of labor market institutions. *Journal of Population Economics*, 17, 17-43.
- Amato, P. R. (2004). Tension between institutional and individual views of marriage. *Journal of Marriage and Family*, 66, 959-965.
- Ardener, E. W., Ardener, S. G., & Warmington, W. A. (1960). *Planation and village in the Cameroons*. London: Oxford University Press.
- Austin, I. P. (2001). *Pragmatism and public policy in East Asia: Origins, adaptations and developments*. Singapore: Fairmont International.
- Baron, R., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical

- considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Bao, Y., Zhou, K. Z., & Su, C. (2003). Face consciousness and risk aversion: Do they affect consumer decision-making? *Psychology and Marketing*, 20(8), 733-755.
- Becker, G. S. (1960). An economic analysis of fertility. In G. S. Becker (Ed.), *Demographic and economic change in developed countries* (pp. 209-231). Princeton, NJ: Princeton University Press.
- Becker, G. S. (1981). *A treatise on the family*. Cambridge: Harvard University Press.
- Begley, T. M., & Tan, W.-L. (2001). The socio-cultural environment for entrepreneurship: A comparison between East Asian and Anglo-Saxon countries. *Journal of International Business Studies*, 32(3), 537-553.
- Berger, P. L. (1988). An East Asian development model? In P. L. Berger & H.-H. M. Hsiao (Eds.), *In search of an East Asian development model* (pp. 3-11). New Brunswick and Oxford: Transaction Books.
- Berger, P. L., & Hsiao, H.-H. M. (Eds.) (1988). *In search of an East Asian development model*. New Brunswick and Oxford: Transaction Books.
- Billari, F. C., & Kohler, H.-P. (2004). Patterns of low and lowest-low fertility in Europe. *Population Studies*, 58(2), 161-176.

- Brown, S. (2010, March 16). Chemical engineers are heroes. *Chemstations*. Retrieved from <http://blog.chemstations.com/2010/03/chemical-engineers-are-heroes.html>
- Brown, T. (2013, January 3). Report reveals improving perception of engineering. *The Manufacturer*. Retrieved from <http://www.themanufacturer.com/articles/report-reveals-improving-perception-of-engineering/>
- Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences*, *12*, 1-14.
- Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human dating. *Psychological Review*, *100*, 204-232.
- Carroll, S. J., & Gannon, M. J. (1997). *Ethical dimensions of international management*. Thousand Oaks, CA: Sage.
- Chan, W.-T. (1963). Chinese philosophy in Communist China. In W.-T. Chan (Ed.), *A source book in Chinese philosophy* (pp. 773-782). Princeton, NJ: Princeton University Press.
- Cherlin, A. J. (2005). American marriage in the early twenty-first century. *The Future of Children*, *15*(2), 33-55.
- Chesnais, J.-C. (1996). Fertility, family and social policy in contemporary Western Europe. *Population and Development Review*, *22*(4), 729-739.

Chew, M. (2012). Is engineering dead? *The Straits Times: Singapolitics*. Retrieved from <http://www.singapolitics.sg/views/engineering-dead>

Chinese Culture Connection. (1987). Chinese values and the search for culture-free dimensions of culture. *Journal of Cross-Cultural Psychology*, 18, 143-164.

Cho, L. J., & Retherford, R. D. (1974). Comparative analysis of recent fertility trends in East Asia. In *IUSSP International Population Conference Liège 1973, vol. II* (pp. 163-181). Liège: International Union for the Scientific Study of Population.

Cohen, P. N. (2013). Marriage is declining globally: Can you say that? *Family Inequality*. Retrieved 12/11/2013 from <http://familyinequality.wordpress.com/2013/06/12/marriage-is-declining/>

Cummins, D. D. (2005). Dominance, status, and social hierarchies. In D. M. Buss (Ed.), *The evolutionary psychology handbook* (pp. 676-697). New York: Wiley.

Duncan, O. D. A. (1961). A socioeconomic index for all occupations. In A. J. Reiss Jr. (Ed.), *Occupations and social status* (pp. 109-138). New York: Free Press.

Earley, P. C. (1997). *Face, harmony, and social structure: An analysis of organizational behavior across cultures*. New York: Oxford University Press.

Esping-Andersen, G. (1996). Welfare states without work: The impasse of labour shedding and familialism in Continental European social policy. In G. Esping-Andersen (Ed.), *Welfare states in transition: National adaptations in global economies* (pp. 66-87). London: Sage Publications.

Eurostat. (2013). Retrieved 12/11/2013 from <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database>.

Face. (2003). In *The Oxford English Dictionary* (2nd ed.). Retrieved from <http://www.oed.com>.

Foster, D. (2000). *The global etiquette guide to Asia: Everything you need to know*. New York: John Wiley and Sons, Inc.

Gelfand, M. J., Lim, B.-C., & Raver, J. (2004). Culture and accountability in organizations: Variations in forms of social control across cultures. *Human Resource Management Review, 14*, 135-160.

Gelfand, M. J., Nishii, L. H., Holcombe, K. M., Dyer, N., Ohbuchi, K., & Fukuno, M. (2001). Cultural influences on cognitive representations of conflict: Interpretations of conflict episodes in the United States and Japan. *Journal of Applied Psychology, 86*, 1059-1074.

Gelfand, M. J., Nishii, L., & Raver, J. (2006). On the nature and importance of cultural tightness–looseness. *Journal of Applied Psychology, 91*, 1225-1244.

- Gil-Burmann, C., Pelaez, F., & Sanchez, S. (2002). Mate choice differences according to sex and age: An analysis of personal advertisements in Spanish newspapers. *Human Nature, 13*, 493-508.
- Goldstein, J. R., & Kenney C. T. (2001) Marriage delayed or marriage forgone? New cohort forecasts of first marriage for U.S. women. *American Sociological Review, 66*(4), 506-519.
- Guenther, E. J. H. (2010, August 10). Not your regular inspiration. *ChEnected: Where chemical engineers mix it up*. Retrieved from <http://chenected.aiche.org/professional-career-development/not-your-regular-inspiration/>.
- Hajnal, J. (1965). European marriage patterns in perspective. In D. V. Glass & D. E. C. Eversley (Eds.), *Population in history: Essays in historical demography* (pp. 101-143). Surrey, UK: Edward Arnold.
- Hamamura, T., Meijer, Z., Heine, S., Kamaya, K., & Hori, I. (2009). Approach-avoidance motivation and information processing: A crosscultural analysis. *Personality and Social Psychology Bulletin, 35*, 454-462.
- Hill, R. J. (1951). *Attitudes toward marriage*. Unpublished master's thesis, Stanford University, Palo Alto, CA.
- Hirschman, C. (1985). Premarital socio-economic roles and the timing of family formation: A comparative study of five Asian societies. *Demography, 22*(1), 35-59.

- Hirschman, C., & Rindfuss, R. (1980). Social, cultural, and economic determinants of age at first birth in Peninsular Malaysia. *Population Studies*, 34(3), 507-518.
- Ho, D. Y.-F. (1976). On the concept of face. *American Journal of Sociology*, 81, 867-884.
- Hofstede, G., & Bond, M. H. (1988). The Confucius connection: From cultural roots to economic growth. *Organizational Dynamics*, 16(4), 4-21.
- Iwasawa, M. (2004). Partnership transition in contemporary Japan: Prevalence of childless non-cohabiting couples. *The Japanese Journal of Population*, 2(1), 76-92.
- Jensen, R. (2012). Do labor market opportunities affect young women's work and family decisions? Experimental evidence from India. *The Quarterly Journal of Economics*, 127, 753-792.
- Jones, G. W. (2004). Not "when to marry" but "whether to marry": The changing context of marriage decisions in East and Southeast Asia. In G. W. Jones & K. Ramdas (Eds.), *(Un)tying the knot: Ideal and reality in Asian marriage* (pp. 3-56). Singapore: Asia Research Institute, National University of Singapore.
- Jones, G. W. (2007). Fertility decline in Asia: The role of marriage change. *Asia-Pacific Population Journal*, 22(2), 13-32.

- Kenrick, D. T., Groth, G. E., Trost, M. R., & Sadalla, E. K. (1993). Integrating evolutionary and social exchange perspectives on relationships: Effects of gender, self-appraisal, and involvement level on mate selection criteria. *Journal of Personality and Social Psychology, 64*, 951-969.
- Kenrick, D. T., & Keefe, R. C. (1992). Age preferences in mates reflect sex differences in human and reproductive strategies. *Behavioral and Brain Sciences, 15*, 75-133.
- Kenrick, D. T., Sadalla, E. K., Groth, G., & Trost, M. R. (1990). Evolution, traits, and the stages of human courtship: Qualifying the parental investment model. *Journal of Personality, 58*, 98-116.
- Kitayama, S., & Cohen, D. (Eds.) (2007). *Handbook of cultural psychology*. New York: Guildford Press.
- Ko, D. (n.d.). *Anything but engineering*. Retrieved 22 November 2013 from <http://blog.derrickko.com/anything-but-engineering>.
- Kozak, A. (2011). Post-modern changes in marital and family life. *Journal of Education, Culture and Society, 1*, 73-79.
- Lee, Y. (1987). *Academic success of East Asian Americans*. Seoul, Korea: Seoul National University, American Studies Institute.
- Lee, R. D. (2003). The demographic transition: Three centuries of fundamental change. *Journal of Economic Perspectives, 17*, 167-190.

- Leung, A. K.-Y., & Cohen, D. (2011). Within- and between-culture variation: Individual differences and the cultural logics of honor, face, and dignity cultures. *Journal of Personality and Social Psychology, 100*(3), 507-526.
- Li, N. P. (2007). Mate preference necessities in long- and short-term mating: People prioritize in themselves what their mates prioritize in them. *Acta Psychologica Sinica, 39*, 528-535.
- Li, N. P., Bailey, J. M., Kenrick, D. T., & Linsenmeier, J. A. W. (2002). The necessities and luxuries of mate preferences: Testing the tradeoffs. *Journal of Personality and Social Psychology, 82*, 947-955.
- Li, N. P., Patel, L., Balliet, D., Tov, W., & Scollon, C. N. (2011). The incompatibility of materialism and the desire for children: Psychological insights into the fertility discrepancy among modern countries. *Social Indicators Research, 101*, 391-404.
- Lin, Y. (1936). *My country and my people*. London: Heinemann.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224-253.
- Marsh, I. (2006). *Democratisation, governance and regionalism in East and Southeast Asia: A comparative study*. London: Routledge.
- McDonald, P. (2007). Time for action: Public policies to revert low fertility. *Pharmaceuticals Policy and Law, 9*, 237-243.

- Mercer's 2014 Cost of Living* (2014). Retrieved 8/10/2014 from <http://www.imercer.com/uploads/GM/col2014h6521/index.html>.
- Pappassun, J. (2006, March 20). National survey ranks firefighter as sexiest job. *Sun Herald*. Retrieved from <http://www.sunherald.com>.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, and Computers*, 36, 717-731.
- Preacher, K. J., & Hayes, A. F. (2008). Contemporary approaches to assessing mediation in communication research. In A. F. Hayes, M. D. Slater, & L. B. Snyder (Eds.), *The SAGE sourcebook of advanced data analysis methods for communication research* (pp. 13-54). Thousand Oaks, CA: Sage Publications.
- Redding, S. G., & Ng, M. (1982). The role of "face" in the organizational perception of Chinese managers. *Organization Studies*, 3, 201-219.
- Reischauer, E. O., & Fairbank, J. K. (1960). *East Asia: The great tradition*. New York: Houghton-Mifflin.
- Retherford, R. D., & Ogawa, N. (2006). Japan's baby bust: Causes, implications, and policy responses. In F. Harris (Ed.). *The baby bust: Who will do the work? Who will pay the taxes?* (pp. 5-47). Lanham: Rowman and Littlefield Publishers, Inc.

- Salvador, A. (2005). Coping with competitive situations in humans. *Neuroscience and Biobehavioral Reviews*, 29, 195-205.
- Sanchez-Burks, J., & Mor Barak, M. (2004). Interpersonal relationships in a global work context. In M. Mor Barak (Ed.), *Managing diversity in the age of globalization: Toward a worldwide inclusive workplace* (pp. 114-168). Thousand Oaks, CA: Sage.
- Scott, C., & Tracy, S. J. (2007). Riding fire trucks and ambulances with America's heroes. In S. Drew, B. M. Gassaway, & M. Mills (Eds.), *Dirty work* (pp. 55-76). Waco, TX: Baylor University Press.
- Shackelford, T. K., Schmitt, D. P., & Buss, D. M. (2005). Universal dimensions of human mate preference. *Personality and Individual Differences*, 39, 447-458.
- Siegel, P. M. (1970). Occupational prestige in the Negro subculture. *Sociological Inquiry*, 40, 156-171.
- Siegel, P. M. (1971). *Prestige in the American occupational structure*. Unpublished doctoral dissertation, University of Chicago.
- Smith, P. C. (1980). Asian marriage patterns in transition. *Journal of Family History*, 5, 58-96.

- Sobek, M. (1996). Work, status, and income: Men in the American occupational structure since the late nineteenth century. *Social Science History*, 20(2), 169-207.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equations models. In S. Leinhardt (Ed.), *Sociological methodology 1982* (pp. 290-312). San Francisco, CA: Jossey-Bass.
- Symons, D. (1979). *The evolution of human sexuality*. New York: Oxford University Press.
- Tai, H.-C. (1989). The oriental alternative: An hypothesis on culture and economy. In H.-C. Tai (Ed.), *Confucianism and economic development: An oriental alternative?* (pp. 6-37). Washington, DC: Washington Institute for Values in Public Policy.
- Taiwanese firefighters vs. multi-tasking robots (2012, June 30). *CNN iReport*. Retrieved from <http://ireport.cnn.com/docs/DOC-809407>.
- Taube, M., & Ögütçü, M. (2002). Main issues on foreign investment in China's regional development: Prospects and policy challenges, foreign direct investment in China. *Challenges and Prospects for Regional Development*, OECD.
- The Economist Intelligence Unit (2014). Worldwide cost of living 2014. *The Economist*. Retrieved 8/10/2014 from

<http://www.eiu.com/Handlers/WhitepaperHandler.ashx?fi=WCOL+-February+2014.pdf&mode=wp&campaignid=Wcol2014>

Therborn, G. (2004). *Between sex and power: Family in the world 1900-2000*.

London: Routledge

Townsend, J. (1998). *What men want—What women want: Why the sexes still see love and commitment so differently*. Oxford: Oxford University Press.

Treiman, D. J. (1977). *Occupational prestige in comparative perspective*. New York: Academic Press.

Triandis, H. C. (2001). Individualism-collectivism and personality. *Journal of Personality*, 69(6), 909-924.

Trivers, R. L. (1972). Parental investment and sexual selection. In B. Campbell (Ed.), *Sexual selection and the descent of man* (pp. 136-179). Chicago: Aldine.

Tu, W.-M. (1996). *Confucian traditions in East Asian modernity*. Cambridge: Harvard University Press.

Turner, P. A., & Whitfield, T. W. A. (2006). Occupational prestige perceptions of nursing and physiotherapy: An international survey. In J. A. Zebrowski (Ed.), *New research on social perception* (pp. 207-229). New York: Nova Science Publishers.

- United Nations. (2004). *World population policies 2003*, Population Division, ST/ESA/SER.A/230. New York: United Nations.
- Westley, S. B., Choe, M. K., & Retherford, R. D. (2010). Very low fertility in Asia: Is there a problem? Can it be solved? *Asia Pacific Issues*, 94. Honolulu: East-West Center.
- Wheeler, L., Reis, H. T., & Bond, M. H. (1989). Collectivism-individualism in everyday social life: The middle kingdom and the melting pot. *Journal of Personality and Social Psychology*, 57(1), 79-86.
- Wiederman, M. W., & Allegeier, E. R. (1992). Gender differences in mate selection criteria: Sociobiological or socioeconomic explanation? *Ethology and Sociobiology*, 13, 115-124.
- Willis, R. (1973). A new approach to the economic theory of fertility behavior. *Journal of Political Economy*, 81, 514-564.
- Wilson, S. R. (1992). Face and facework in negotiation. In L. L. Putnam & M. E. Roloff (Eds.), *Communication and negotiation* (pp. 176-205). Newbury Park, CA: Sage.
- Worldstat*. (2013). Retrieved 12/11/2013 from <http://en.worldstat.info/>.
- Central Intelligence Agency (2014). *World Factbook*. Retrieved 7/10/2014 from <https://www.cia.gov/library/publications/the-world-factbook/>.

Yan, H. (1995). The concept of “face” in Chinese proverbs and phrases.

Proverbium, 12, 357-373.

Yum, J. O. (1997). The impact of Confucianism on interpersonal relationships and communication patterns in East Asia. In L. A. Samovar & R. E. Porter (Eds.), *Intercultural communication: A reader* (pp. 78-88). Belmont, CA: Wadsworth.